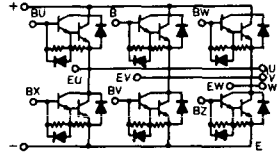
トランジスタ・モジュール　(NPN, ダーリントン接続, 6個内蔵)

- ダーリントン・トランジスタ6個内蔵
  (3相ブリッジ接続)
- フリーホイル・ダイオード付
- 絶縁形
- 直流電流増幅率は100以上 (定格電流にて)

■等価回路

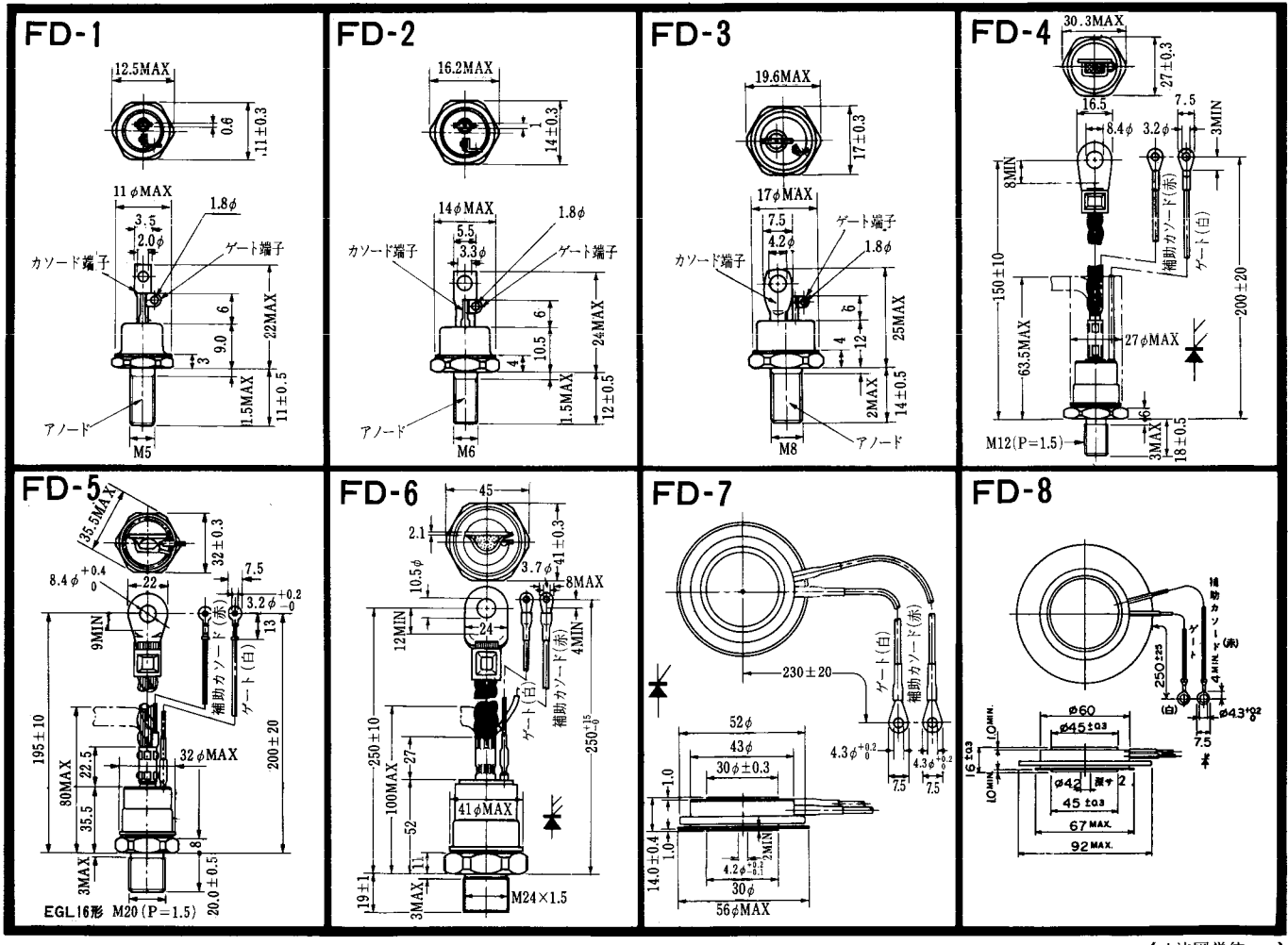
QF-1A



注1. T_C =25℃。　注2. AC, 1分間。

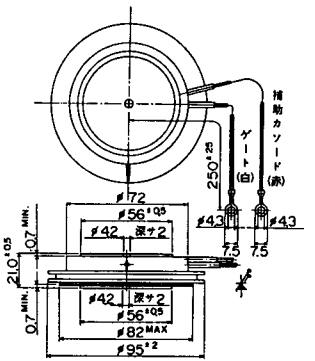
型名	最大定格 (T_j =25℃) V_{CBO} (V)	$V_{CEX(SUS)}$ V_{CEX} # (V)	V_{EBO} (V)	I_C (A)	I_{CP} (1ms) (A)	I_B (A)	I_F (A)	I_{FM} (1ms) (A)	P_C (注1) (W)	T_j (℃)	T_{stg} (℃)	V_{iso} (注2) (V)	電気的特性 I_{CBO} (mA) 最大	V_{CB} (V)	I_{EBO} (mA) 最大	V_{EB} (V)	$V_{CEO(SUS)}$ (V) 最小	I_C (A)	h_{FE} 最小	V_{CE} (V)	I_C (A)
QF15AA40	400	400	10	15	30	1.0	15		100	150	−40〜125	2500	1.0	400	100	10	300	1.0	75/100	2/5	15
QF15AA60	600	600	10	15	30	1.0	15		100	150	−40〜125	2500	1.0	600	100	10	450	1.0	75/100	2/5	15
QF20AA40	400	400	10	20	40	2.0	20		160	150	−40〜125	2500	1.0	400	200	10	300	1.0	75/100	2/5	20
QF20AA60	600	600	10	20	40	2.0	20		160	150	−40〜125	2500	1.0	600	200	10	450	1.0	75/100	2/5	20
QF30AA40	400	400	10	30	60	2.0	30		250	150	−40〜125	2500	1.0	400	300	10	300	1.0	75/100	2/5	30
QF30AA60	600	600	10	30	60	2.0	30		250	150	−40〜125	2500	1.0	600	300	10	450	1.0	75/100	2/5	30
QF50AA40	400	400	10	50	100	3.0	50		300	150	−40〜125	2500	1.0	400	300	10	300	1.0	75/100	2/5	50
QF50AA60	600	600	10	50	100	3.0	50		300	150	−40〜125	2500	1.0	600	300	10	450	1.0	75/100	2/5	50

(Tj =25℃)											エミッタ・コレクタ間ダイオード						熱抵抗		等価回路	外形図	記事	型名
飽和電圧 (V)		I_C	I_B	スイッチング時間 (μs)			I_{B1}	I_{B2}	V_{CC}	I_C	V_F		t_{rr}				$R_{th(j-c)}$ (℃/W)					
V_{CE}	V_{BE}			t_{on}	t_{stg}	t_f					(V)	I_F	(μs)	I_F	V_{BE}	di/dt	トランジスタ部	ダイオード部				
最大	最大	(A)	(A)	最大	最大	最大	(A)	(A)	(V)	(A)	最大	(A)	最大	(A)	(V)	(A/μs)	最大	最大				
2.0	2.5	15	0.2	1.0	12	2.0	0.4	-0.4	300	15	1.5	15					1.2	2.5	QF-1A	S-88D1A		QF15AA40
2.0	2.5	15	0.2	1.0	12	2.0	0.4	-0.4	300	15	1.5	15					1.2	2.5	QF-1A	S-88D1A		QF15AA60
2.0	2.5	20	0.27	1.0	12	2.0	0.5	-0.5	300	20	1.6	20					0.8	2.2	QF-1A	S-88D1A		QF20AA40
2.0	2.5	20	0.27	1.0	12	2.0	0.5	-0.5	300	20	1.6	20					0.8	2.2	QF-1A	S-88D1A		QF20AA60
2.0	2.5	30	0.4	1.0	12	2.0	0.6	-0.6	300	30	1.4	30					0.5	1.6	QF-1A	S-94D1A		QF30AA40
2.0	2.5	30	0.4	1.0	12	2.0	0.6	-0.6	300	30	1.4	30					0.5	1.6	QF-1A	S-94D1A		QF30AA60
2.0	2.5	50	0.67	1.0	12	2.0	1.0	-1.0	300	50	1.4	50					0.4	1.3	QF-1A	S-94D1A		QF50AA40
2.0	2.5	50	0.67	1.0	12	2.0	1.0	-1.0	300	50	1.4	50					0.4	1.3	QF-1A	S-94D1A		QF50AA60

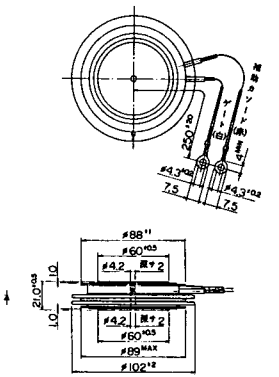

FD-1
12.5MAX
0.6
11±0.3
11φMAX
1.8φ
3.5
2.0φ
カソード端子
ゲート端子
6
9.0
3
22MAX
1.5MAX
11±0.5
アノード
M5
FD-2
16.2MAX
1
14±0.3
14φMAX
1.8φ
5.5
3.3φ
カソード端子
ゲート端子
6
10.5
4
24MAX
1.5MAX
12±0.5
アノード
M6
FD-3
19.6MAX
17±0.3
17φMAX
7.5
4.2φ
ゲート端子
1.8φ
カソード端子
6
4
12
25MAX
2MAX
14±0.5
アノード
M8
FD-4
30.3MAX
27±0.3
16.5
7.5
8.4φ
3.2φ
3MIN
8MIN
補助カソード(赤)
ゲート(白)
150±10
63.5MAX
27φMAX
200±20
6
3MAX
18±0.5
M12(P=1.5)
FD-5
35.5MAX
32±0.3
8.4φ +0.4 0
22
7.5
3.2φ +0.2 −0
9MIN
13
補助カソード(赤)
ゲート(白)
195±10
80MAX
22.5
35.5
32φMAX
200±20
8
3MAX
20.0±0.5
EGL16形 M20(P=1.5)
FD-6
45
2.1
41±0.3
10.5φ
3.7φ
8MAX
12MIN
24
4MIN
補助カソード(赤)
ゲート(白)
250±10
100MAX
27
52
41φMAX
250 +15 −0
11
19±1
3MAX
M24×1.5
FD-7
230±20
ゲート(白)
補助カソード(赤)
52φ
43φ
30φ±0.3
4.3φ +0.2 0
4.3φ +0.2 0
7.5
7.5
1.0
1.0
14.0±0.4
2MIN
4.2φ +0.2 −0.1
30φ
56φMAX
FD-8
補助カソード(赤)
ゲート
250±25
4MIN
(白)
φ43 +0.2 0
7.5
φ60
φ45±0.3
1.0MIN.
16±0.3
1.0MIN.
φ42
深サ2
45±0.3
67MAX.
92MAX.

〈寸法図単位:mm〉

FD-9



FD-10

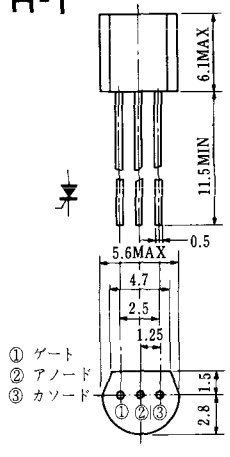


FD-11

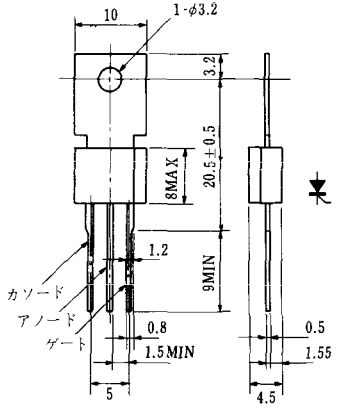
FD-12

《寸法図単位:mm》

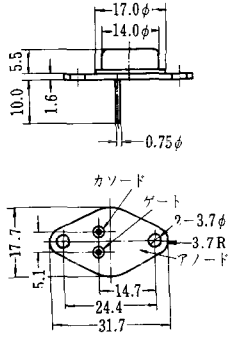
H-1



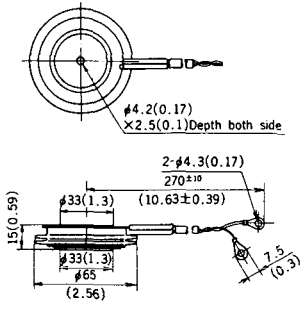
H-2



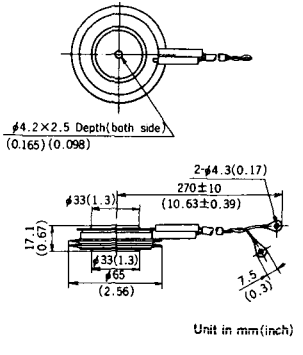
H-3



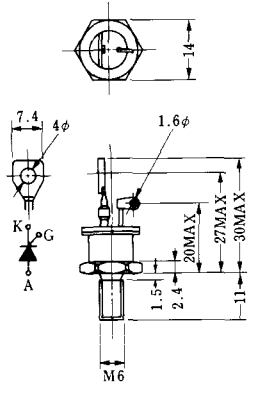
H-4



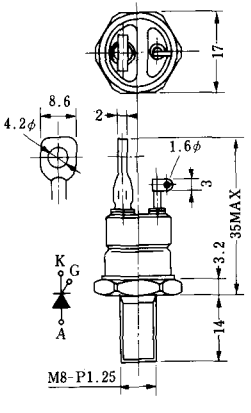
H-5



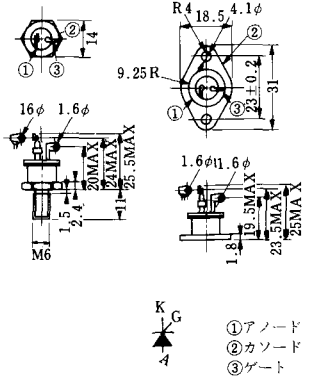
H-6



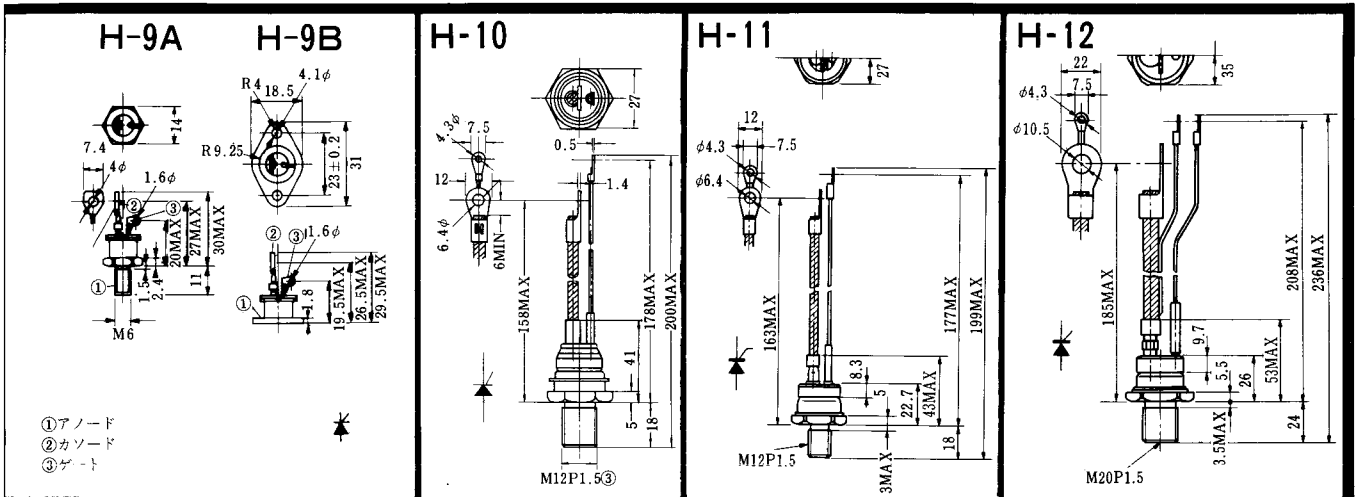
H-7

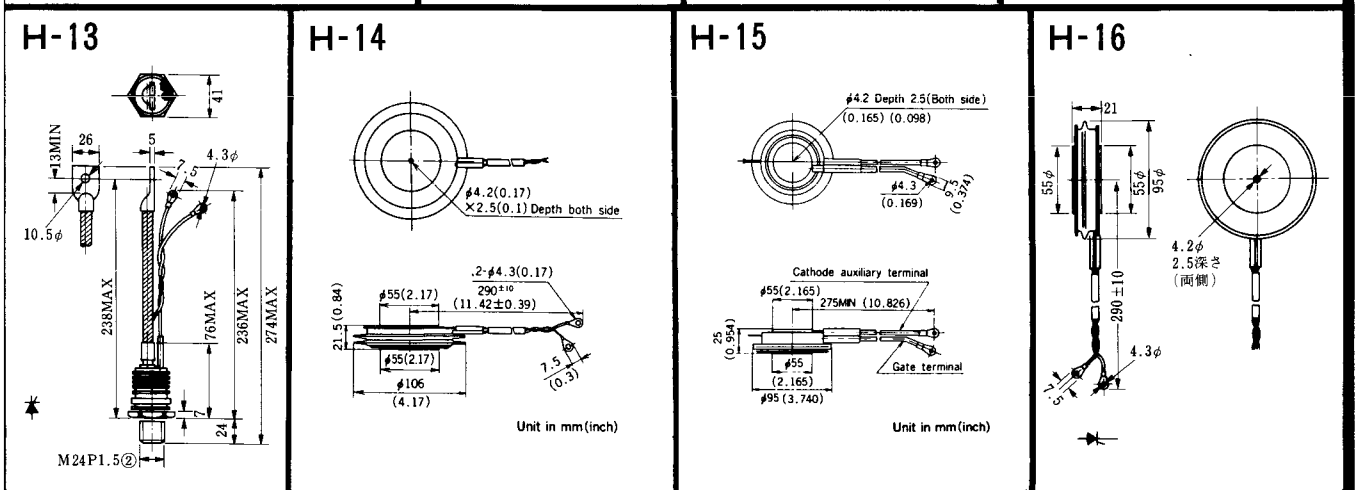


H-8A　H-8B



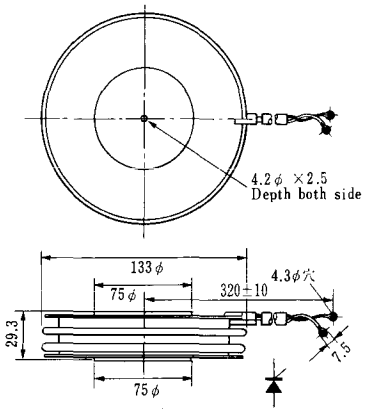
《寸法図単位：mm》


H-9A
H-9B
①アノード
②カソード
③ゲート
M6
H-10
M12P1.5③
H-11
M12P1.5
H-12
M20P1.5

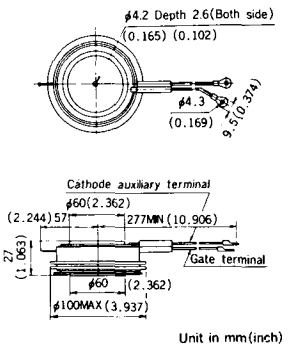

H-13
M24P1.5②
H-14
Unit in mm(inch)
H-15
Cathode auxiliary terminal
Gate terminal
Unit in mm(inch)
H-16

《寸法図単位：mm》

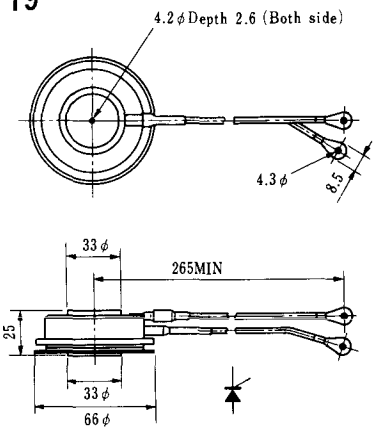
H-17



H-18



H-19



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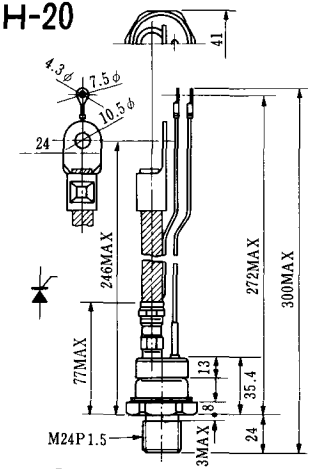

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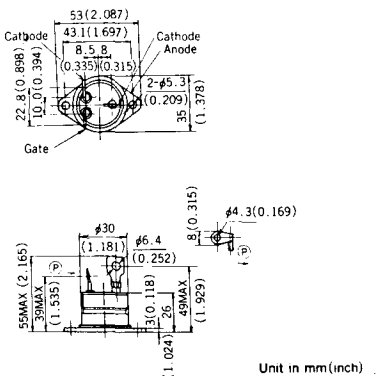
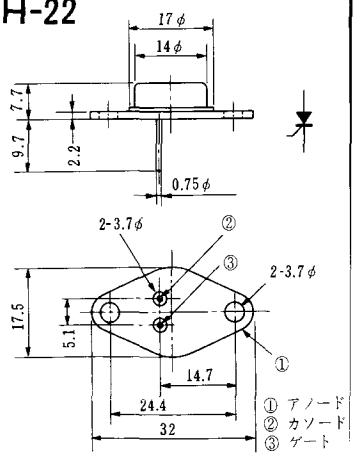
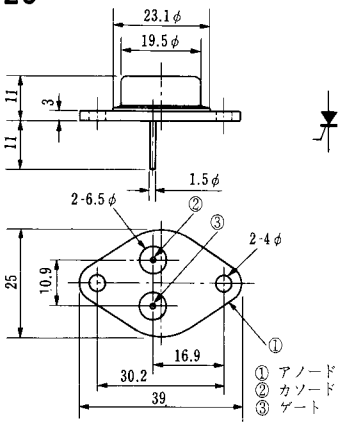


H-22

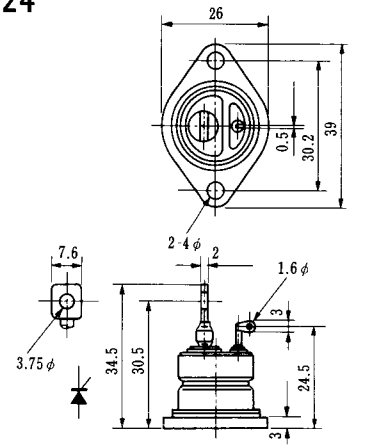


《寸法図単位：mm

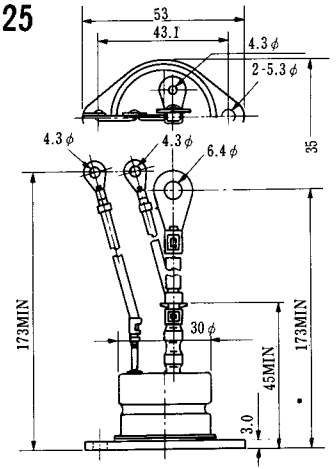
H-23



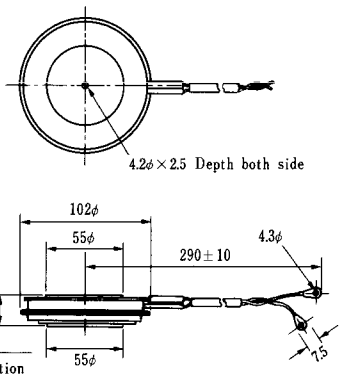
H-24



H-25

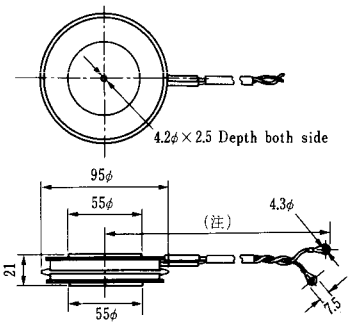


H-26



Type	Direction of polarity
CA12	▼

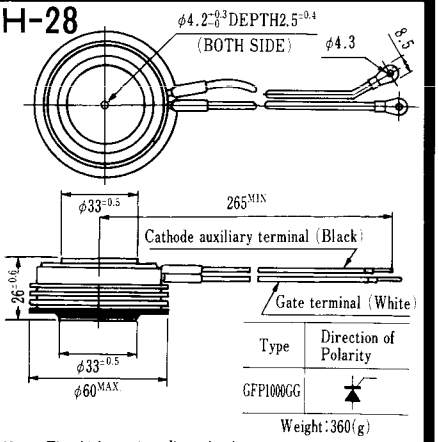
H-27



Type	Direction of polarity
CF11V	▼

(注) CC11V : 400±10
CF11V : 250±10

H-28



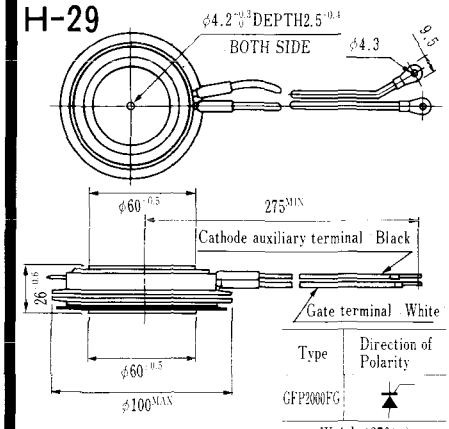
Type	Direction of Polarity
GFP1000GG	▼

Weight : 360(g)

Note : The thickness is a dimension in press at the rated mounting force.

《寸法図単位 : mm》

H-29

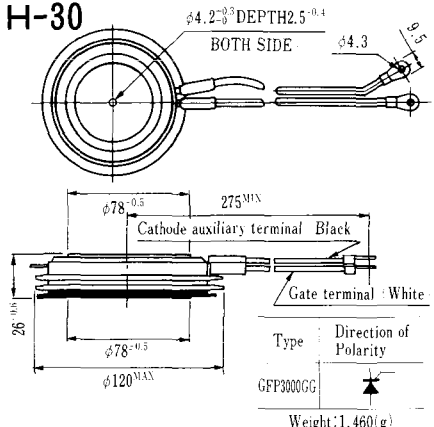


Type	Direction of Polarity
GFP2000FG	

Weight : 870(g)

Note : The thickness is a dimension in press at the rated mounting force.

H-30



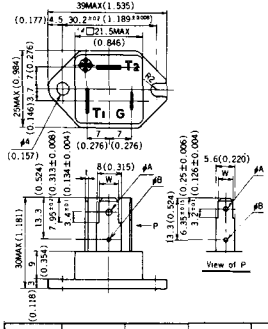
Type	Direction of Polarity
GFP3000GG	

Weight : 1,460(g)

Note : The thickness is a dimension in press at the rated mounting force.

《寸法図単位:mm》

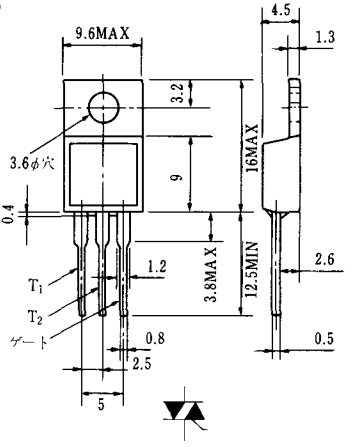
HT-1

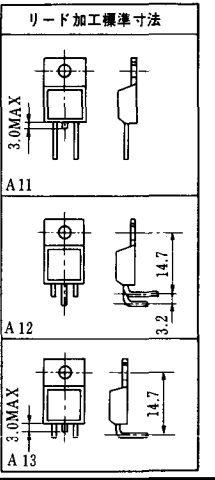


TERMINAL	t	W	φA	φB
T_1	0.8±0.025 (0.031±0.001)	6.35±0.1 (0.250±0.004)	$2.00^{+0.1}_{-0}$ ($0.079^{+0.004}_{-0}$)	1.3 (0.051)
T_2	0.8±0.025 (0.031±0.001)	6.35±0.1 (0.250±0.004)	$2.00^{+0.1}_{-0}$ ($0.079^{+0.004}_{-0}$)	1.3 (0.051)
G	0.5±0.025 (0.020±0.001)	4.75±0.1 (0.187±0.004)	$1.55^{+0.1}_{-0}$ ($0.061^{+0.004}_{-0}$)	1.3 (0.051)

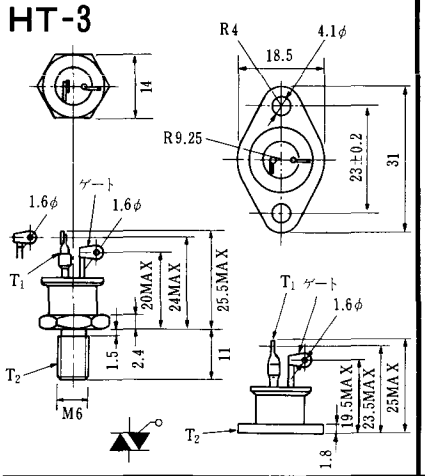
Unit in mm(inch)

HT-2

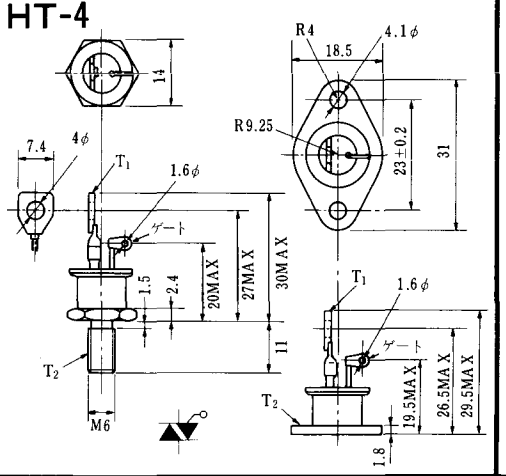




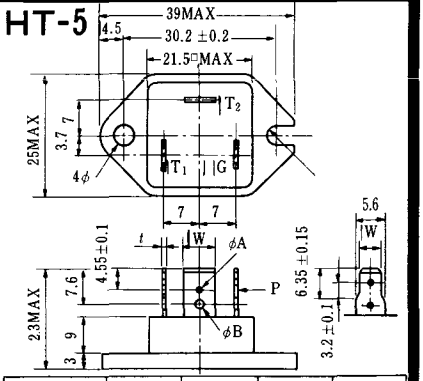
HT-3



HT-4



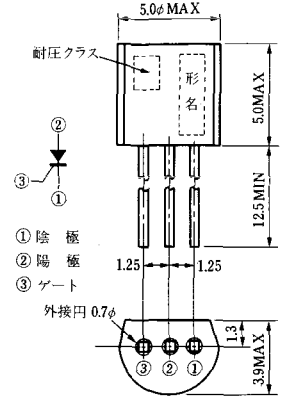
HT-5



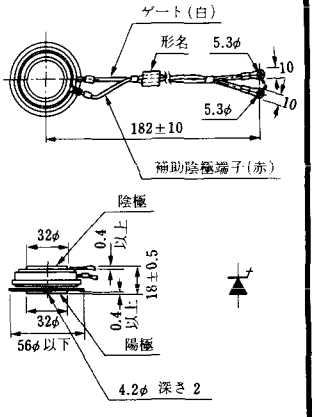
TERMINAL	t	W	φA	φB
T_1	0.8±0.025	6.35±0.1	$2.00^{+0.1}_{-0}$	2.4
T_2	0.8±0.025	6.35±0.1	$2.00^{+0.1}_{-0}$	2.4
G	0.5±0.025	4.75+0.1	$1.55^{+0.1}_{-0}$	1.55

《寸法図単位：mm》

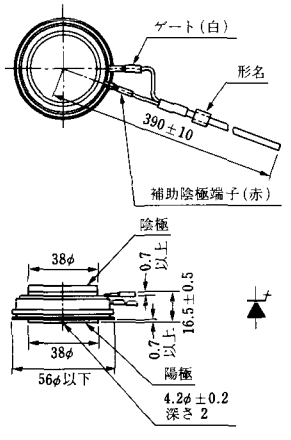
M-1



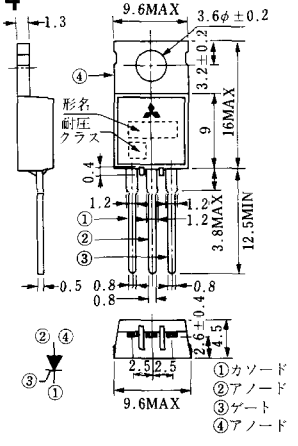
M-2



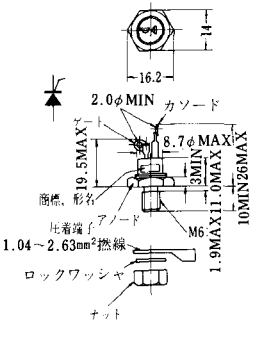
M-3



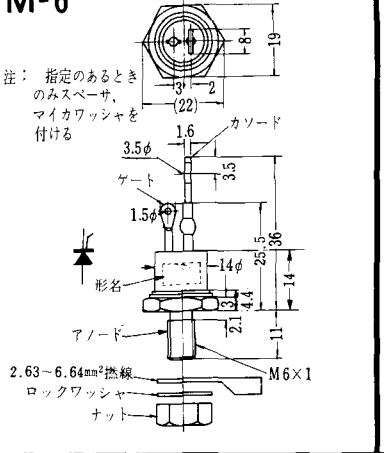
M-4



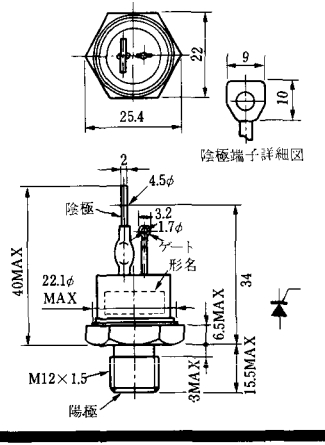
M-5



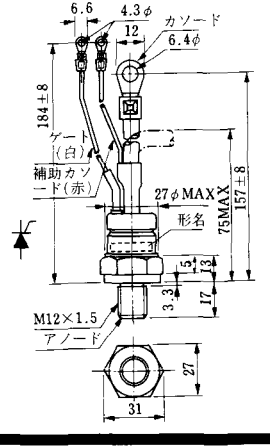
M-6



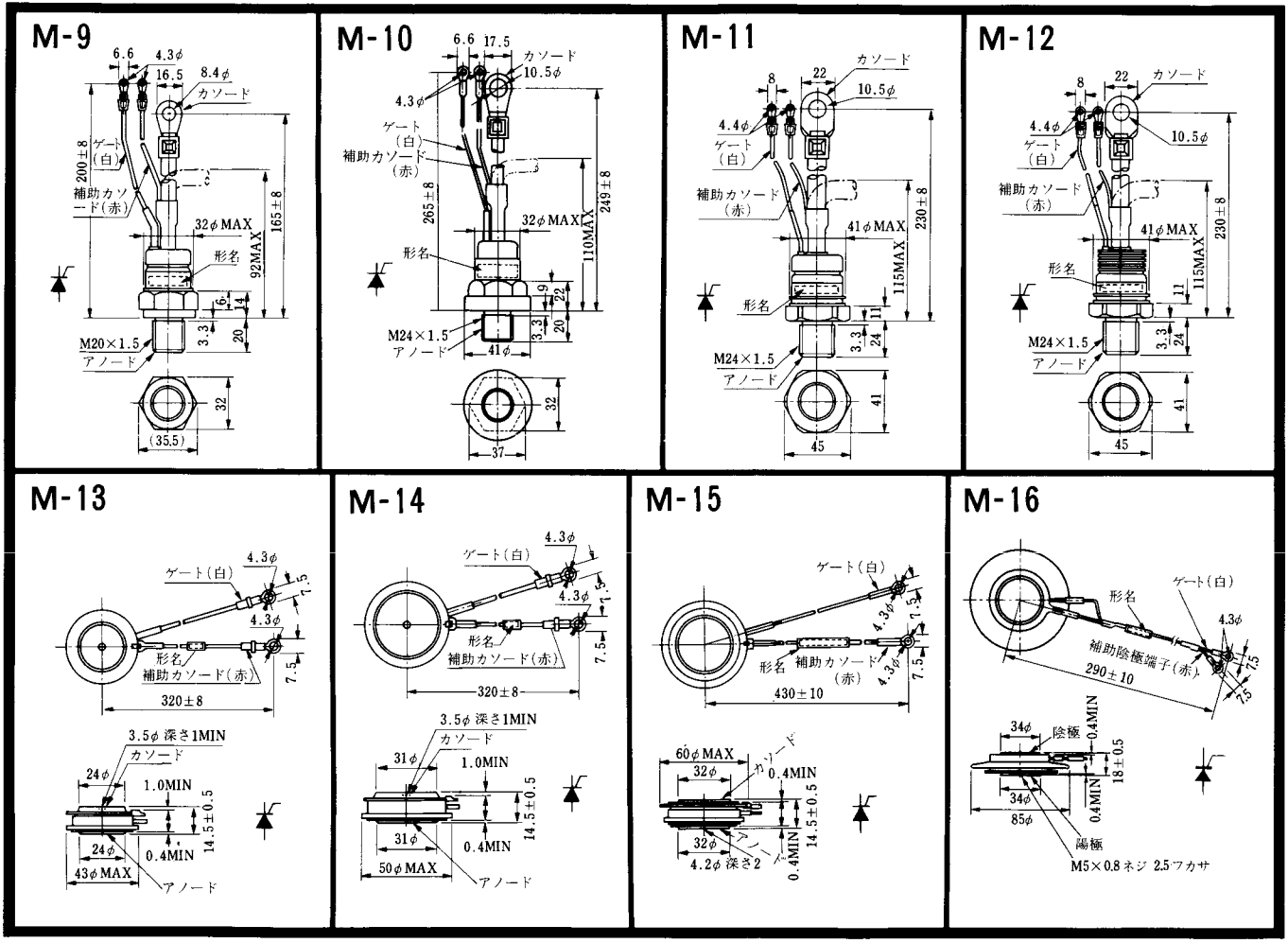
M-7



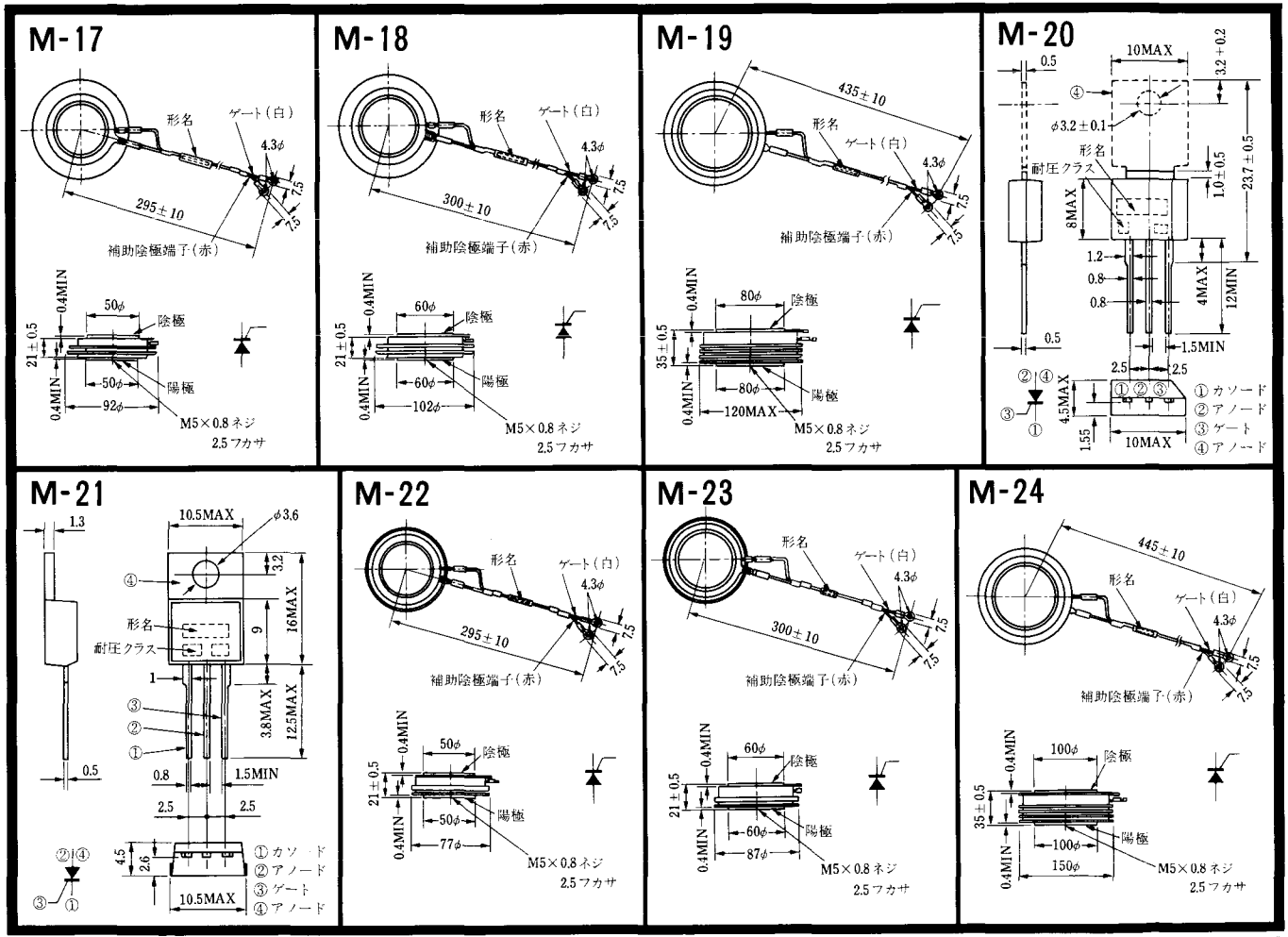
M-8



《寸法図単位：mm

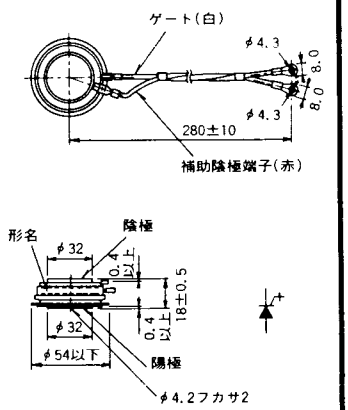

M-9
6.6
4.3φ
16.5
8.4φ
カソード
ゲート（白）
補助カソード（赤）
200±8
165±8
32φMAX
92MAX
形名
6
14
3.3
20
M20×1.5
アノード
32
(35.5)
M-10
6.6
17.5
カソード
10.5φ
4.3φ
ゲート（白）
補助カソード（赤）
265±8
249±8
32φMAX
110MAX
形名
9
22
3.3
20
M24×1.5
アノード
41φ
32
37
M-11
カソード
8
22
10.5φ
4.4φ
ゲート（白）
補助カソード（赤）
230±8
41φMAX
115MAX
形名
11
3.3
24
M24×1.5
アノード
41
45
M-12
8
22
カソード
4.4φ
ゲート（白）
10.5φ
補助カソード（赤）
230±8
41φMAX
115MAX
形名
11
3.3
24
M24×1.5
アノード
41
45
M-13
ゲート（白）
4.3φ
7.5
4.3φ
形名
補助カソード（赤）
7.5
320±8
3.5φ 深さ1MIN
カソード
24φ
1.0MIN
14.5±0.5
24φ
0.4MIN
43φMAX
アノード
M-14
ゲート（白）
4.3φ
4.3φ
7.5
形名
補助カソード（赤）
7.5
320±8
3.5φ 深さ1MIN
カソード
31φ
1.0MIN
14.5±0.5
31φ
0.4MIN
50φMAX
アノード
M-15
ゲート（白）
4.3φ
7.5
形名
補助カソード（赤）
4.3φ
7.5
430±10
60φMAX
32φ
カソード
0.4MIN
14.5±0.5
32φ
アノード
0.4MIN
4.2φ 深さ2
M-16
形名
ゲート（白）
4.3φ
補助陰極端子（赤）
290±10
7.5
7.5
34φ
陰極
0.4MIN
18±0.5
34φ
0.4MIN
85φ
陽極
M5×0.8 ネジ 2.5フカサ

《寸法図単位：mm》

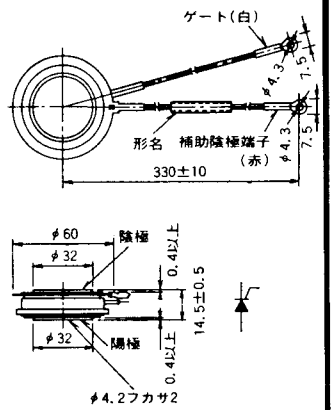

M-17
形名
ゲート(白)
4.3φ
295±10
補助陰極端子(赤)
7.5
0.4MIN
50φ
陰極
21±0.5
50φ
陽極
92φ
M5×0.8ネジ
2.5フカサ
M-18
形名
ゲート(白)
4.3φ
300±10
補助陰極端子(赤)
60φ
陰極
60φ
陽極
102φ
M5×0.8ネジ
2.5フカサ
M-19
435±10
形名
ゲート(白)
4.3φ
補助陰極端子(赤)
80φ
陰極
35±0.5
80φ
陽極
120MAX
M5×0.8ネジ
2.5フカサ
M-20
10MAX
0.5
3.2±0.2
φ3.2±0.1
形名
耐圧クラス
23.7±0.5
1.0±0.5
8MAX
1.2
0.8
0.8
4MAX
12MIN
1.5MIN
2.5
2.5
4.5MAX
1.55
10MAX
①カソード
②アノード
③ゲート
④アノード
M-21
1.3
10.5MAX
φ3.6
3.2
16MAX
9
形名
耐圧クラス
1
3.8MAX
12.5MAX
0.5
0.8
1.5MIN
2.5
2.5
4.5
2.6
10.5MAX
①カソード
②アノード
③ゲート
④アノード
M-22
形名
ゲート(白)
4.3φ
295±10
補助陰極端子(赤)
50φ
陰極
21±0.5
50φ
陽極
77φ
M5×0.8ネジ
2.5フカサ
M-23
形名
ゲート(白)
4.3φ
300±10
補助陰極端子(赤)
60φ
陰極
21±0.5
60φ
陽極
87φ
M5×0.8ネジ
2.5フカサ
M-24
445±10
形名
ゲート(白)
4.3φ
補助陰極端子(赤)
100φ
陰極
35±0.5
100φ
陽極
150φ
M5×0.8ネジ
2.5フカサ

《寸法図単位：mm》

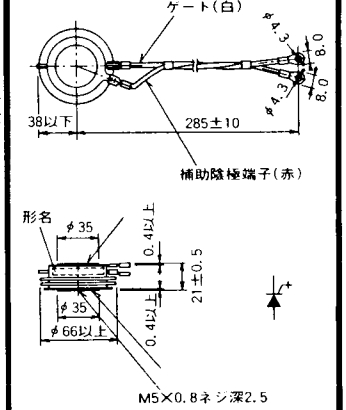
M-25



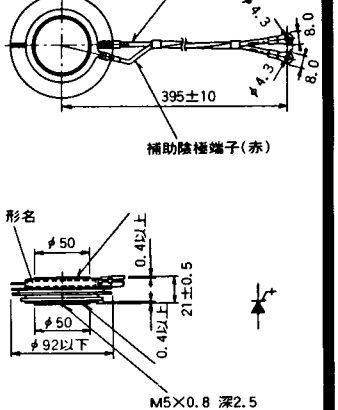
M-26



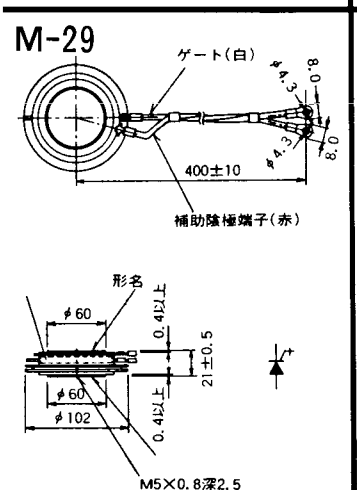
M-27



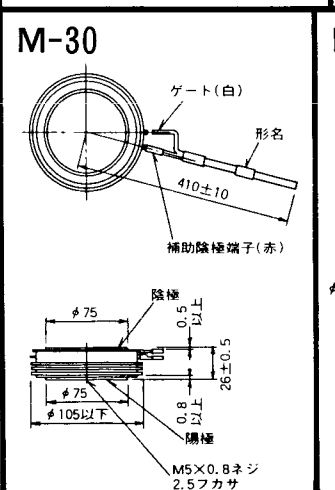
M-28



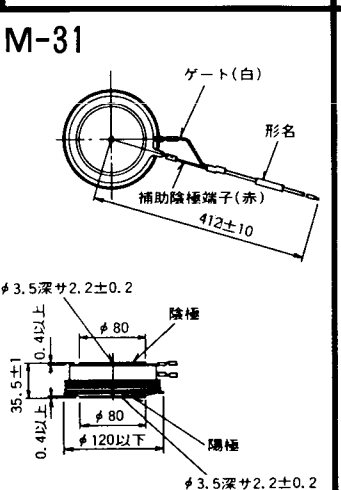
M-29



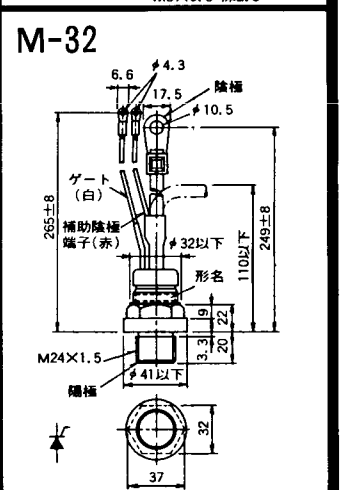
M-30



M-31

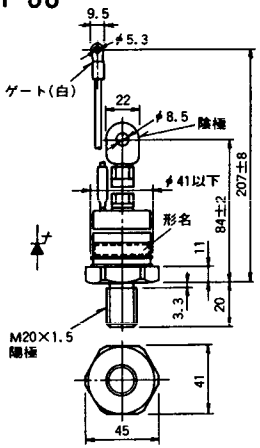


M-32

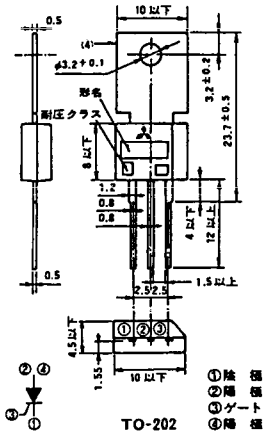


《寸法図単位：mm》

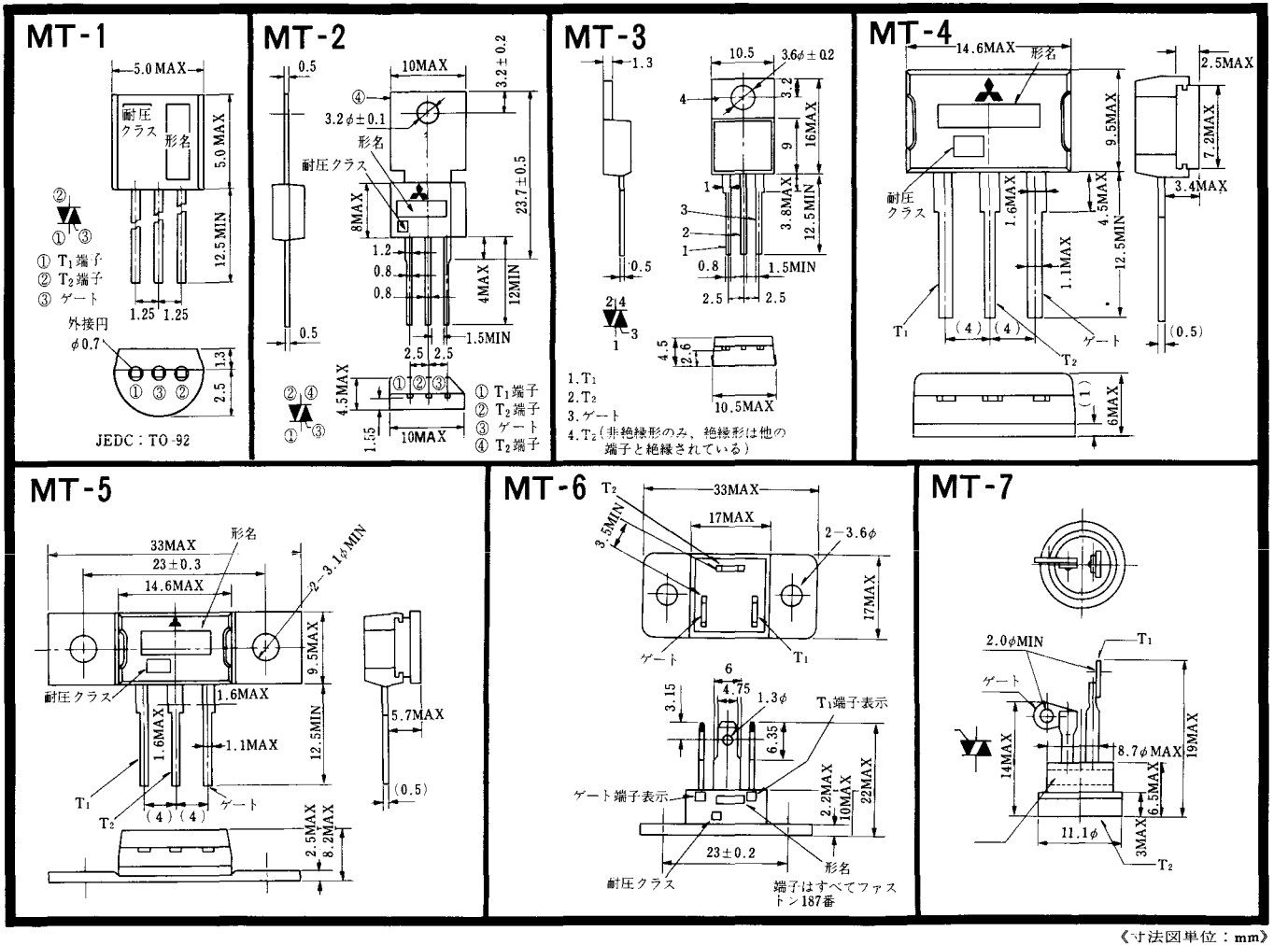
M-33



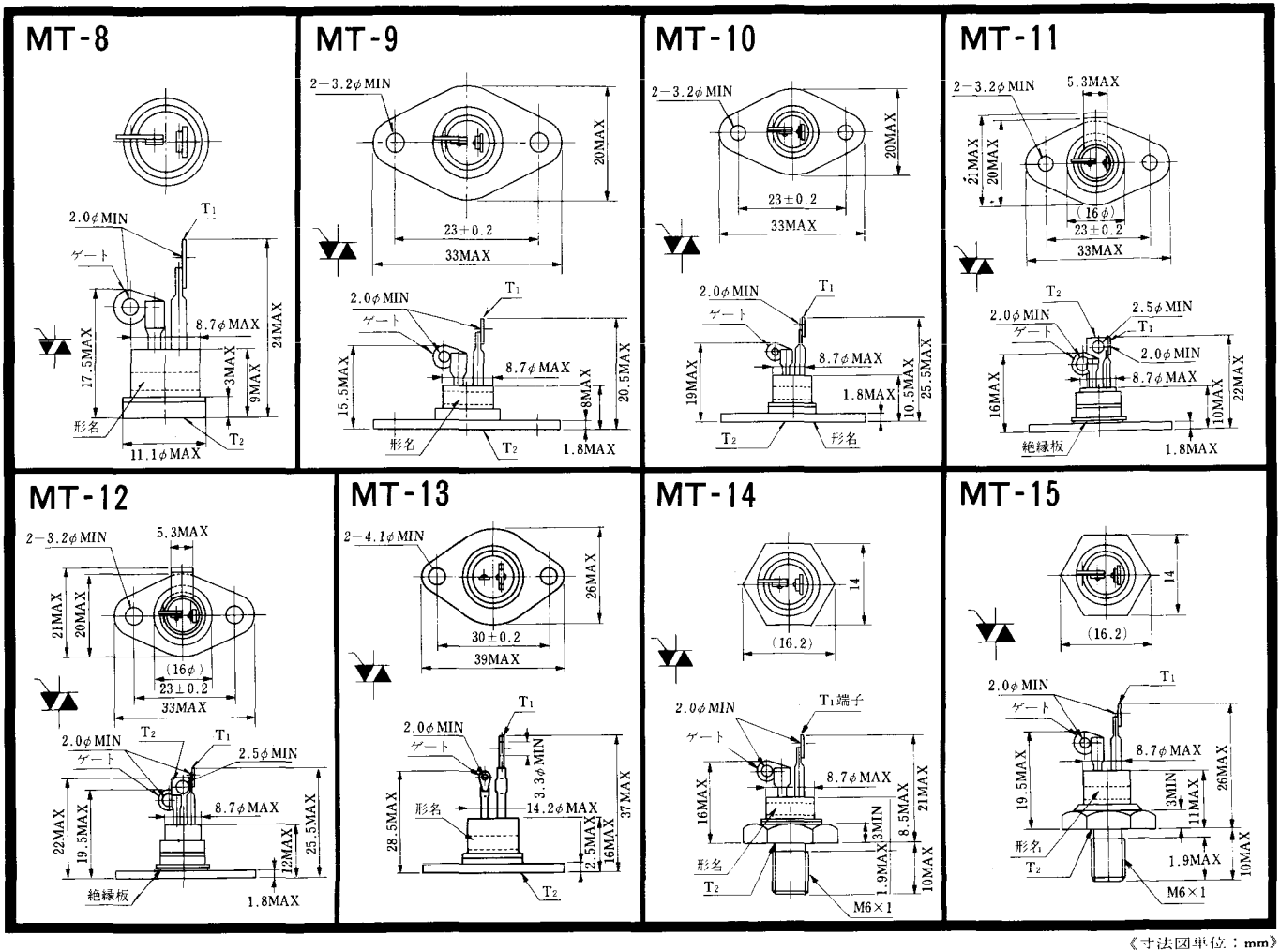
M-34



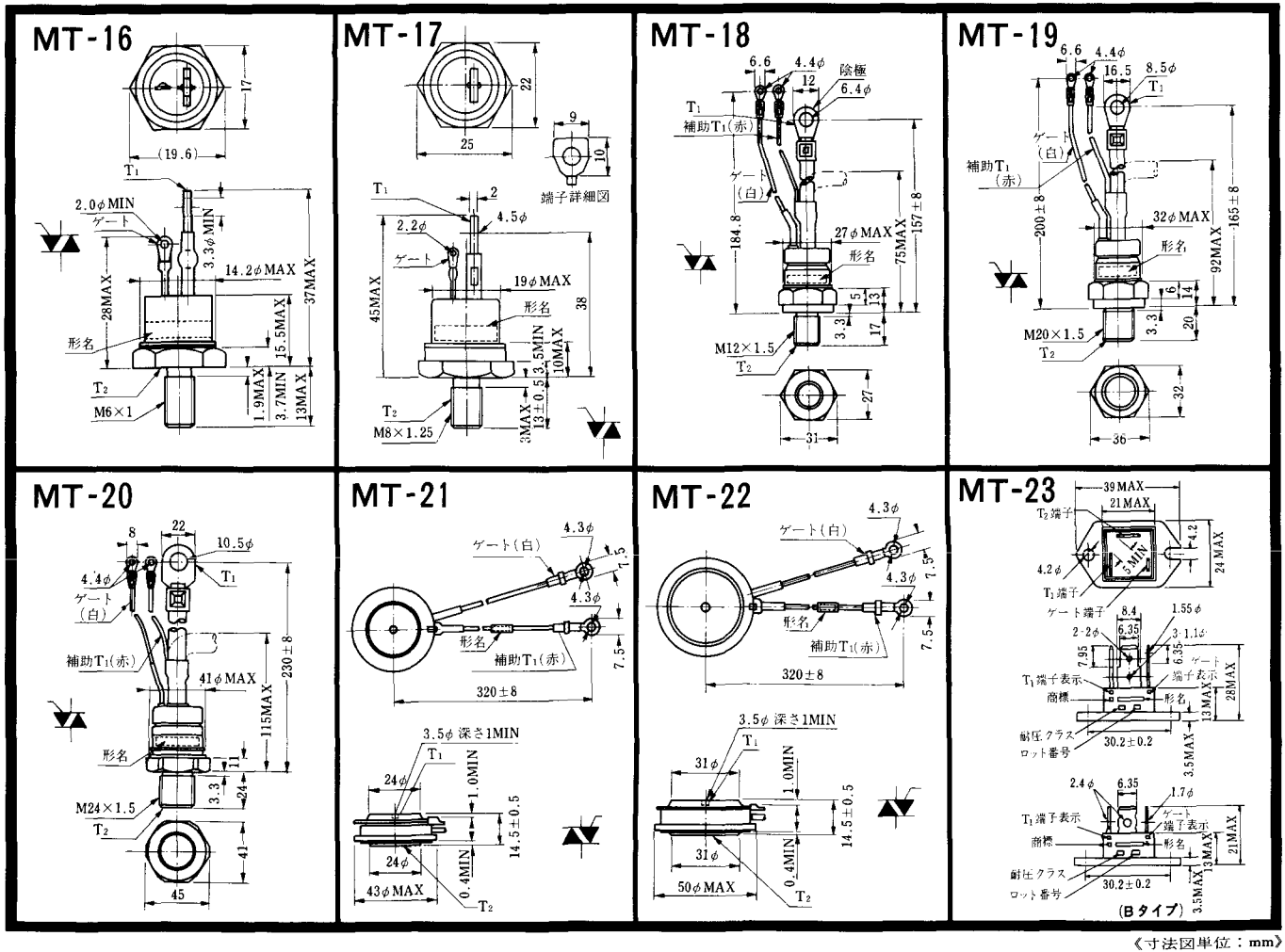
《寸法図単位:mm》


MT-1
5.0MAX
耐圧クラス
形名
5.0MAX
12.5MIN
① T1端子
② T2端子
③ ゲート
1.25 1.25
外接円
φ0.7
1.3
2.5
JEDC：TO-92
MT-2
0.5
10MAX
3.2±0.2
3.2φ±0.1
形名
耐圧クラス
8MAX
23.7±0.5
1.2
0.8
0.8
4MAX
12MIN
1.5MIN
2.5 2.5
4.5MAX
1.55
10MAX
① T1端子
② T2端子
③ ゲート
④ T2端子
MT-3
1.3
10.5
3.6φ±0.2
3.2
16MAX
9
3.8MAX
12.5MIN
0.8
1.5MIN
2.5 2.5
0.5
4.5
2.6
10.5MAX
1. T1
2. T2
3. ゲート
4. T2（非絶縁形のみ，絶縁形は他の端子と絶縁されている）
MT-4
14.6MAX
形名
2.5MAX
9.5MAX
7.2MAX
3.4MAX
耐圧クラス
1.6MAX
4.5MAX
12.5MIN
1.1MAX
T1
(4) (4)
ゲート
T2
(0.5)
(1)
6MAX
MT-5
33MAX
形名
23±0.3
14.6MAX
2−3.1φMIN
9.5MAX
耐圧クラス
1.6MAX
12.5MIN
1.6MAX
1.1MAX
5.7MAX
T1
T2
(4) (4)
ゲート
(0.5)
2.5MAX
8.2MAX
MT-6
T2
33MAX
17MAX
3.5MIN
2−3.6φ
17MAX
ゲート
T1
6
4.75
3.15
1.3φ
T1端子表示
6.35
ゲート端子表示
2.2MAX
10MAX
22MAX
23±0.2
形名
耐圧クラス
端子はすべてファストン187番
MT-7
2.0φMIN
T1
ゲート
14MAX
8.7φMAX
19MAX
6.5MAX
11.1φ
3MAX
T2

《寸法図単位：mm》

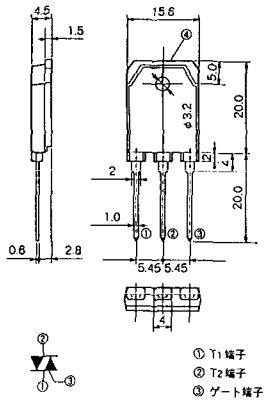

MT-8
2.0φMIN
T1
ゲート
8.7φMAX
24MAX
17.5MAX
3MAX
9MAX
形名
T2
11.1φMAX
MT-9
2−3.2φMIN
20MAX
23±0.2
33MAX
2.0φMIN
T1
ゲート
8.7φMAX
15.5MAX
8MAX
20.5MAX
形名
T2
1.8MAX
MT-10
2−3.2φMIN
20MAX
23±0.2
33MAX
2.0φMIN
T1
ゲート
8.7φMAX
19MAX
1.8MAX
10.5MAX
25.5MAX
T2
形名
MT-11
2−3.2φMIN
5.3MAX
21MAX
20MAX
(16φ)
23±0.2
33MAX
T2
2.5φMIN
2.0φMIN
ゲート
T1
2.0φMIN
8.7φMAX
16MAX
10MAX
22MAX
絶縁板
1.8MAX
MT-12
2−3.2φMIN
5.3MAX
21MAX
20MAX
(16φ)
23±0.2
33MAX
T2
T1
2.0φMIN
ゲート
2.5φMIN
8.7φMAX
22MAX
19.5MAX
12MAX
25.5MAX
絶縁板
1.8MAX
MT-13
2−4.1φMIN
26MAX
30±0.2
39MAX
T1
2.0φMIN
ゲート
3.3φMIN
形名
14.2φMAX
28.5MAX
2.5MAX
16MAX
37MAX
T2
MT-14
14
(16.2)
2.0φMIN
T1端子
ゲート
8.7φMAX
16MAX
8.5MAX
21MAX
3MIN
形名
1.9MAX
10MAX
T2
M6×1
MT-15
14
(16.2)
2.0φMIN
T1
ゲート
8.7φMAX
19.5MAX
3MIN
11MAX
26MAX
形名
T2
1.9MAX
10MAX
M6×1

《寸法図単位：mm》


MT-16
17
(19.6)
T1
2.0φMIN
ゲート
3.3φMIN
14.2φMAX
37MAX
28MAX
15.5MAX
形名
T2
M6×1
1.9MAX
3.7MIN
13MAX
MT-17
22
25
9
10
端子詳細図
T1
2
4.5φ
2.2φ
ゲート
19φMAX
形名
45MAX
38
3.5MIN
10MAX
T2
M8×1.25
3MAX
13±0.5
MT-18
6.6
4.4φ
12
除極
6.4φ
T1
補助T1(赤)
ゲート
(白)
184.8
27φMAX
形名
75MAX
157±8
5
13
3.3
17
M12×1.5
T2
27
31
MT-19
6.6
4.4φ
16.5
8.5φ
T1
ゲート
(白)
補助T1
(赤)
200±8
32φMAX
形名
92MAX
165±8
6
14
3.3
20
M20×1.5
T2
32
36
MT-20
8
22
10.5φ
4.4φ
ゲート
(白)
T1
補助T1(赤)
41φMAX
230±8
115MAX
形名
11
3.3
24
M24×1.5
T2
41
45
MT-21
4.3φ
ゲート(白)
7.5
4.3φ
形名
補助T1(赤)
7.5
320±8
3.5φ 深さ1MIN
T1
24φ
1.0MIN
14.5±0.5
24φ
0.4MIN
43φMAX
T2
MT-22
4.3φ
ゲート(白)
7.5
4.3φ
形名
補助T1(赤)
7.5
320±8
3.5φ 深さ1MIN
T1
31φ
1.0MIN
14.5±0.5
31φ
0.4MIN
50φMAX
T2
MT-23
39MAX
21MAX
T2端子
4.2
24MAX
4.2φ
5MIN
T1端子
ゲート端子
8.4
1.55φ
2-2φ
6.35
3-1.1φ
6.35
7.95
ゲート
T1端子表示
端子表示
商標
形名
13MAX
28MAX
耐圧クラス
ロット番号
30.2±0.2
3.5MAX
2.4φ
6.35
1.7φ
ゲート
T1端子表示
端子表示
商標
形名
13MAX
21MAX
耐圧クラス
ロット番号
30.2±0.2
3.5MAX
(Bタイプ)

《寸法図単位：mm》

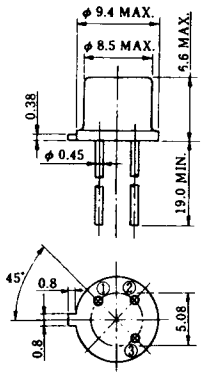
MT-24



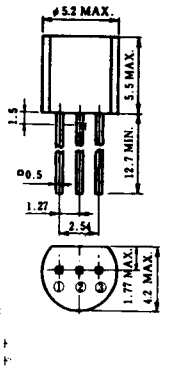
TO－3P

《寸法図単位:mm》

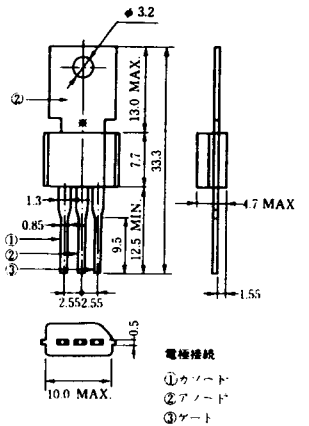
N-1



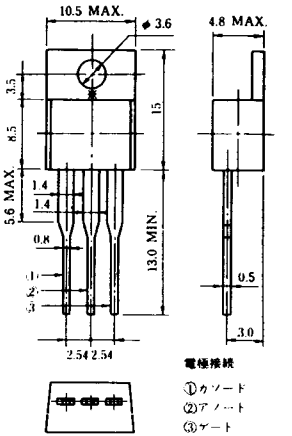
N-2



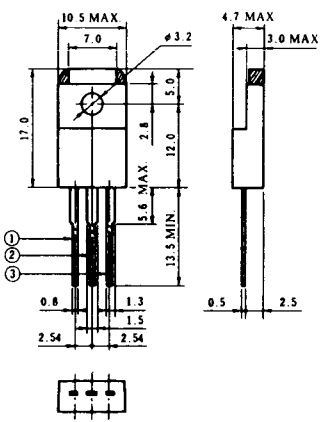
N-3



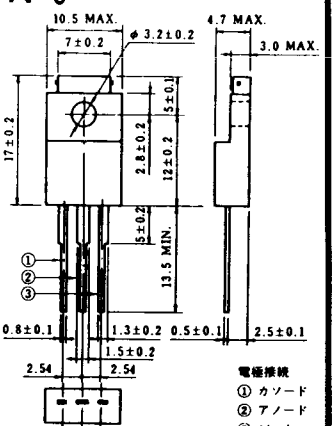
N-4



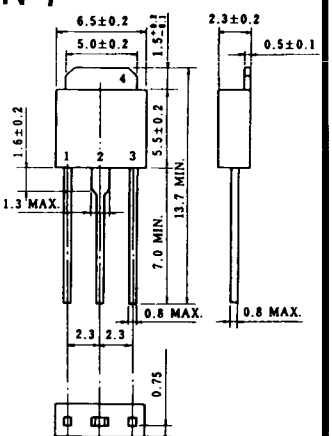
N-5



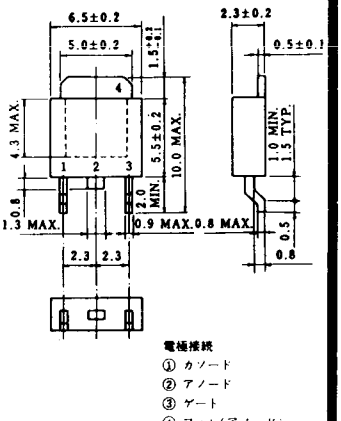
N-6



N-7

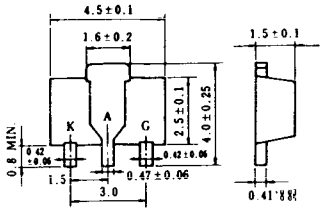


N-8



〈寸法図単位：mm〉

N-9



電極接続

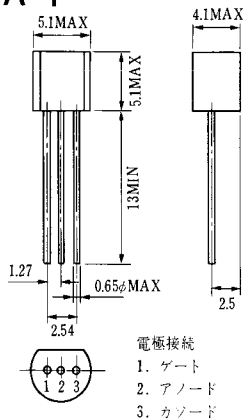
K：カソード

A：アノード

G：ゲート

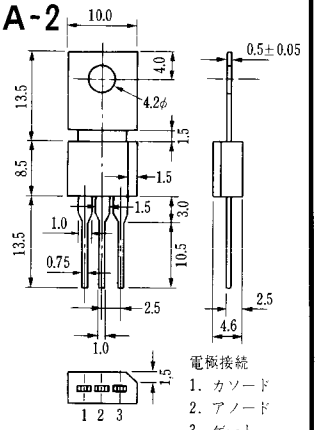
〈寸法図単位：mm〉

NA-1



電極接続
1. ゲート
2. アノード
3. カソード
JEDEC：TO-92

NA-2

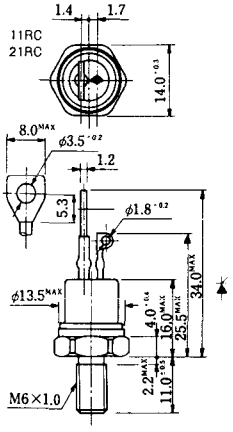


電極接続
1. カソード
2. アノード
3. ゲート
JEDEC：TO-202AA

《寸法図単位：mm》

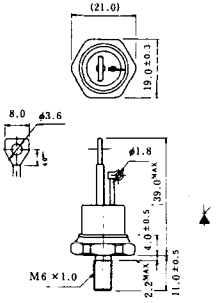
NI-1

11RC
21RC



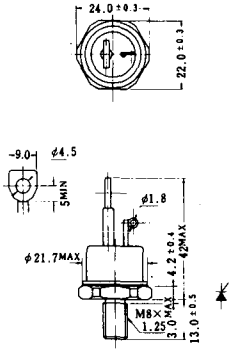
NI-2

29RD



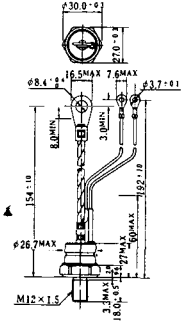
NI-3

39RC
59RC
39RF
59RF



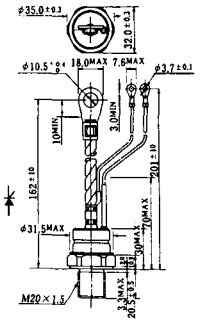
NI-4

68RP, 88RP, 108RP, 68RS, 88RS, 78RT, 88RLD, 88RLE, 88RLF, 88RLG, 88RLH, 108RLE



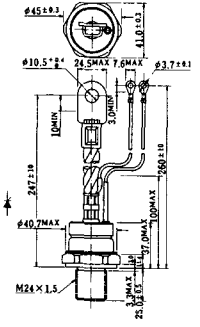
NI-5

158RP, 208RP, 128RS, 178RS, 158RT, 178RLD, 178RLE, 178RLF, 178RLG, 178RLH, 208RLE



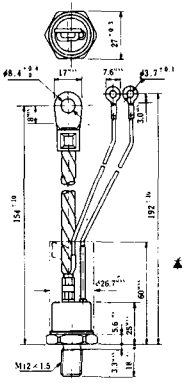
NI-6

308RP, 408RP, 508RP, 278RS, 358RS, 258RT, 258RLD, 258RLG, 258RLH, 308RLE, 308RLF, 358RLE



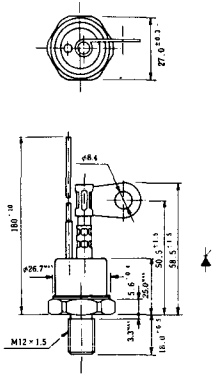
NI-7

89RW
129RW



NI-8

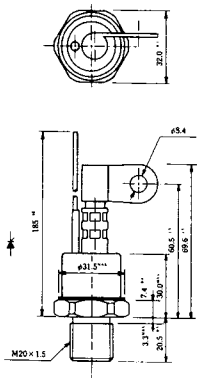
89RW
129RW



《寸法図単位:mm》

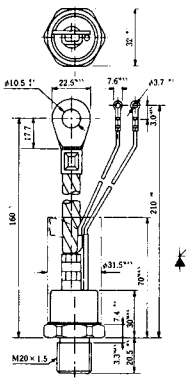
NI-9

259RW
309RW



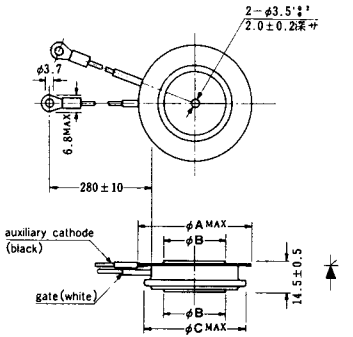
NI-10

259RW「」L
309RW「」L



NI-11

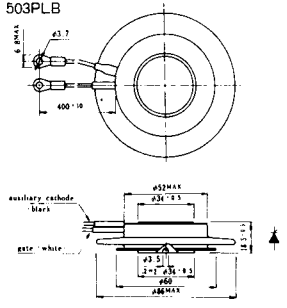
103PA
253PA
503PA
553PA
803PA
103PLE
103PLG
103PLH
203PLG
253PLE
253PLH
353PLG
403PLE
403PLH



型名 / 寸法	103PA, 103PLE 103PLG, 103PLH	253PA, 203PLG 253PLE, 253PLH	503PA, 553PA 353PLG, 403PLE 403PLH	803PA
A	40	46	55.5	55.5
B	16	22	30	32
C	36	42	50.5	50.5

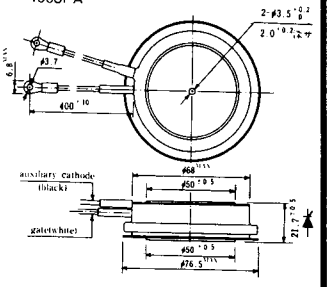
NI-12

403PAB
503PAB
503PLB



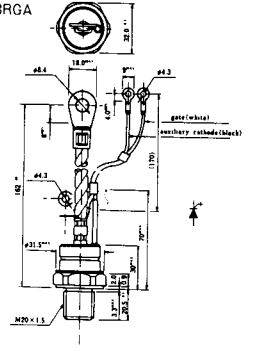
NI-13

1003PA
1003PAB
1003PLF
1003PLH
1503PA



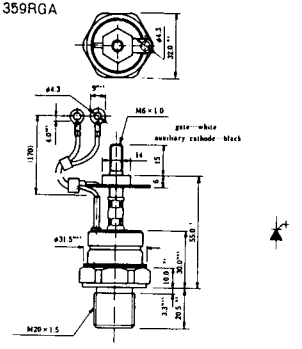
NI-14

358RGA



NI-15

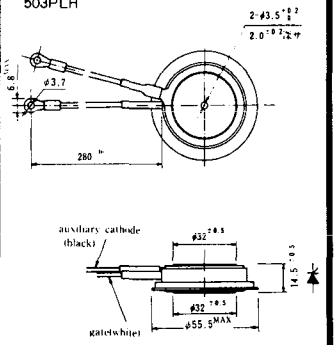
359RGA



《寸法図単位:mm》

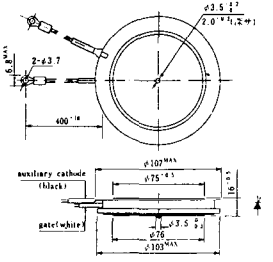
NI-16

503PLF
503PLH



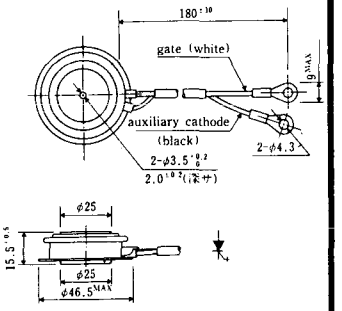
NI-17

3003PA



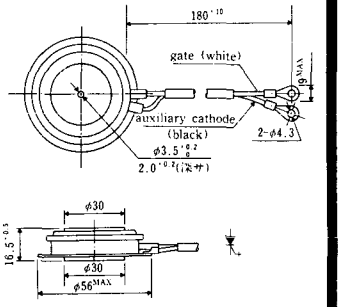
NI-18

353PGA「」E



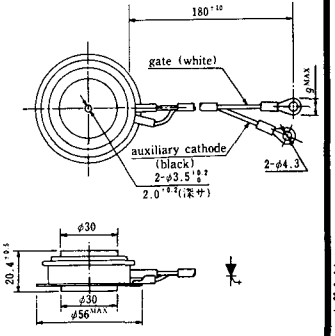
NI-19

603PGA, 603PGA「」A, 803PGA



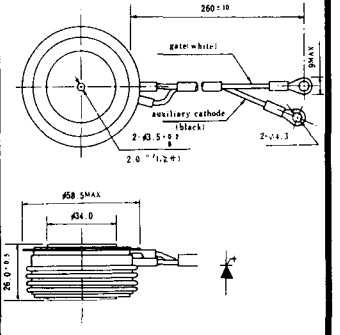
NI-20

603PGA「」E



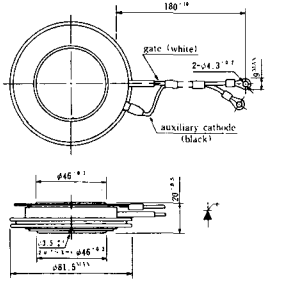
NI-21

1001PGB「」E



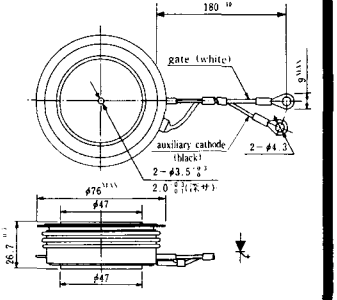
NI-22

1201PGA, 1201PGA「」A, 1401PGA



NI-23

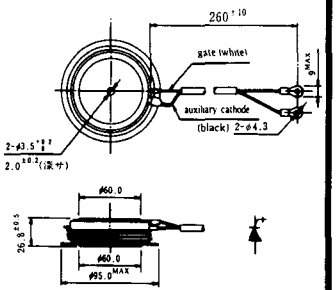
1201PGA「」E



《寸法図単位:mm》

NI-24

2001PGB[ ]E

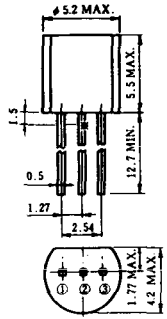


NI-25

NI-26

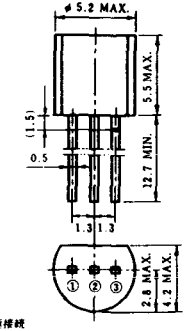
《寸法図単位:mm》

NT-1



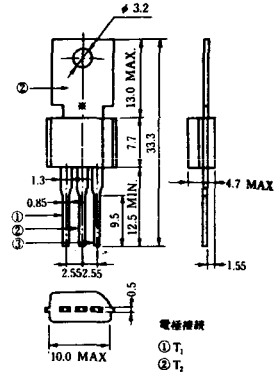
電極接続
①T_1
②ゲート
③T_2

NT-2



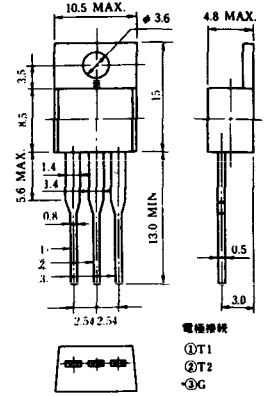
電極接続
①T_1
②ゲート
③T_2

NT-3



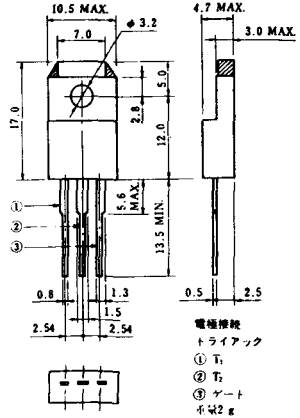
電極接続
①T_1
②T_2
③ゲート

NT-4



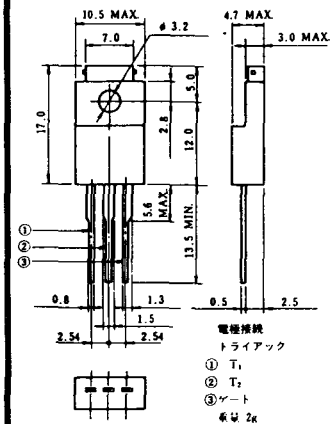
電極接続
①T1
②T2
③G

NT-5



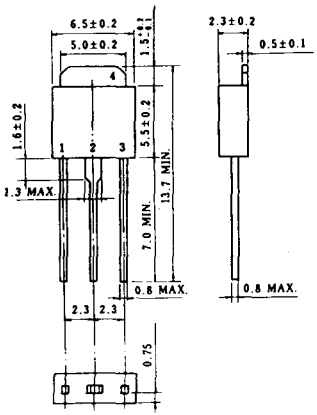
電極接続
トライアック
① T_1
② T_2
③ ゲート
形式2 g

NT-6

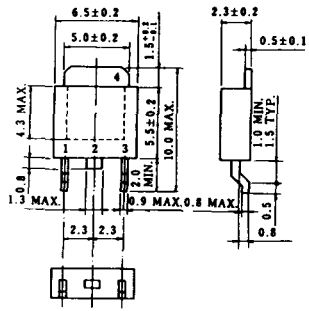


電極接続
トライアック
① T_1
② T_2
③ゲート
形式 2K

NT-7



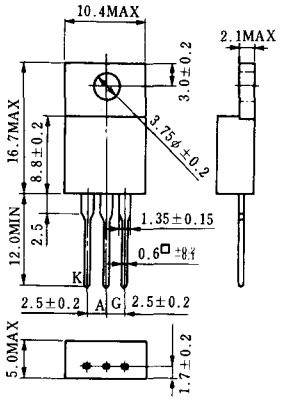
NT-8



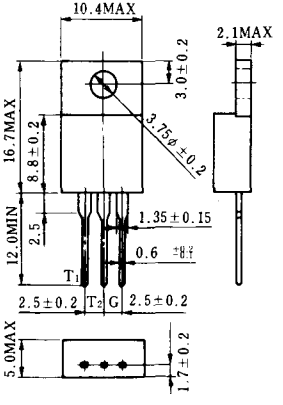
電極接続
① T_1
② T_2
③ G
④ フィン(T_2)

《寸法図単位：mm》

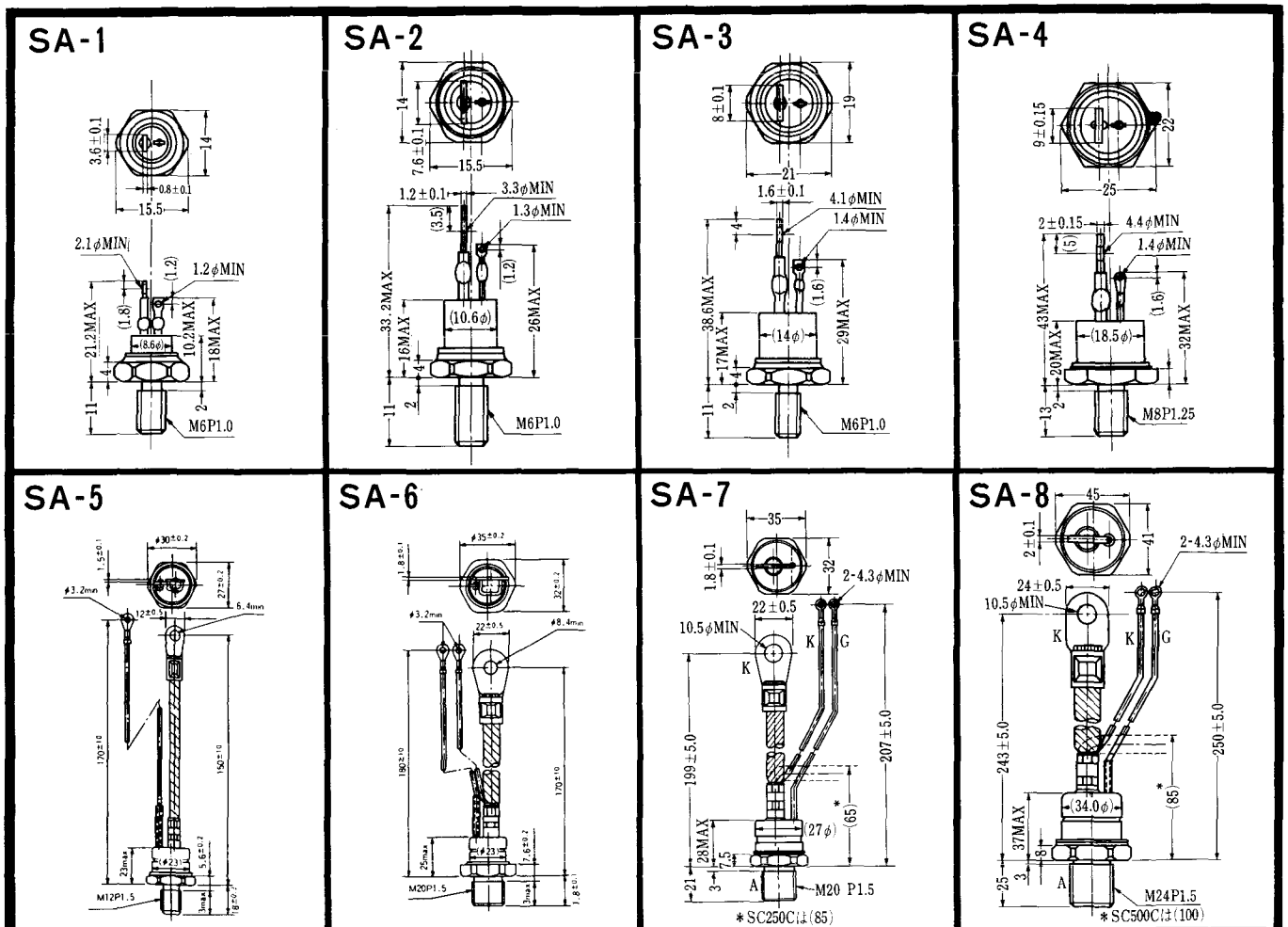
S-1



ST-1

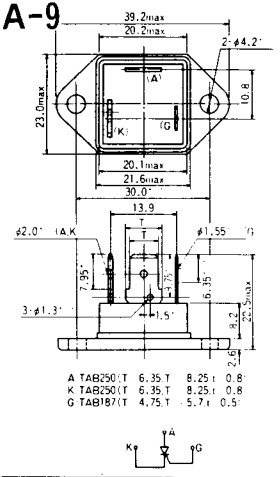


《寸法図単位：mm》

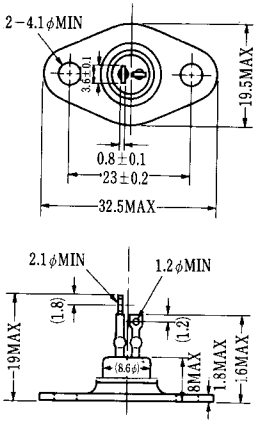

SA-1
3.6±0.1
14
0.8±0.1
15.5
2.1φMIN
(1.2)
1.2φMIN
(1.8)
21.2MAX
(8.6φ)
10.2MAX
18MAX
4
11
2
M6P1.0
SA-2
14
7.6±0.1
15.5
1.2±0.1
3.3φMIN
(3.5)
1.3φMIN
(1.2)
33.2MAX
(10.6φ)
26MAX
16MAX
4
11
2
M6P1.0
SA-3
8±0.1
19
21
1.6±0.1
4.1φMIN
1.4φMIN
4
(1.6)
38.6MAX
(14φ)
29MAX
17MAX
4
11
2
M6P1.0
SA-4
9±0.15
22
25
2±0.15
(5)
4.4φMIN
1.4φMIN
43MAX
(1.6)
(18.5φ)
32MAX
20MAX
13
2
M8P1.25
SA-5
φ30±0.2
1.5±0.1
27±0.2
φ3.2min
12±0.5
6.4min
170±10
150±10
23max
(φ23)
5.6±0.2
3max
1.8±0.1
M12P1.5
SA-6
φ35±0.2
1.8±0.1
32±0.2
φ3.2min
22±0.5
φ8.4min
190±10
170±10
25max
(φ23)
7.6±0.2
3max
1.8±0.1
M20P1.5
SA-7
35
1.8±0.1
32
2-4.3φMIN
22±0.5
10.5φMIN
K
K
G
199±5.0
207±5.0
*
(65)
(27φ)
28MAX
7.5
21
3
A
M20 P1.5
*SC250Cは(85)
SA-8
45
2±0.1
41
2-4.3φMIN
24±0.5
10.5φMIN
K
K
G
243±5.0
250±5.0
*
(85)
(34.0φ)
37MAX
8
25
3
A
M24P1.5
*SC500Cは(100)

《寸法図単位:mm》

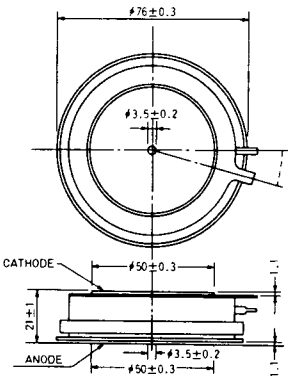
SA-9



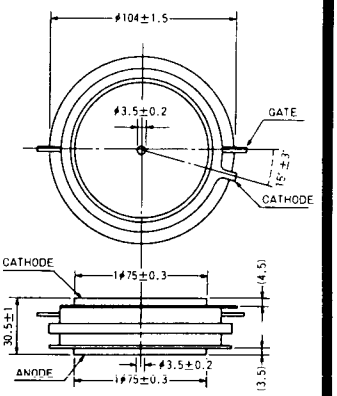
SA-10



SA-11

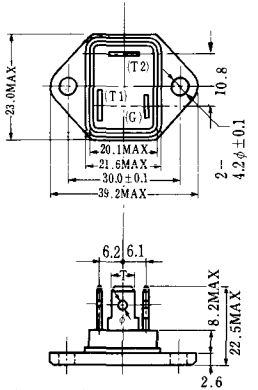


SA-12



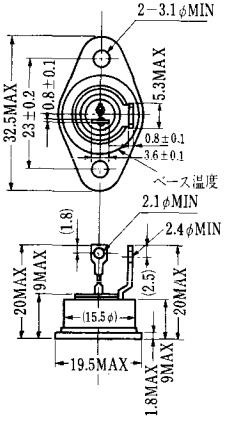
《寸法図単位:mm》

SAT-1

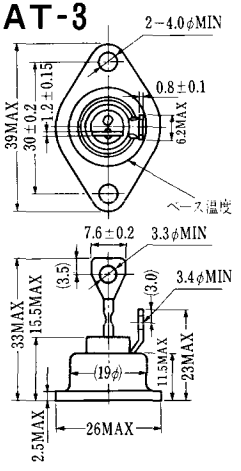


T1端子：ファストン250(T=6.35, t=0.8, φ=1.65)
T2端子：ファストン250(T=6.35, t=0.8, φ=1.65)
G 端子：ファストン187(T=4.75, t=0.5, φ=1.3)

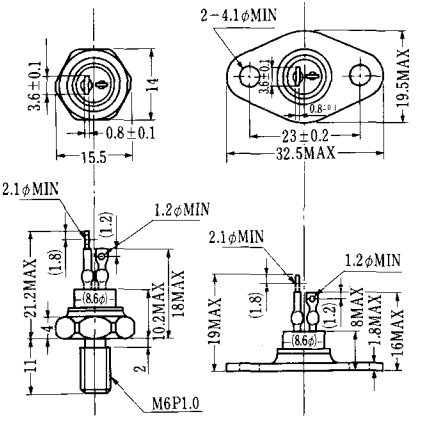
SAT-2



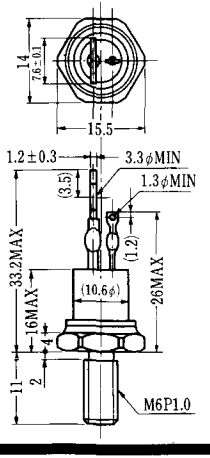
SAT-3



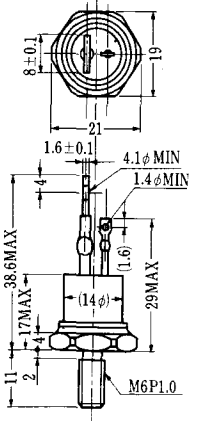
SAT-4



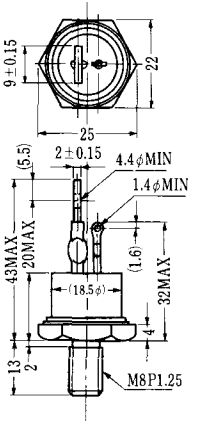
SAT-5



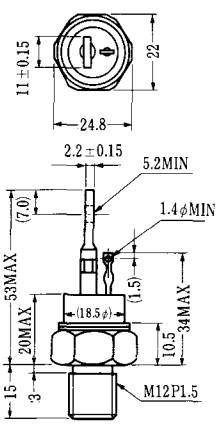
SAT-6



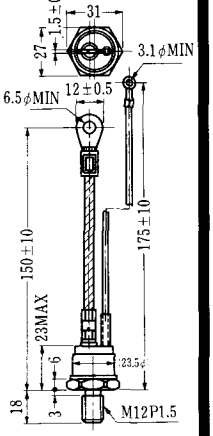
SAT-7



SAT-8

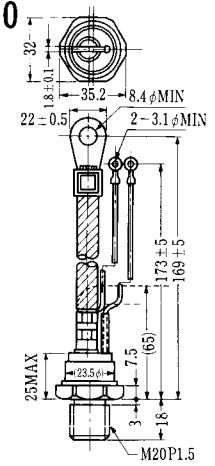


SAT-9

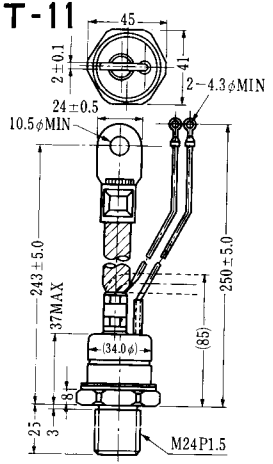


《寸法図単位：mm》

SAT-10

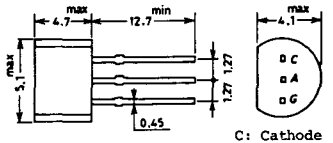


SAT-11



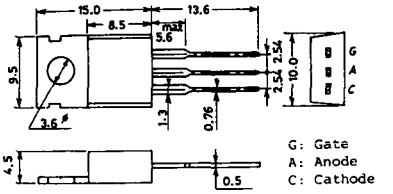
《寸法図単位：mm》

SY-1 (1096A)



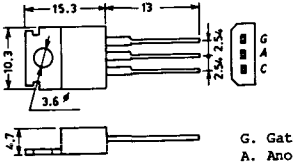
C: Cathode
A: Anode
G: Gate

SY-2 (1151)



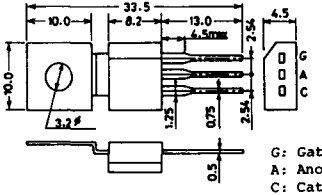
G: Gate
A: Anode
C: Cathode

SY-3 (1104)



G. Gate
A. Anode
C. Cathode

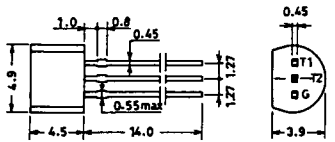
SY-4 (1150)



G: Gate
A: Anode
C: Cathode

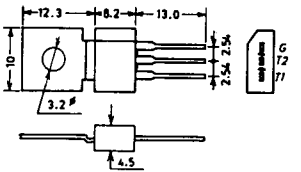
《寸法図単位:mm》

1097A

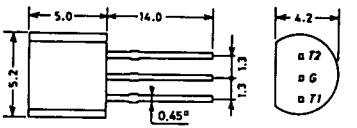


G: Gate

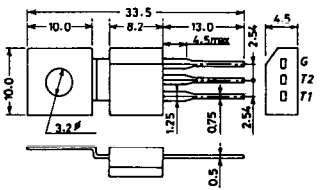
1102



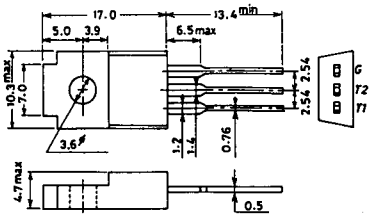
1141



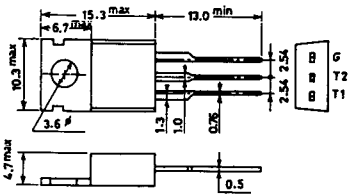
1142



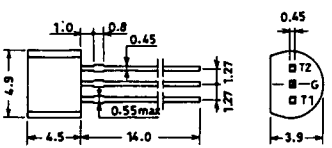
1144



1155



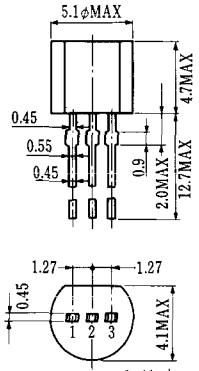
1192A



G: Gate

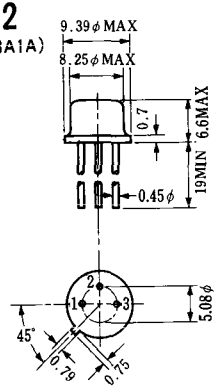
《寸法図単位:mm》

T-1 (13-5A1A)



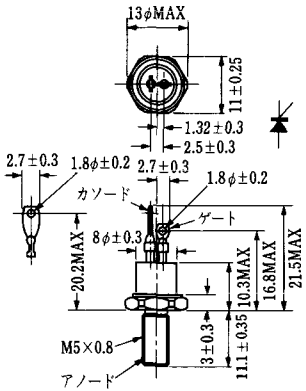
1 ゲート
2 アノード
3 カソード

T-2 (13-8A1A)

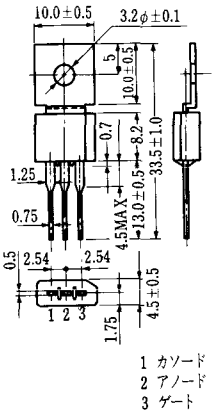


1. カソード
2. ゲート
3. アノード(ケース)

T-3 (13-8C1A)

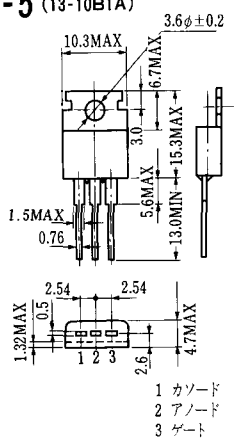


T-4 (13-10A1A)



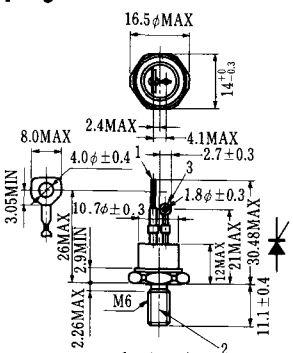
1 カソード
2 アノード
3 ゲート

T-5 (13-10B1A)



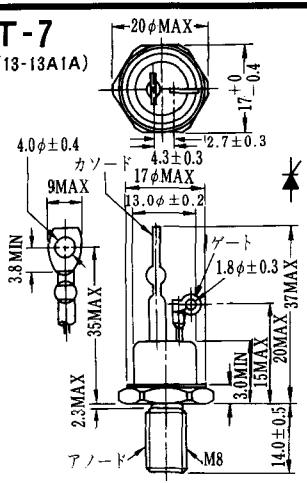
1 カソード
2 アノード
3 ゲート

T-6 (13-11D1A)

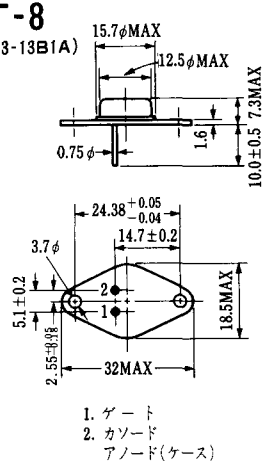


1 カソード
2 アノード
3 ゲート

T-7 (13-13A1A)



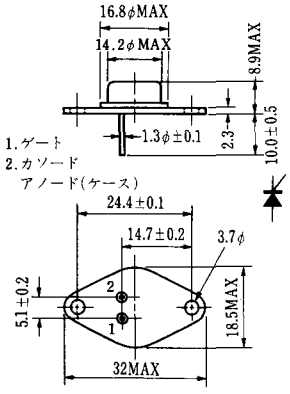
T-8 (13-13B1A)



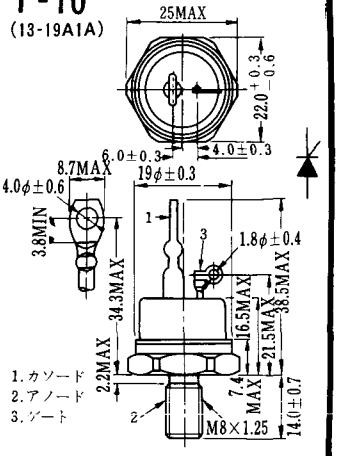
1. ゲート
2. カソード
アノード(ケース)

《寸法図単位：mm

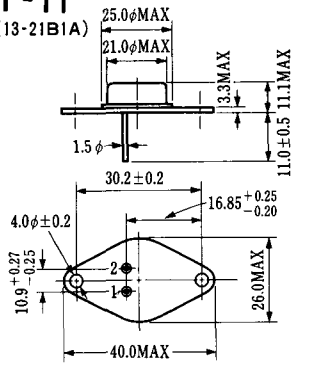
T-9 (13-14A1A)



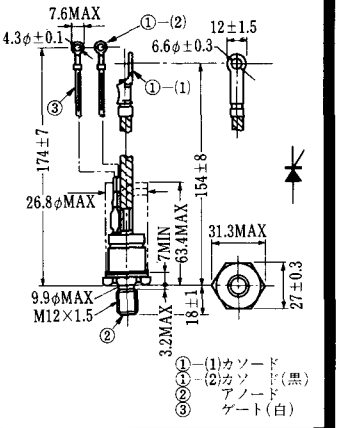
T-10 (13-19A1A)



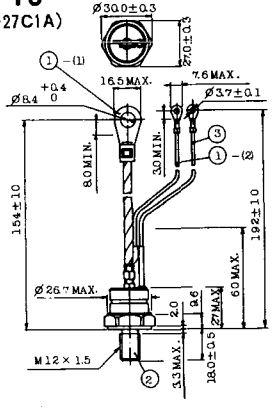
T-11 (13-21B1A)



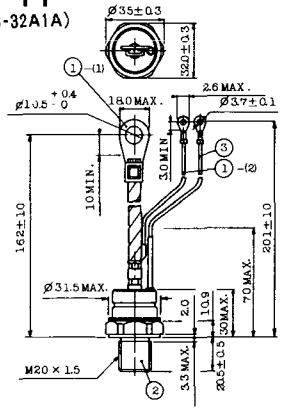
T-12 (13-27B1B)



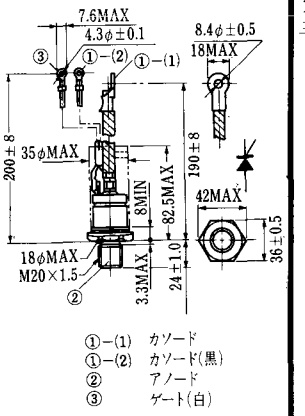
T-13 (13-27C1A)



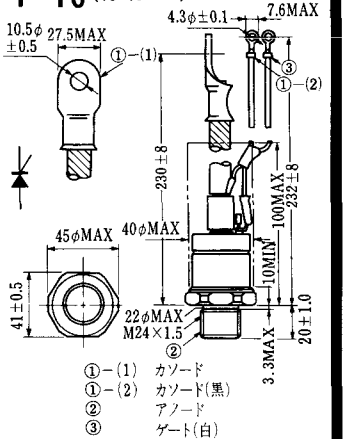
T-14 (13-32A1A)



T-15 (13-35C1B)

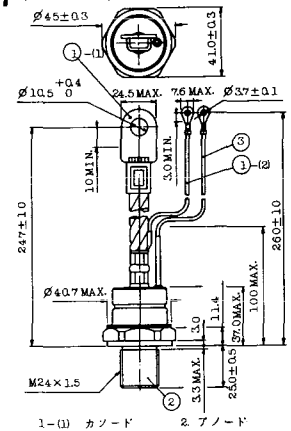


T-16 (13-40B1A)



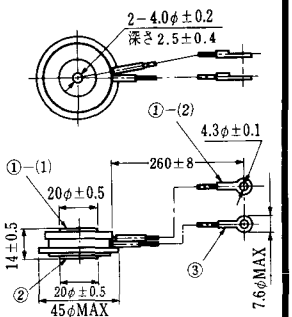
《寸法図単位：mm》

T-17 (13-42A1A)



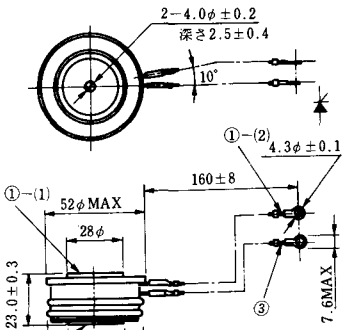
1-(1) カソード　2. アノード
1-(2) カソード(黒)　3. ゲート(白)

T-18 (13-45D1A)



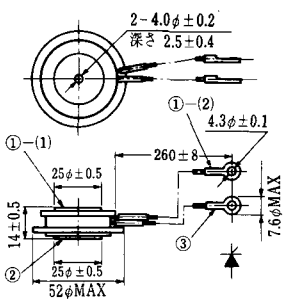
①-(1) カソード
①-(2) カソード(黒)
② アノード
③ ゲート(白)

T-19 (13-52B1A)



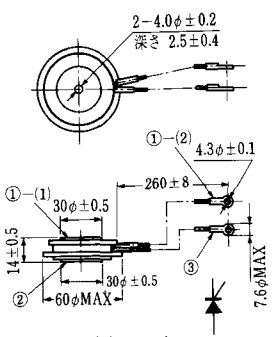
①-カソード
①-カソード(黒)
② アノード
③ ゲート(白)

T-20 (13-52C1A)



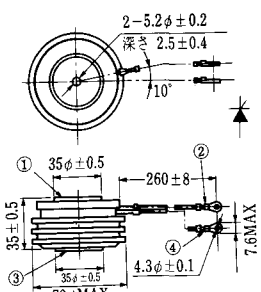
①-(1) カソード
①-(2) カソード(黒)
② アノード
③ ゲート(白)

T-21 (13-60A1A)



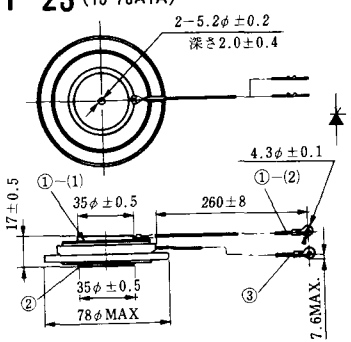
1-(1) カソード
1-(2) カソード(黒)
2 アノード
3 ゲート(白)

T-22 (13-70C1A)



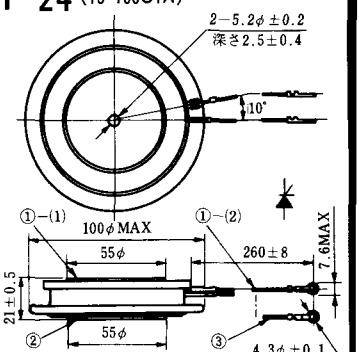
① カソード(1)
② カソード(2)(黒)
③ アノード
④ ゲート(白)

T-23 (13-78A1A)



①-(1) カソード
①-(2) カソード(黒)
② アノード
③ ゲート(白)

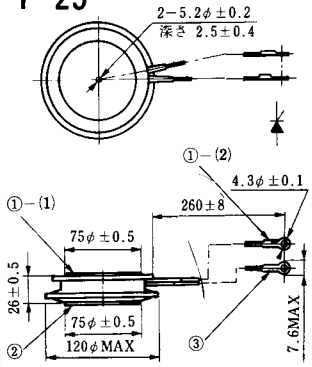
T-24 (13-100C1A)



①-(1) カソード
①-(2) カソード(黒)
② アノード
③ ゲート(白)

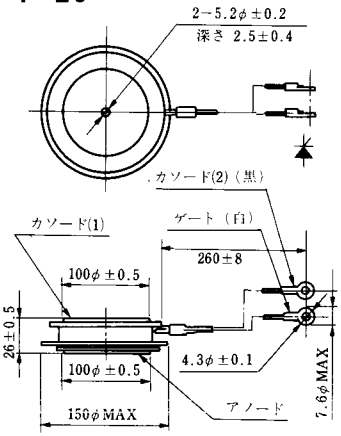
《寸法図単位：mm

T-25 (13-120A2A)

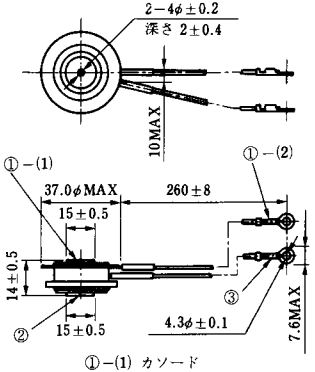


①−(1) カソード
①−(2) カソード(黒)
② アノード
③ ゲート(白)

T-26 (13-150A1A)

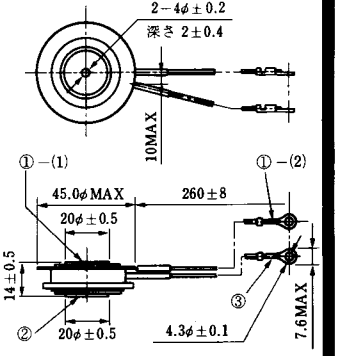


T-27 (13-37A1A)



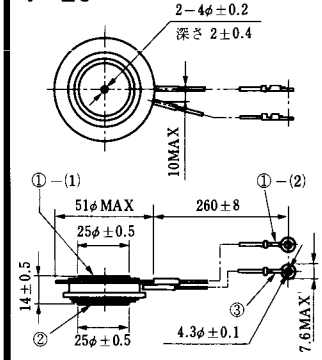
①−(1) カソード
①−(2) カソード(赤)
② アノード
③ ゲート(白)

T-28 (13-45E1A)



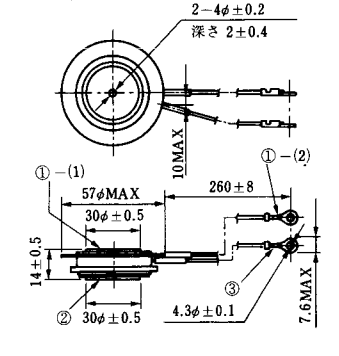
①−(1) カソード
①−(2) カソード(赤)
② アノード
③ ゲート(白)

T-29 (13-51A1A)



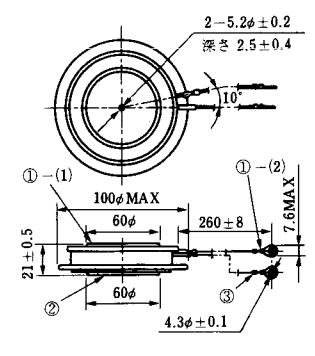
①−(1) カソード
①−(2) カソード(赤)
② アノード
③ ゲート(白)

T-30 (13-57A1A)



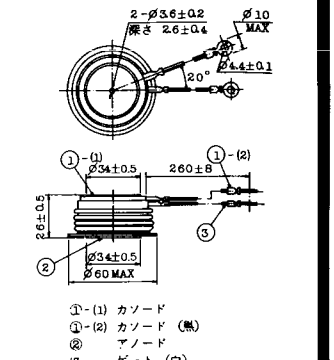
①−(1) カソード
①−(2) カソード(赤)
② アノード
③ ゲート(白)

T-31 (13-100E1A)



①−(1) カソード
①−(2) カソード(黒)
② アノード
③ ゲート(白)

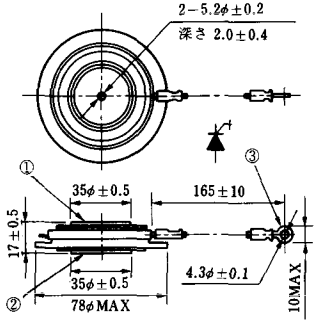
T-32 (13-60E3A)



①-(1) カソード
①-(2) カソード (黒)
② アノード
③ ゲート (白)

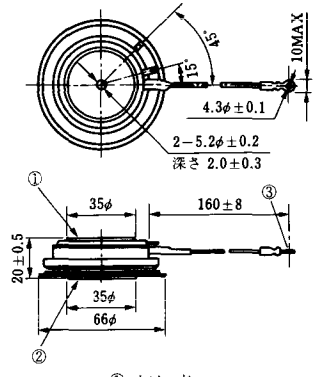
《寸法図単位：mm》

T-33 (13-78B1A)



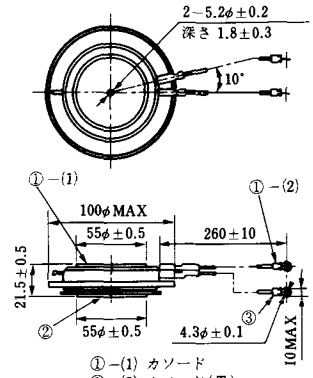
① カノード
② アノード
③ ゲート

T-34 (13-66A1A)



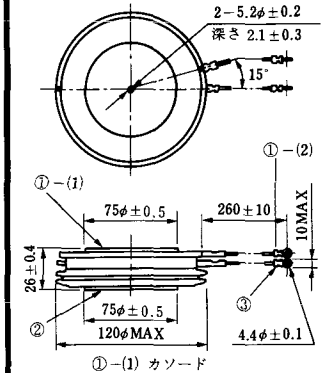
① カソード
② アノード
③ ゲート

T-35 (13-100D1A)



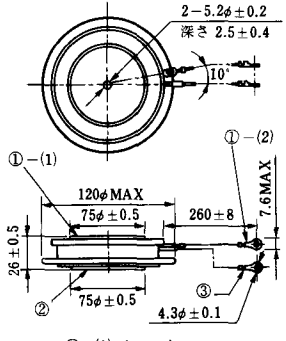
①−(1) カソード
①−(2) カソード(黒)
② アノード
③ ゲート(白)

T-36 (13-120E1A)



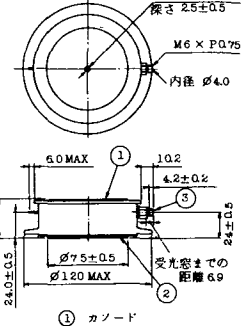
①−(1) カソード
①−(2) カソード(黒)
② アノード
③ ゲート(白)

T-37 (13-120A1A)



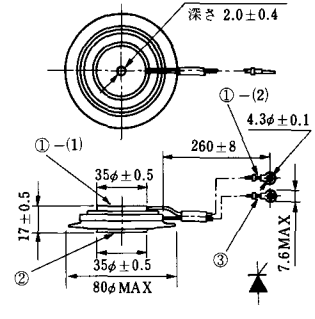
①−(1) カソード
①−(2) カソード(黒)
② アノード
③ ゲート(白)

T-38 (13-120C1A)



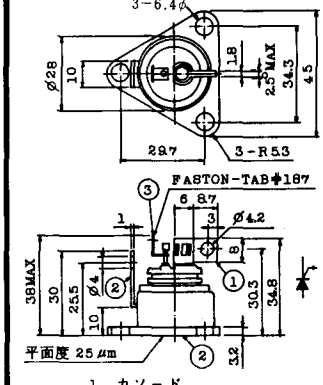
① カソード
② アノード
③ ゲート

T-39 (13-80B1A)



①−(1) カソード
①−(2) カソード(黒)
② アノード
③ ゲート(白)

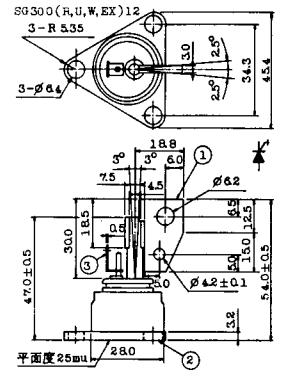
T-40 (13-28A1A)



1. カソード
2. アノード
3. ゲート

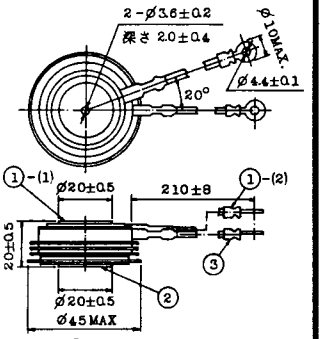
《寸法図単位：mm

T-41 (13-28A2A)



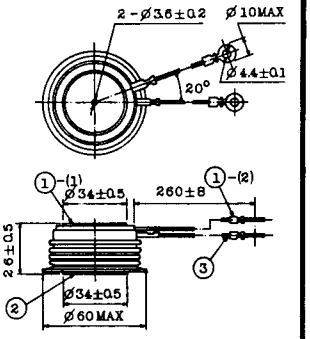
1. カソード
2. アノード
3. ゲート

T-42 (13-45F1A)



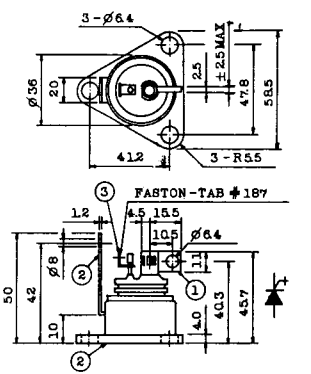
①-(1) カソード
①-(2) カソード(黒)
② アノード
③ ゲート(白)

T-43 (13-60E2A)



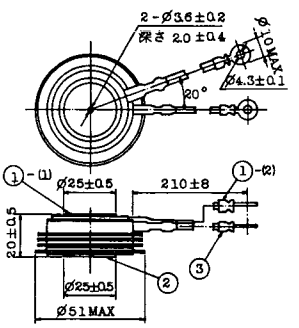
①-(1) カソード
①-(2) カソード(黒)
② アノード
③ ゲート(白)

T-44 (13-36A1A)



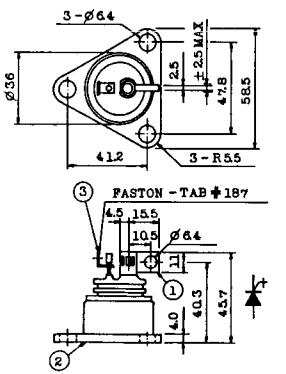
1. カソード
2. アノード
3. ゲート

T-45 (13-51B1A)



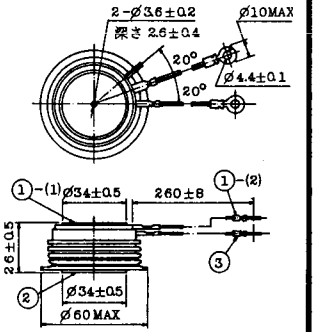
①-(1) カソード
①-(2) カソード (黒)
② アノード
③ ゲート (白)

T-46 (13-36B1A)



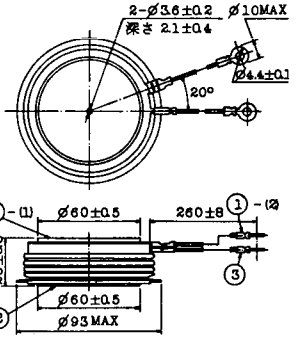
1. カソード
2. アノード
3. ゲート

T-47 (13-60E1A)



①-(1) カソード
①-(2) カソード(黒)
② アノード
③ ゲート(白)

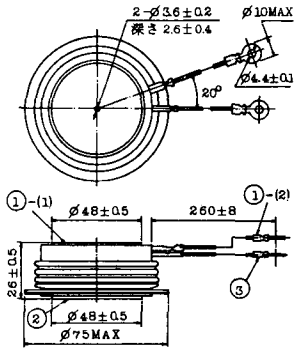
T-48 (13-93C1A)



①-(1) カソード
①-(2) カソード(黒色)
② アノード
③ ゲート(白色)

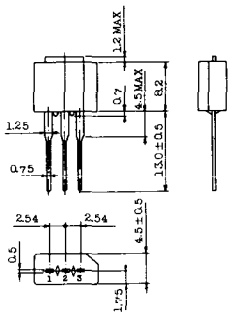
《寸法図単位：mm》

T-49 (13-75A1A)



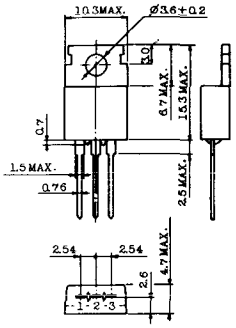
1-(1) カソード
1-(2) カソード（黒）
2 アノード
3 ゲート（白）

T-50 (13-10A3A)



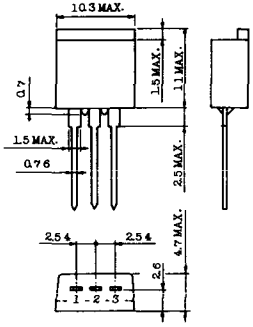
1. カソード
2. アノード
3. ゲート

T-51 (13-10D1A)



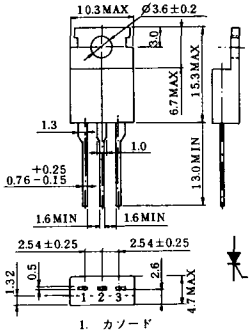
1. カソード
2. アノード
3. ゲート

T-52 (13-10D2A)



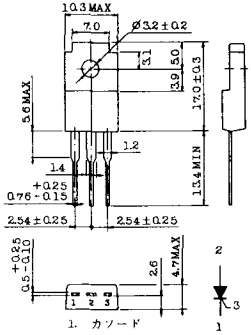
1. カソード
2. アノード
3. ゲート

T-53 (13-10E1B)



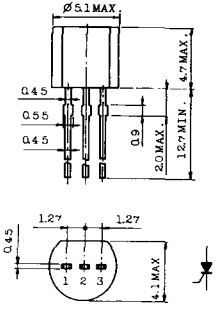
1. カソード
2. アノード
3. ゲート

T-54 (13-10F1B)



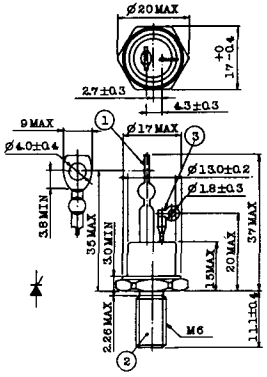
1. カソード
2. アノード
3. ゲート

T-55 (13-5A1D)



1. カソード
2. ゲート
3. アノード

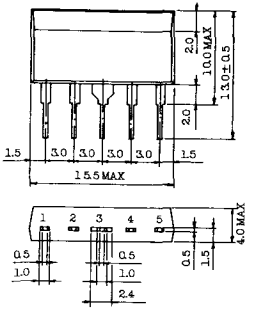
T-56 (13-13C1A)



1. カソード
2. アノード
3. ゲート

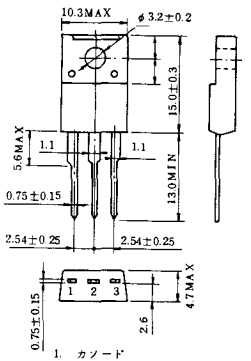
〈寸法図単位：mm〉

T-57 (12-16C1A)



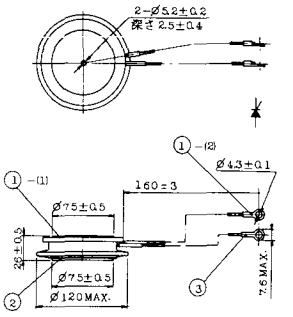
1. アノード（主）
2. ゲート（主）
3. カソード（共通）
4. ゲート（補助）
5. アノード（補助）

T-58 (13-10H1B)



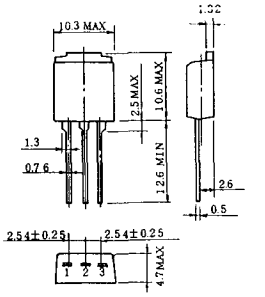
1. カソード
2. アノード
3. ゲート

T-59 (13-120A1A)



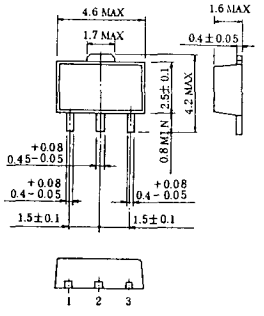
1 −(1) カソード
1 −(2) カソード(黒)
2. アノード
3. ゲート (白)

T-60



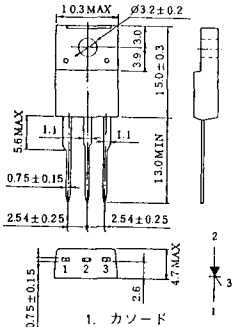
1. カソード
2. アノード
3. ゲート

T-61 (13-5B1A)



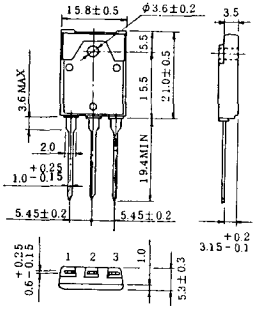
1. ゲート
2. アノード
3. カソード

T-62 (13-10H1A)



1. カソード
2. アノード
3. ゲート

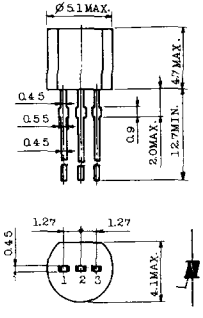
T-63 (13-16A1B)



1. カソード
2. アノード
3. ゲート

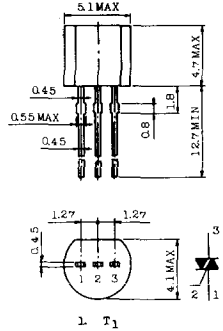
《寸法図単位:mm》

TT-1



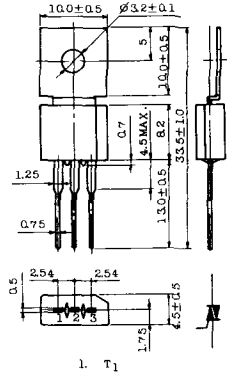
1. ゲート
2. T_2
3. T_1

TT-2



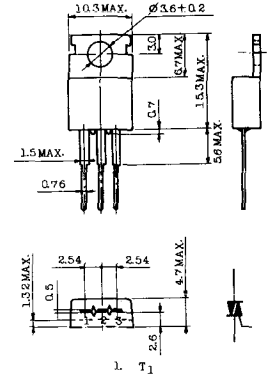
1. T_1
2. ゲート
3. T_2

TT-3



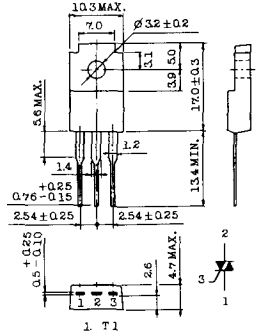
1. T_1
2. T_2
3. ゲート

TT-4



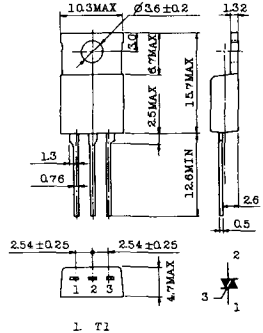
1. T_1
2. T_2
3. ゲート

TT-5



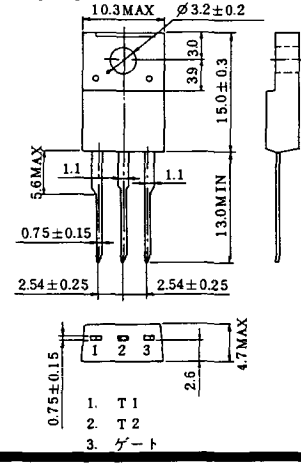
1. T1
2. T2
3. ゲート

TT-6



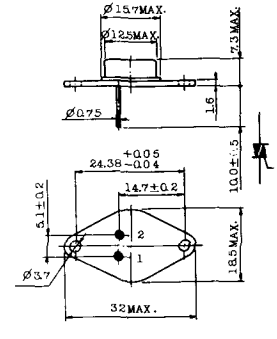
1. T1
2. T2（放熱板）
3. ゲート

TT-7



1. T1
2. T2
3. ゲート

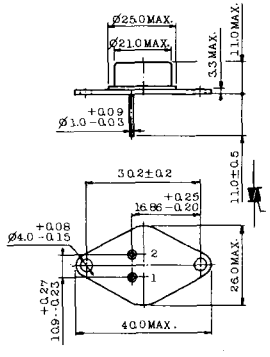
TT-8



1. ゲート
2. T_1
T_2（ケース）

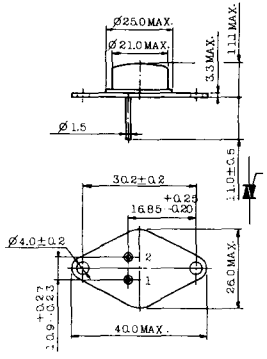
〈寸法図単位：mm

TT-9



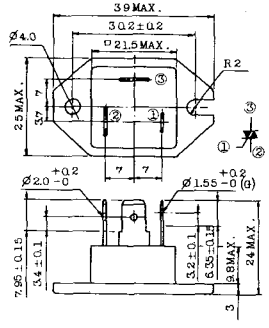
1. ゲート
2. T_1
3. T_2（ケース）

TT-10



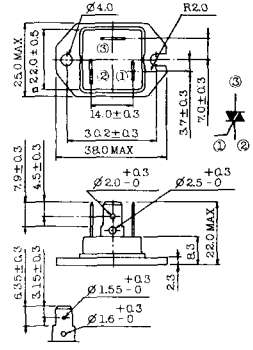
1. ゲート
2. T_1
3. T_2（ケース）

TT-11



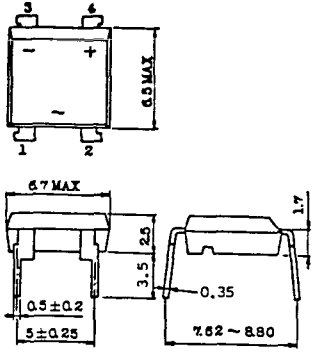
1. ゲート（ファストン端子＃187）
2. T_1（〃 ＃250）
3. T_2（〃 ＃250）

TT-12



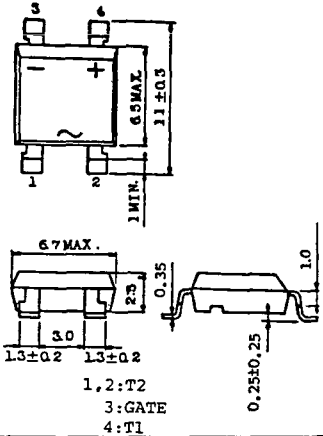
① ゲート（ファストン端子 ＃187）
② T1（〃 ＃250）
③ T2（〃 ＃250）

TT-13



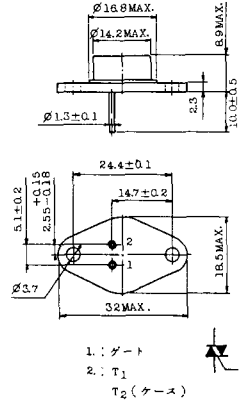
1,2:T2
3:GATE
4:T1

TT-14



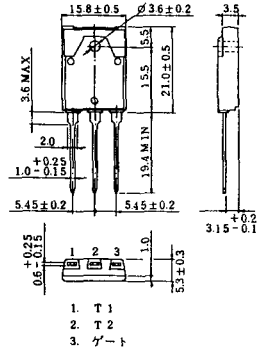
1,2:T2
3:GATE
4:T1

TT-15 (13-14A1B)



1.：ゲート
2.：T_1
T_2（ケース）

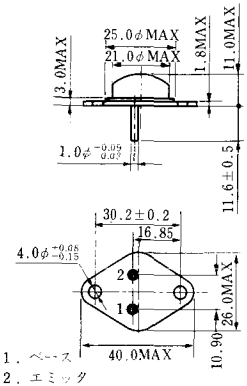
TT-16 (13-16A1A)



1. T1
2. T2
3. ゲート

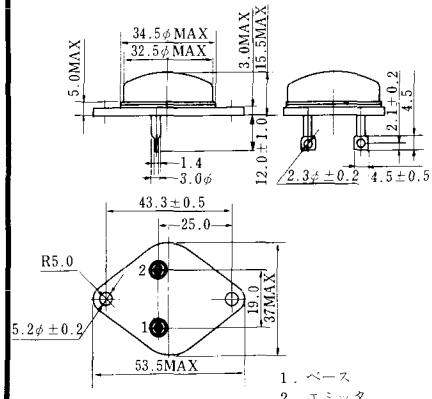
《寸法図単位：mm》

TS-1



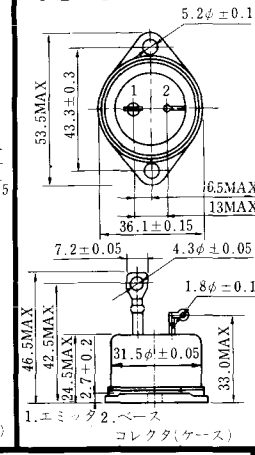
1．ベース
2．エミッタ
コレクタ(ケース)

TS-2



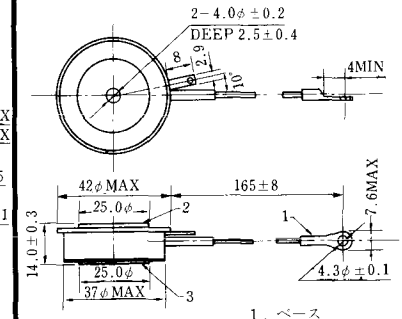
1．ベース
2．エミッタ
コレクタ(ケース)

TS-3



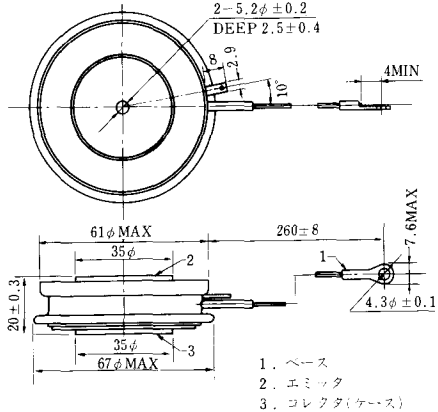
1.エミッタ 2.ベース
コレクタ(ケース)

TS-4



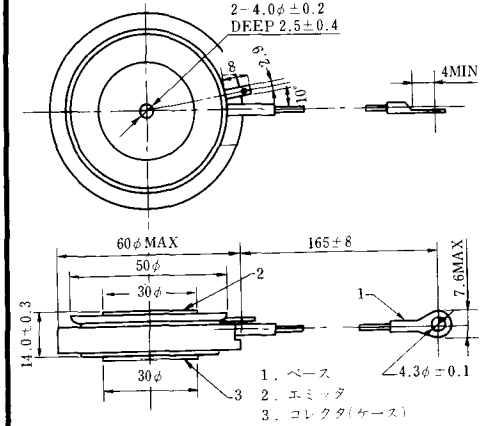
1．ベース
2．エミッタ
3．コレクタ(ケース)

TS-5



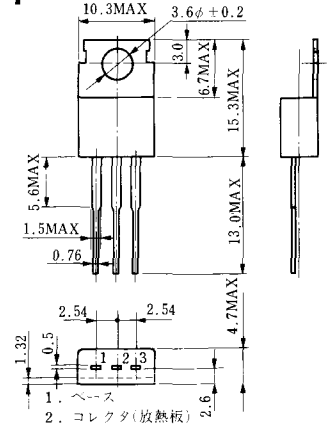
1．ベース
2．エミッタ
3．コレクタ(ケース)

TS-6



1．ベース
2．エミッタ
3．コレクタ(ケース)

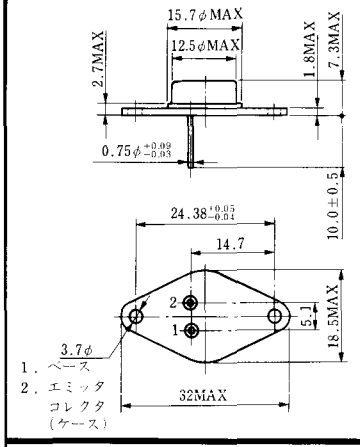
TS-7



1．ベース
2．コレクタ(放熱板)
3．エミッタ

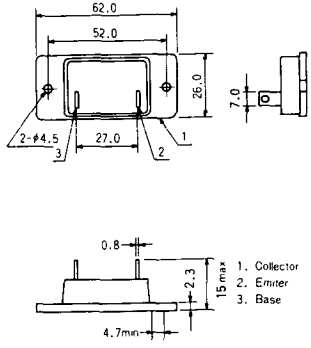
《寸法図単位：mm》

TS-8

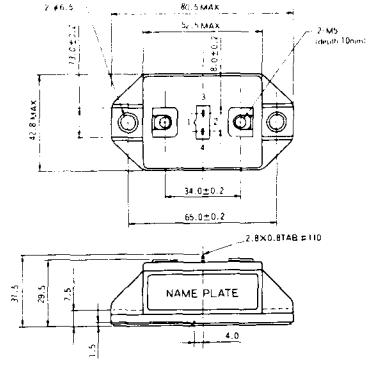

15.7φMAX
12.5φMAX
2.7MAX
1.8MAX
7.3MAX
0.75φ +0.09 −0.03
10.0±0.5
24.38 +0.05 −0.01
14.7
2
1
5.1
18.5MAX
3.7φ
1．ベース
2．エミッタ
コレクタ
（ケース）
32MAX

《寸法図単位：mm》

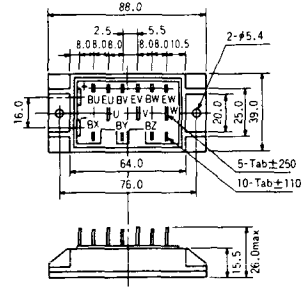
S-62A1A



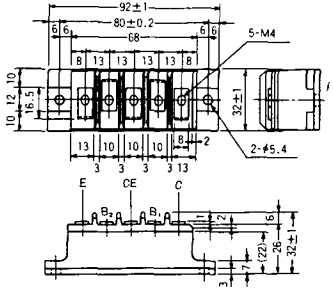
S-80A1A



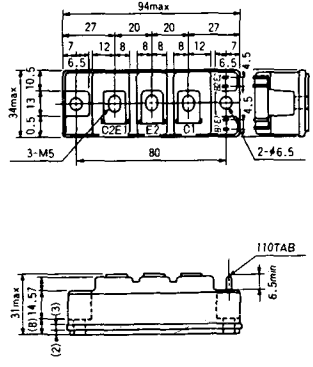
S-88D1A



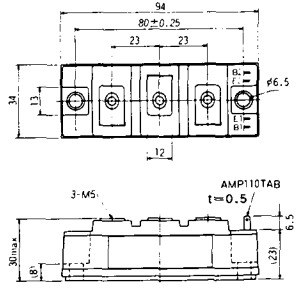
S-92B1A



S-94B1A

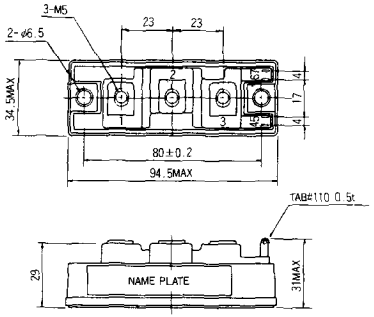


S-94B1B

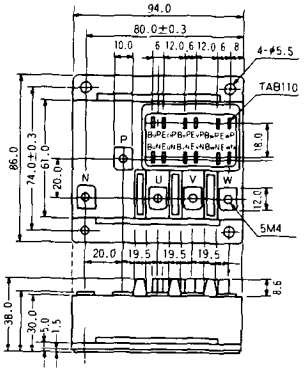


〈寸法図単位：mm〉

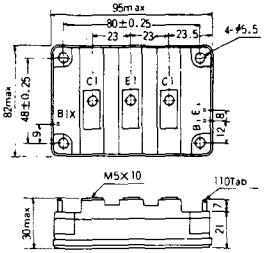
S-94B2A



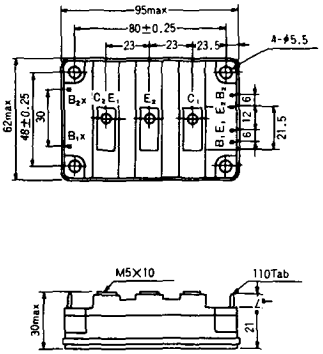
S-94D1A



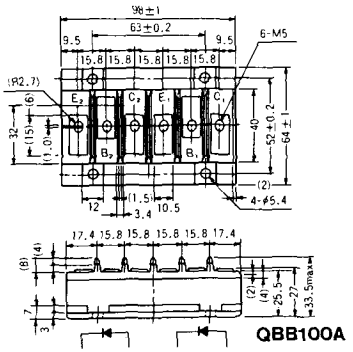
S-95A1A



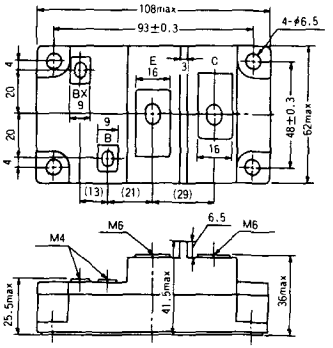
S-95B1A



S-98B1B

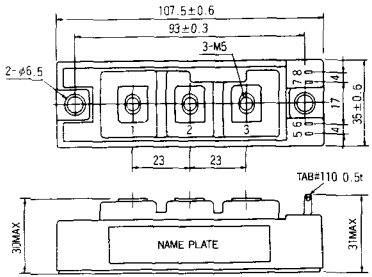


S-108A2A

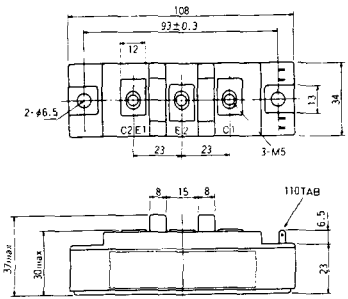


《寸法図単位：mm》

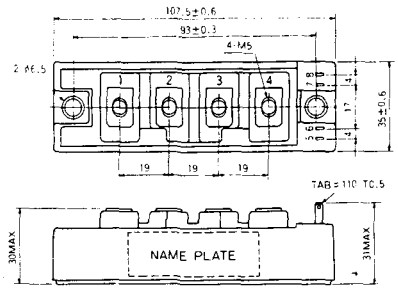
S-108B1A



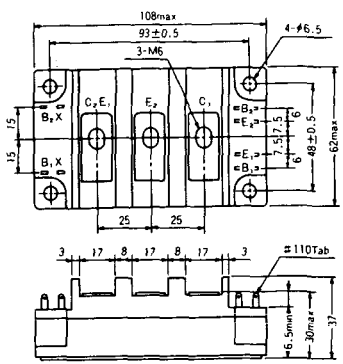
S-108B1B



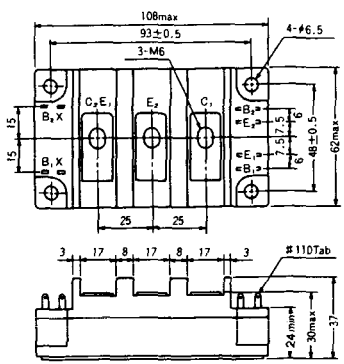
S-108B1C



S-108B2A

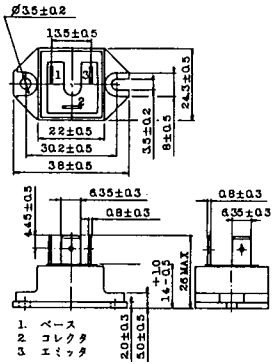


S-108B2B

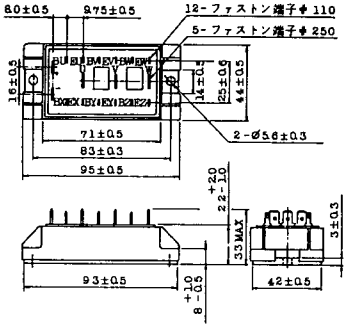


〈寸法図単位:mm〉

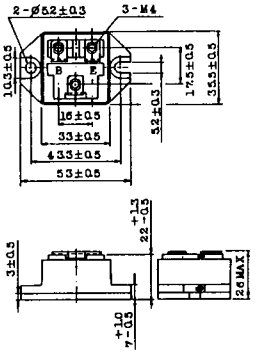
2-22B1A



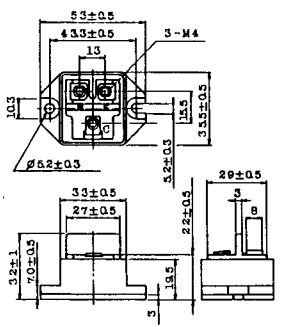
2-27A4A



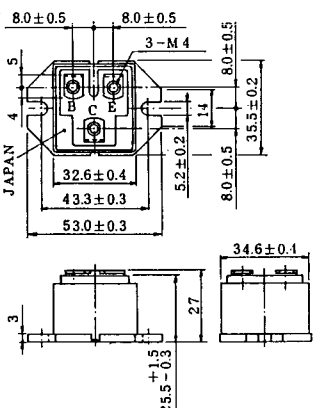
2-33C1A



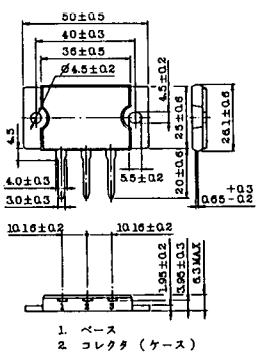
2-33D1A



2-33F1A

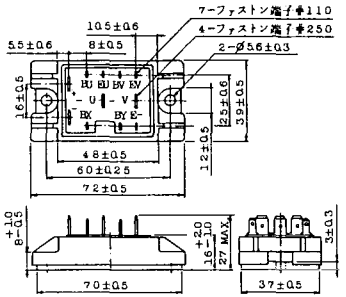


2-37A1A

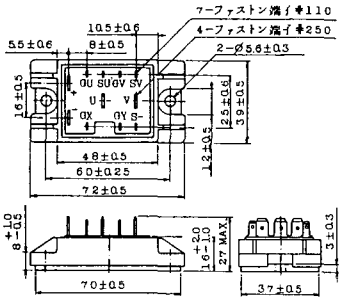


《寸法図単位：mm》

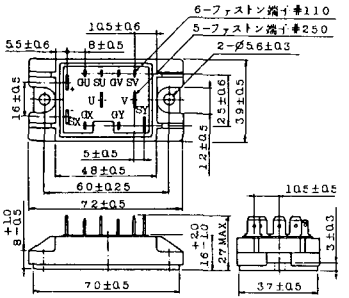
2-48A3A



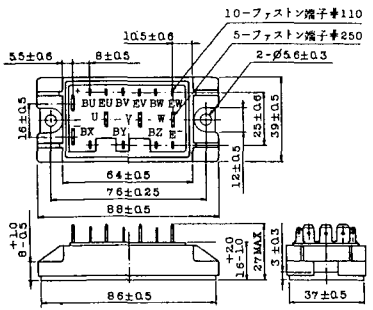
2-48A3B



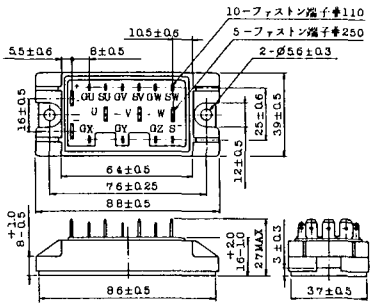
2-48A4A



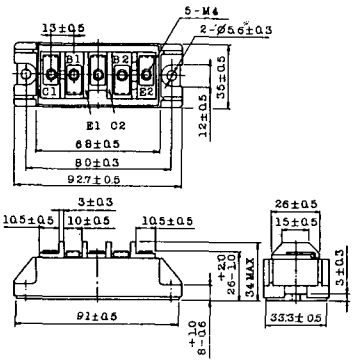
2-64A2A



2-64A2B

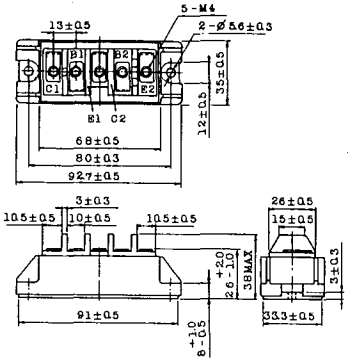


2-68A2A

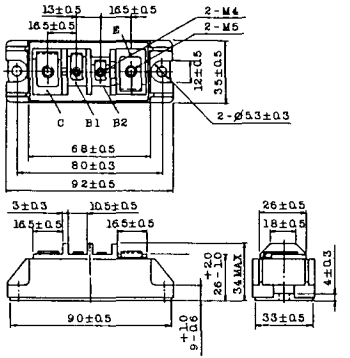


《寸法図単位：mm》

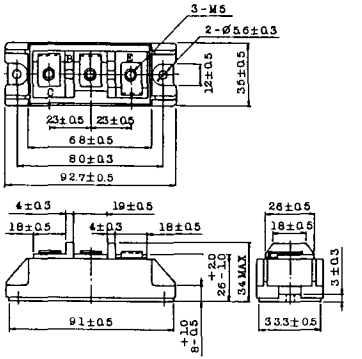
2-68B2A



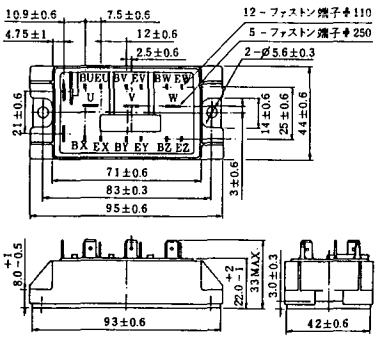
2-68C1A



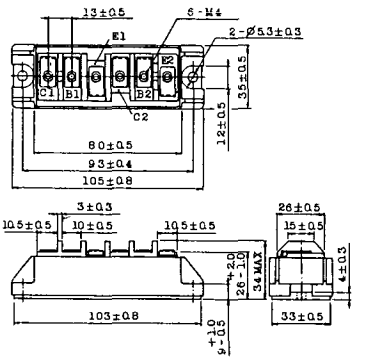
2-68D2A



2-72A3A



2-80A1A



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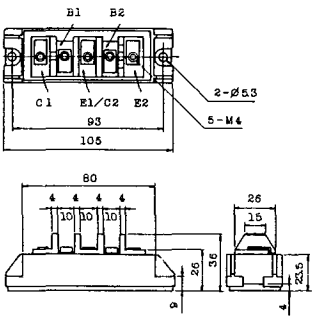
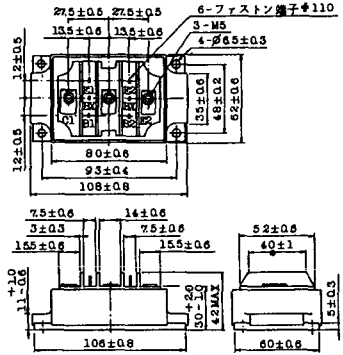
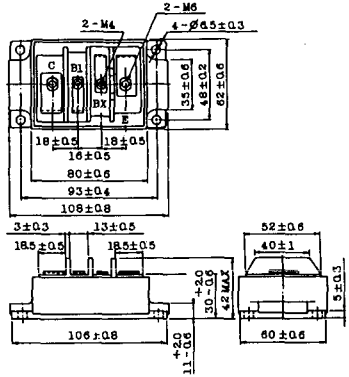


《寸法図単位：mm》

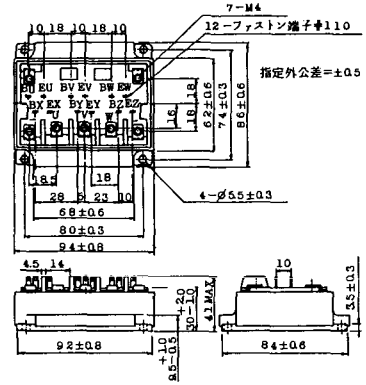
2-80C1A



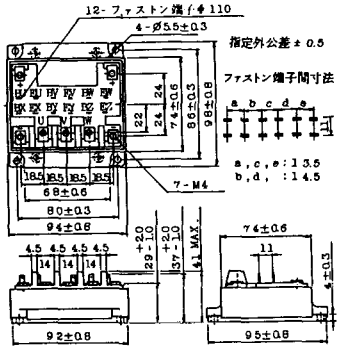
2-80D2A



2-94A2A



2-94B1A



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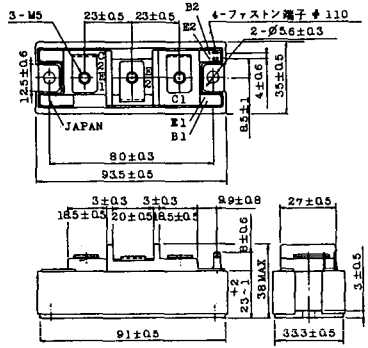

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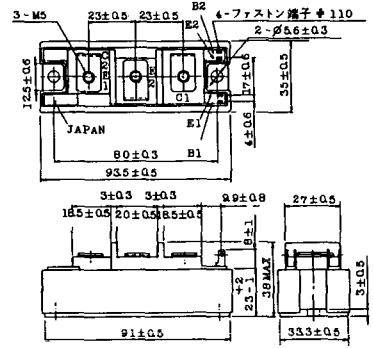
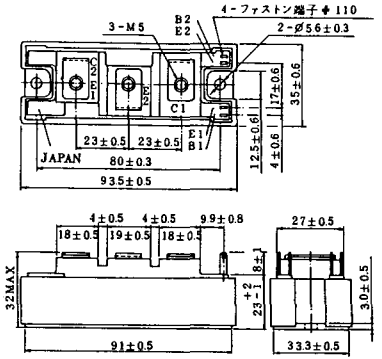
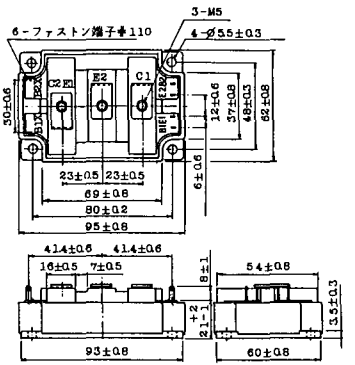


《寸法図単位：mm》

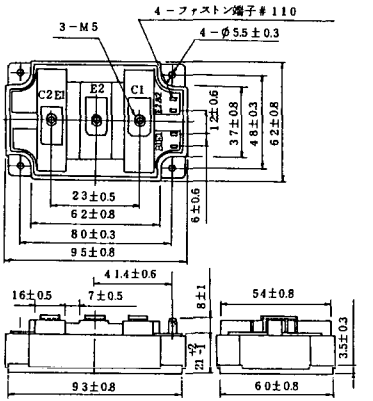
2-94D1A



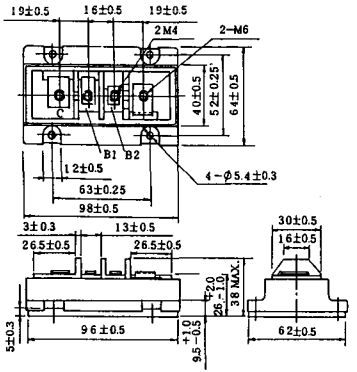
2-96A3A



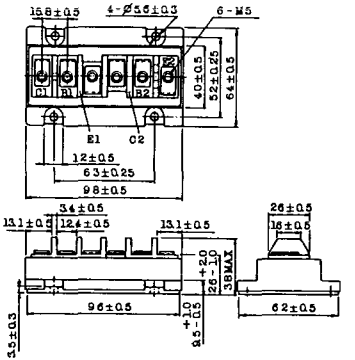
2-96A4A



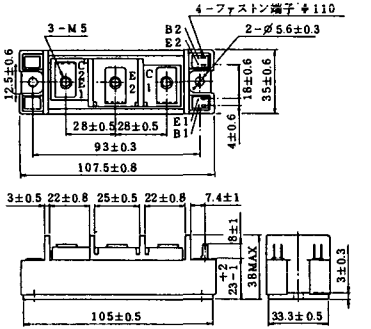
2-98B1A



2-98C2A

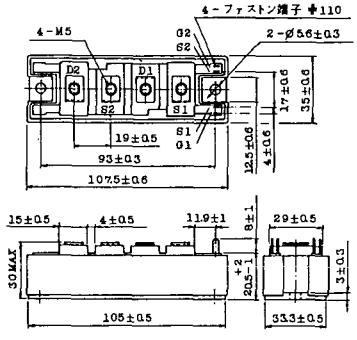


2-108A2A

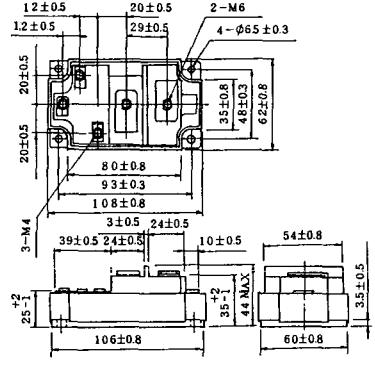


《寸法図単位：mm》

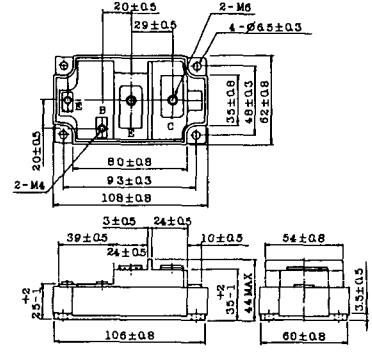
2-108B1A



2-109A3A



2-109A4A



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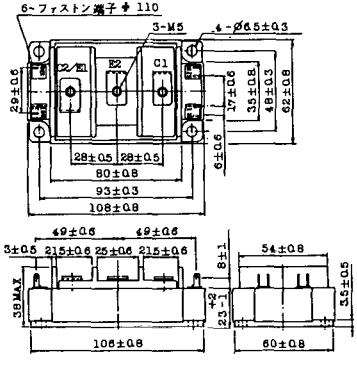
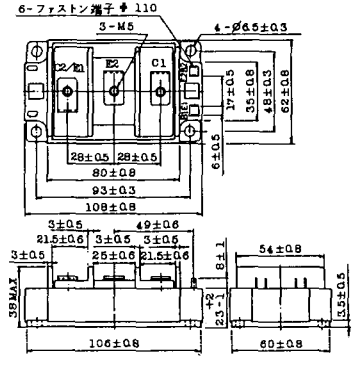


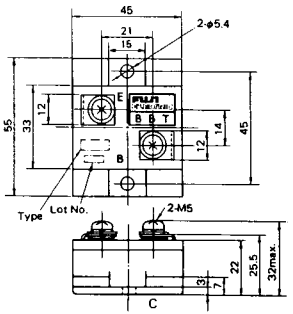
2-109B4A



《寸法図単位：mm》

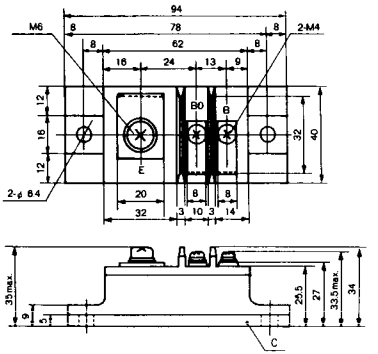
BBT-II

BBTII
1D200A-020



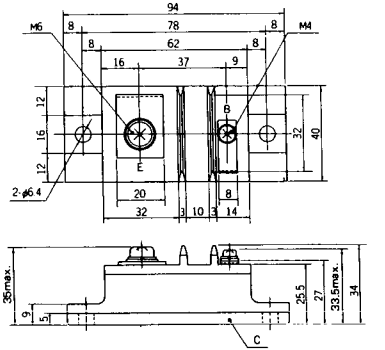
BBT-III

BBTIII
ETN31-055
ETM36-030
ETN36-030
ETN35-030



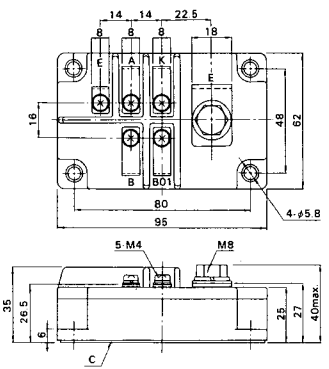
BBT-III

BBTIII
ETN01-055
ET1257



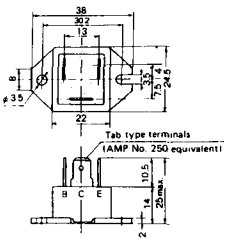
BBT-IV

BBTIV
1D500A-030

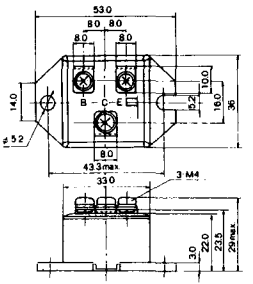


《寸法図単位:mm》

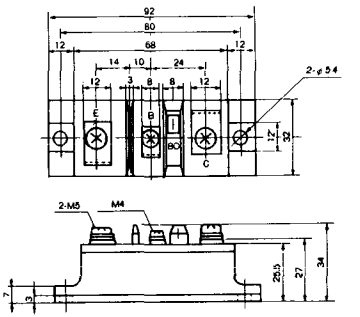
M-101



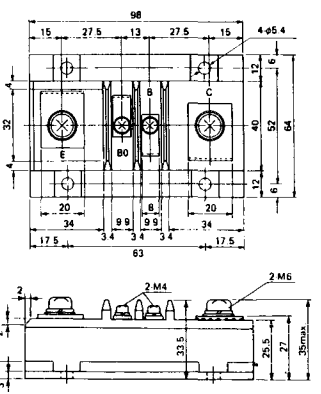
M-102



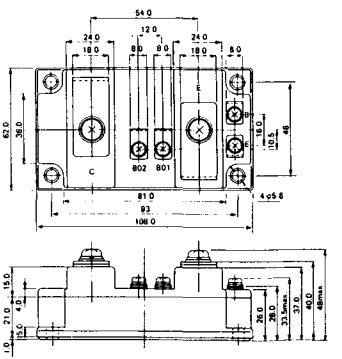
M-103



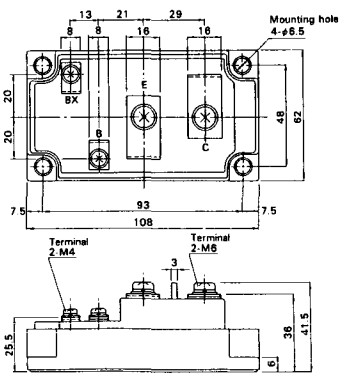
M-104



M-105

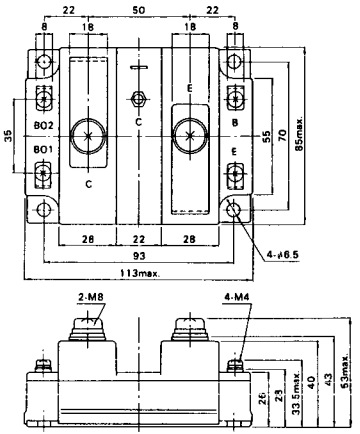


M-106

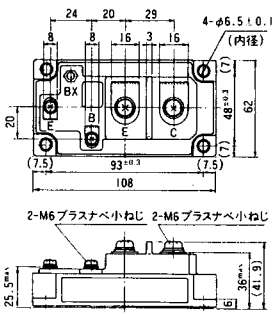


《寸法図単位：mm》

M-107

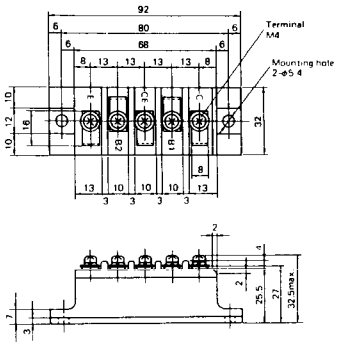


M-116

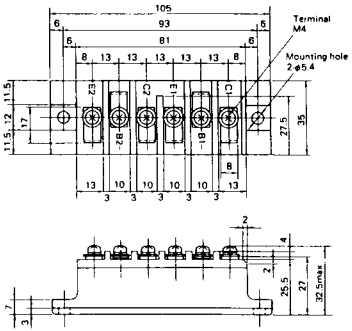


〈寸法図単位：mm〉

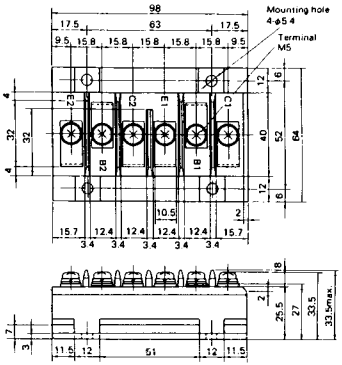
M-201



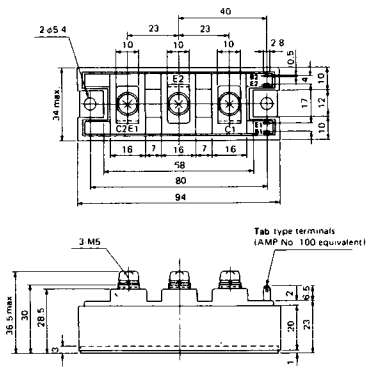
M-202



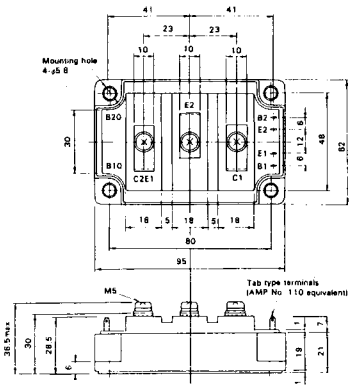
M-203



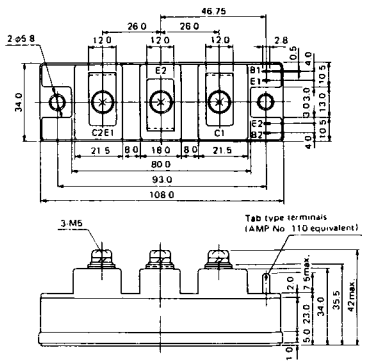
M-204



M-205

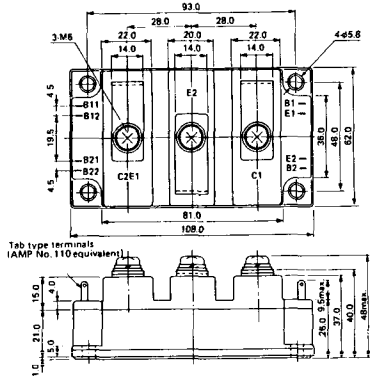


M-206

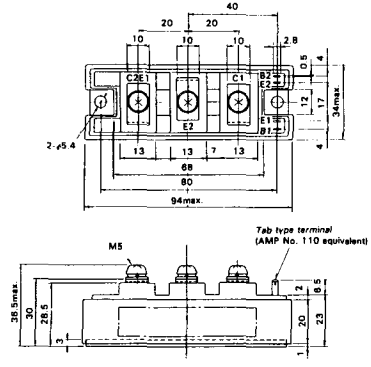


《寸法図単位：mm》

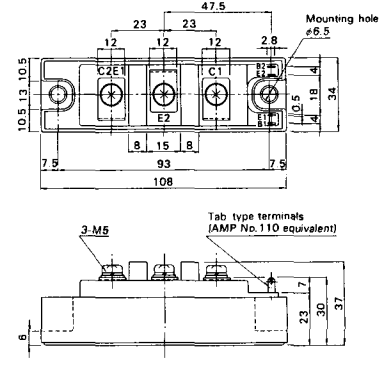
M-207



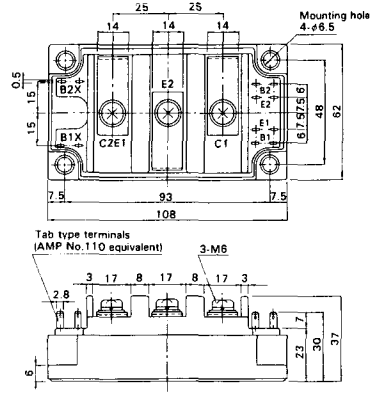
M-208



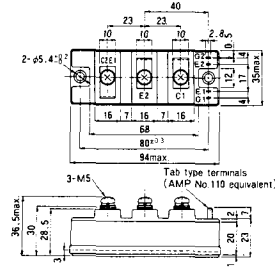
M-209



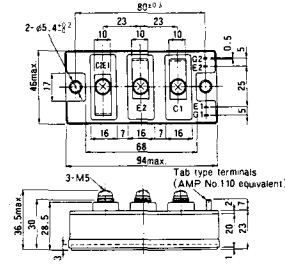
M-210



M-211

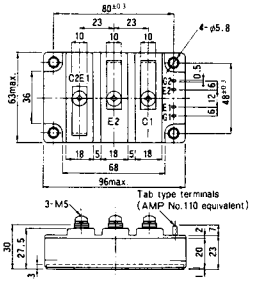


M-212



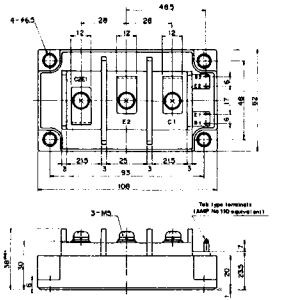
《寸法図単位：mm》

M-213

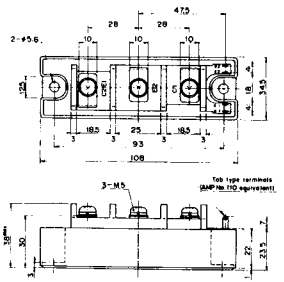


M-214

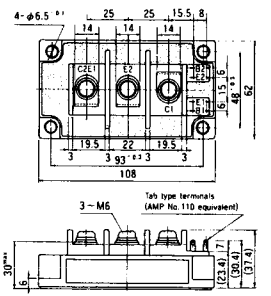
M-215



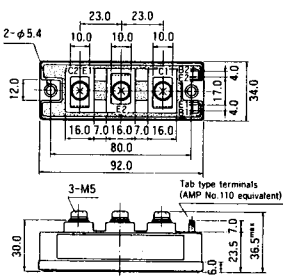
M-216



M-217

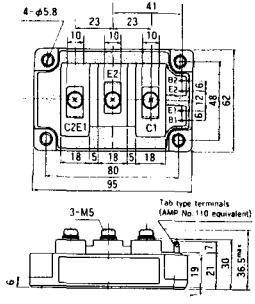


M-218



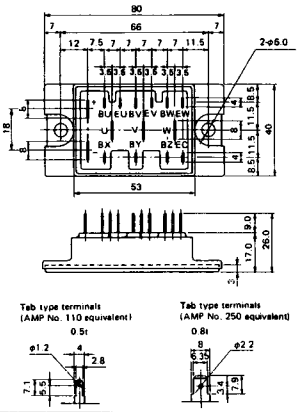
《寸法図単位:mm》

M-219

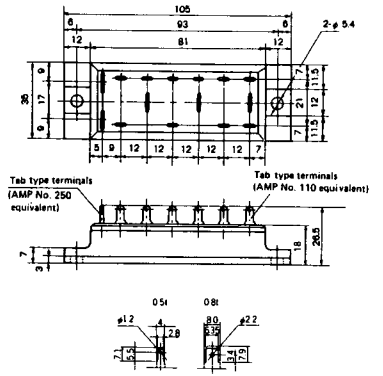


〈寸法図単位:mm〉

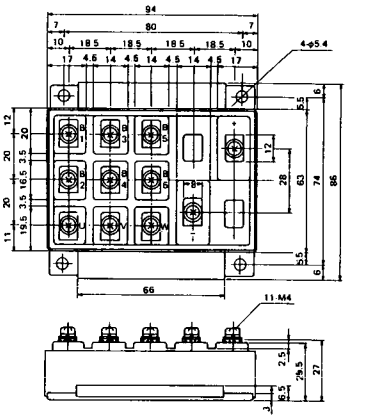
M-601



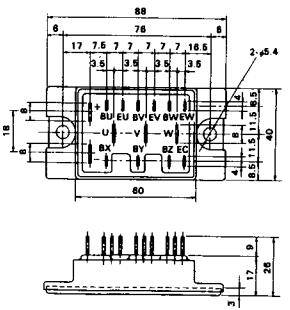
M-602



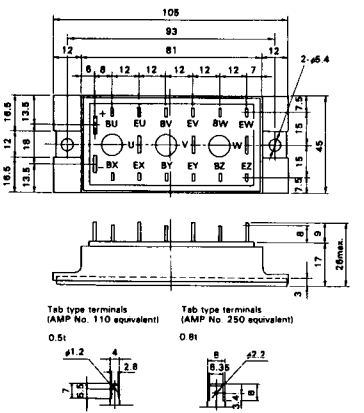
M-603



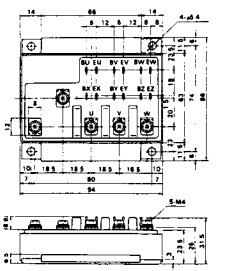
M-604



M-605

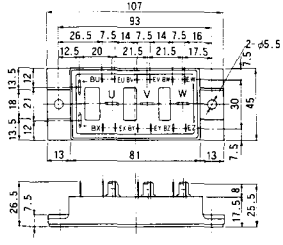


M-606

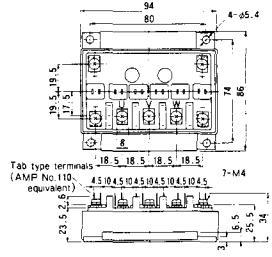


《寸法図単位：mm》

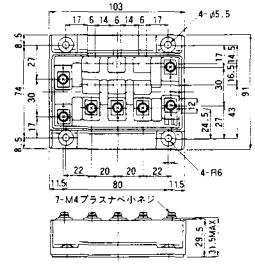
M-607



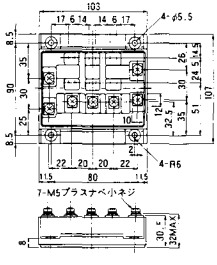
M-608



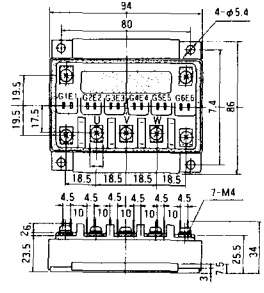
M-609



M-610

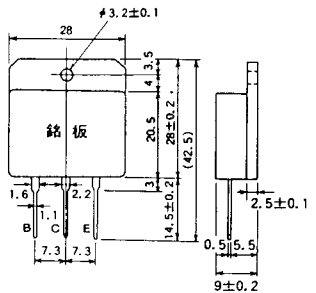


M-616

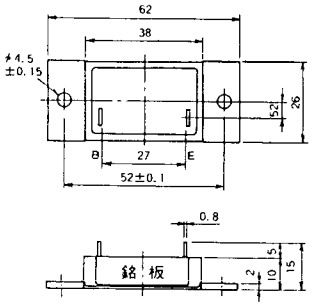


《寸法図単位:mm》

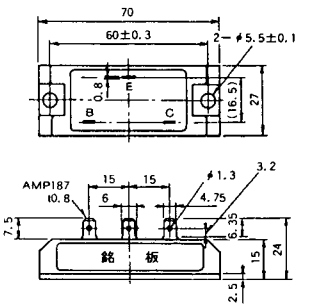
M-1A1A



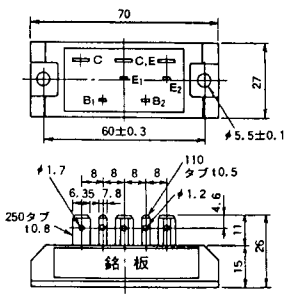
M-2A1A



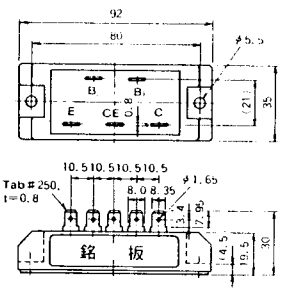
M-2B1A



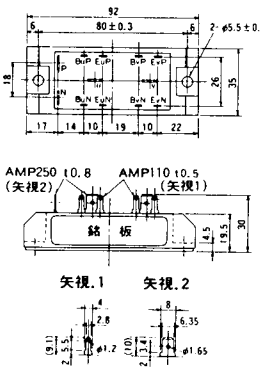
M-2B2A



M-2C2A

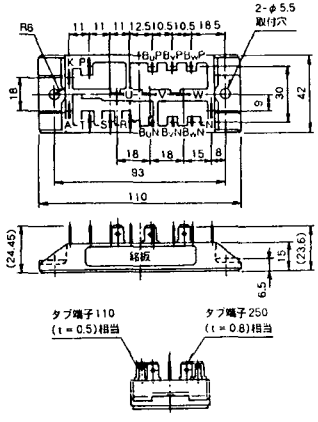


M-2D4A

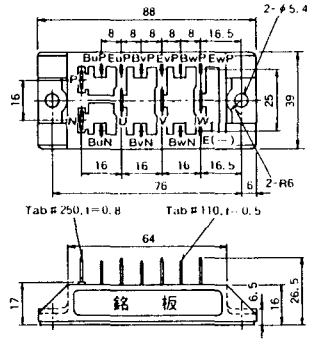


〈寸法図単位:mm〉

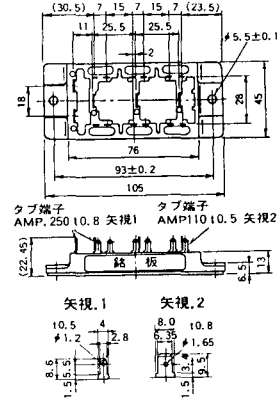
M-2E6A



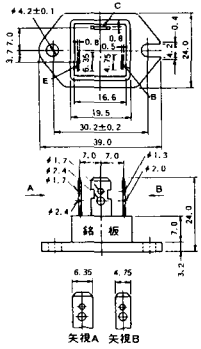
M-2F6A



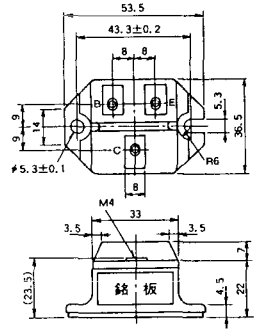
M-2G6A



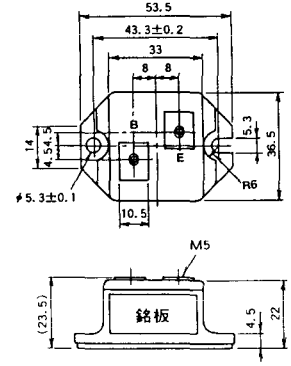
M-3A1A



M-3B1A

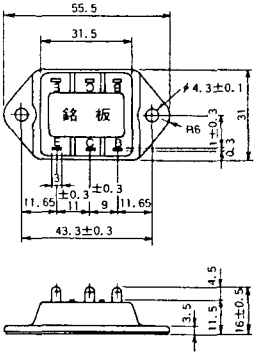


M-3B1B

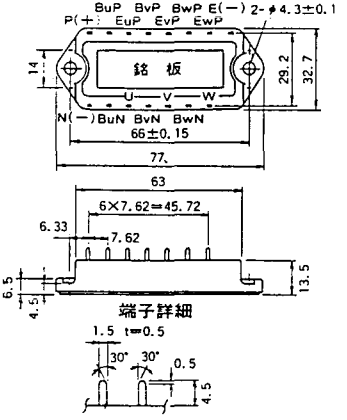


《寸法図単位:mm》

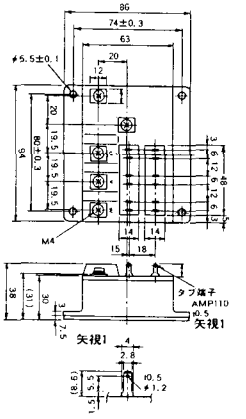
M-3C1A



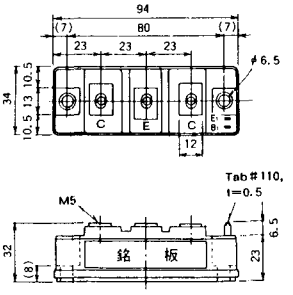
M-3D6A



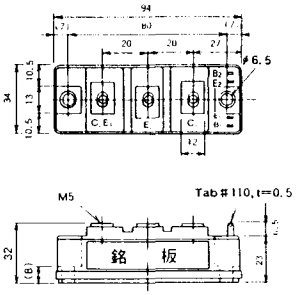
M-3E6A



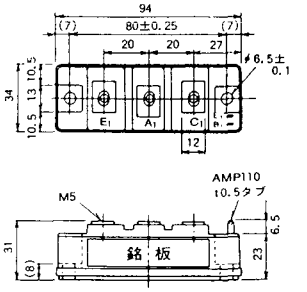
M-4A1A



M-4A2A

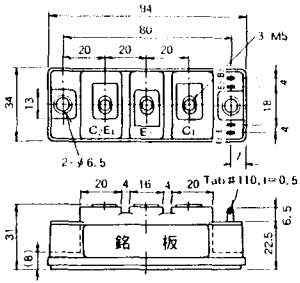


M-4A1B

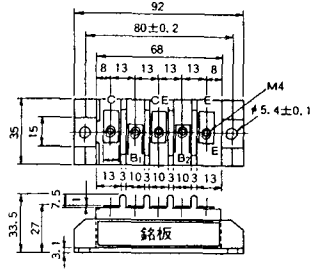


《寸法図単位:mm》

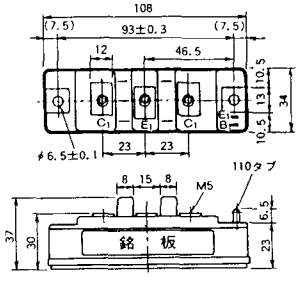
M-4A2B



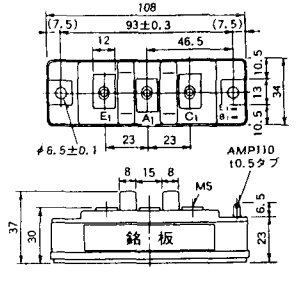
M-4B2A



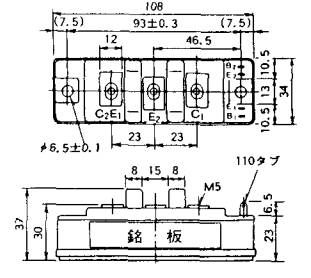
M-5A1A



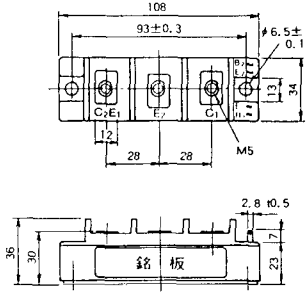
M-5A1B



M-5A2A

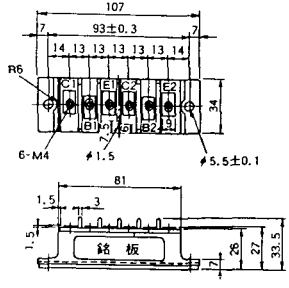


M-5B2A

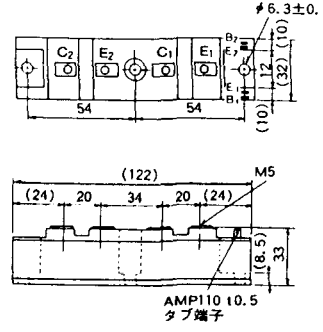


《寸法図単位:mm》

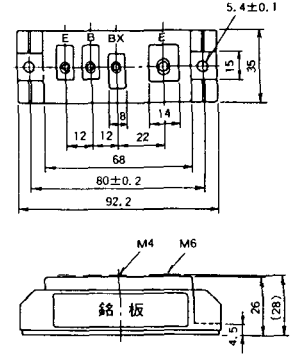
M-5C2A



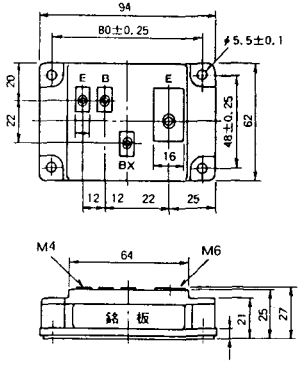
M-5D2A



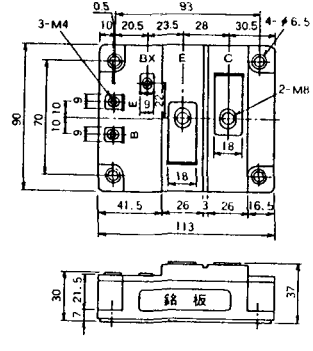
M-6A1A



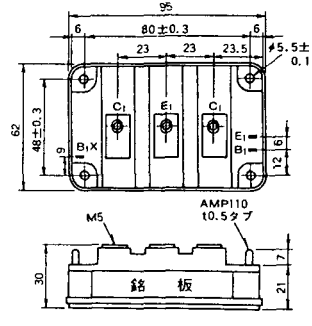
M-7A1A



M-7B1A

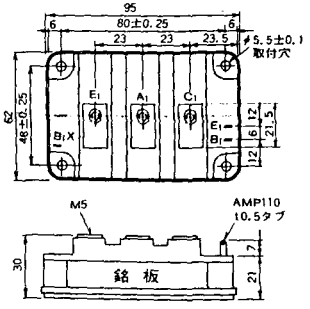


M-8A1A

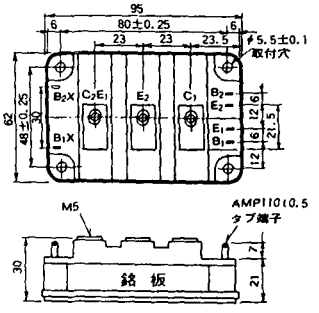


《寸法図単位:mm》

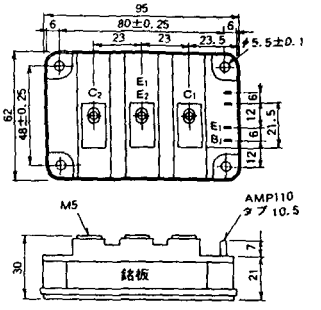
M-8A1B



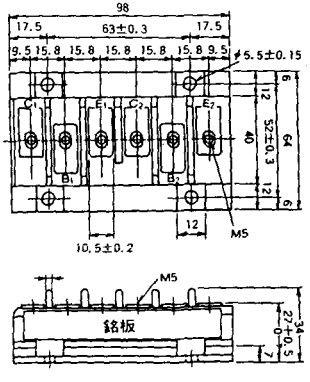
M-8A2A



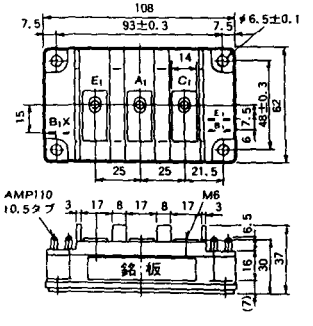
M-8A2B



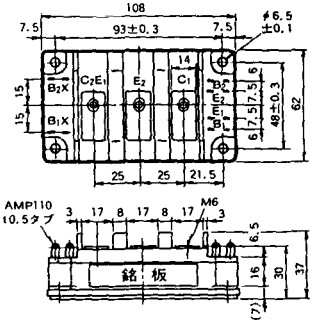
M-8B2A



M-9A1A

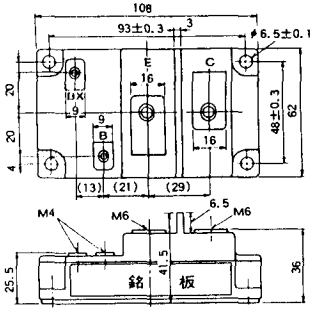


M-9A2A

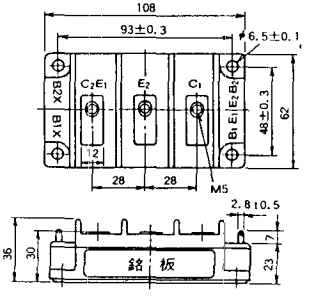


《寸法図単位:mm》

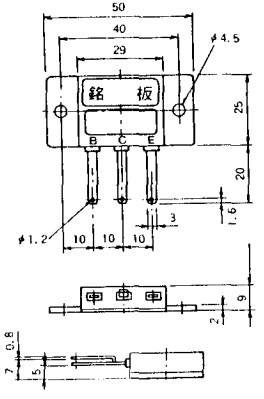
M-9B1A



M-9C2A



M-1A1B



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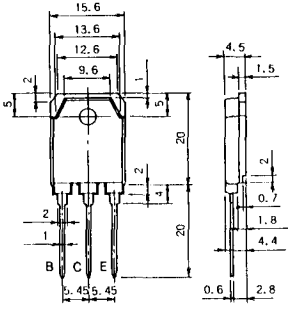
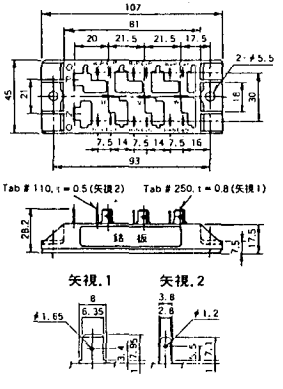
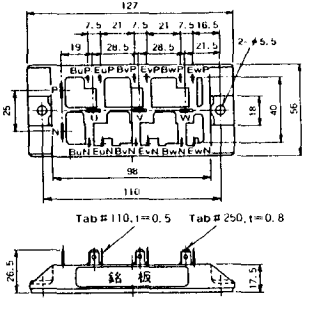


M-2E6B

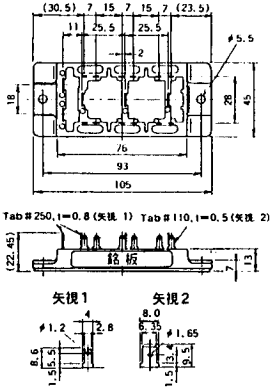


M-2E6C

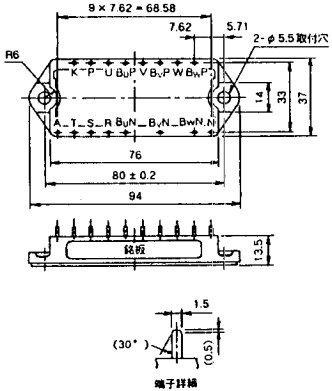


《寸法図単位:mm》

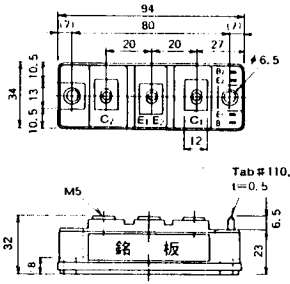
M-2G6B



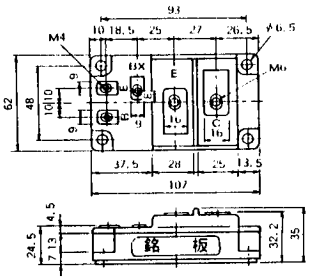
M-3D6B



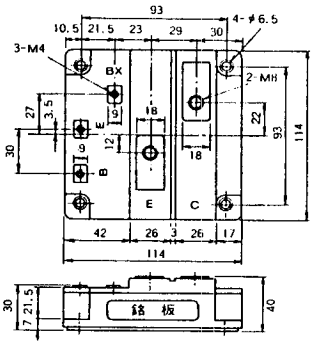
M-4A2C



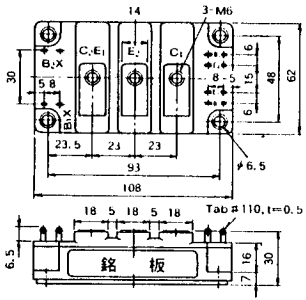
M-7A1B



M-7C1A

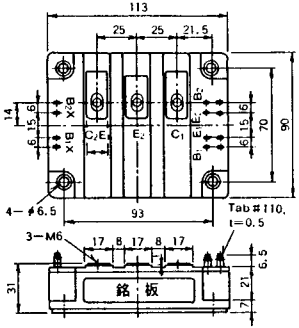


M-8A2C

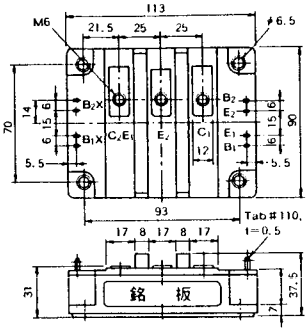


《寸法図単位：mm》

M-10A2A



M-10A2B



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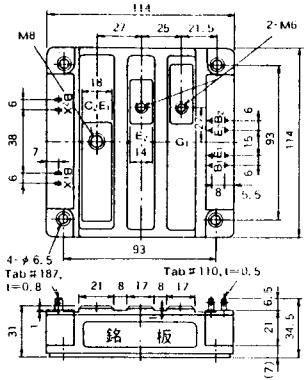
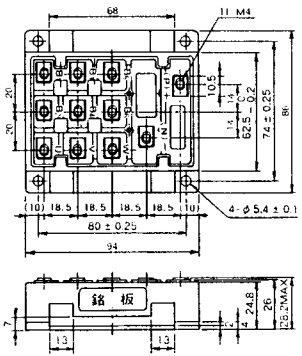


M-12A6A



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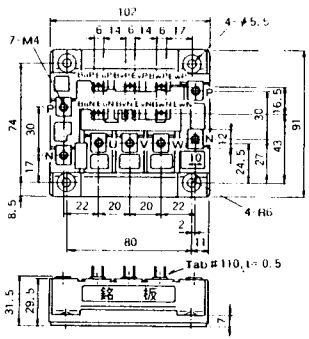

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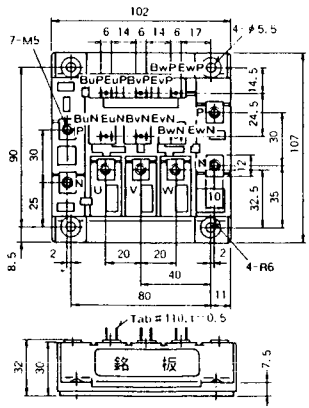
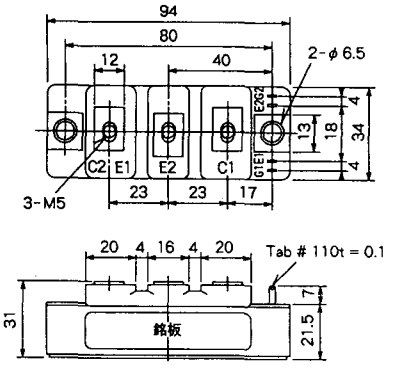
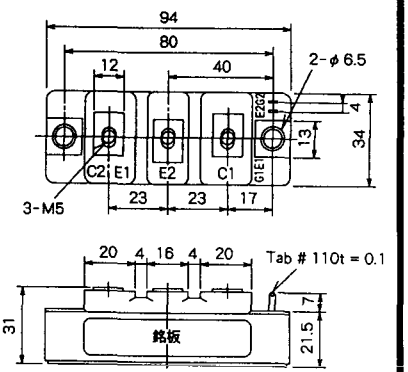


《寸法図単位：mm》

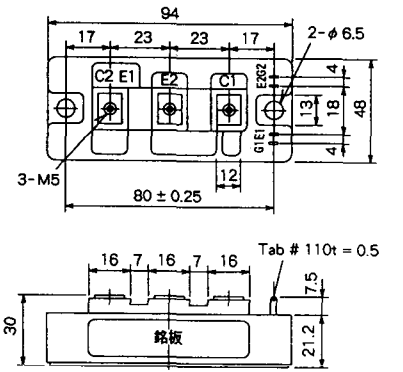
M-4A2D



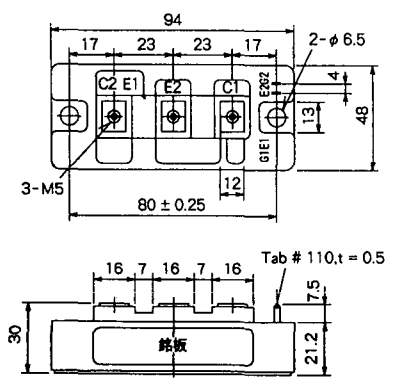
M-4A2E



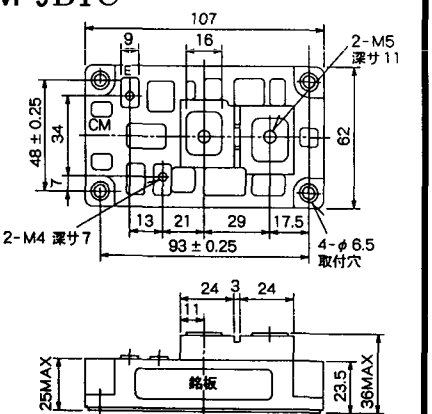
M-4C2A



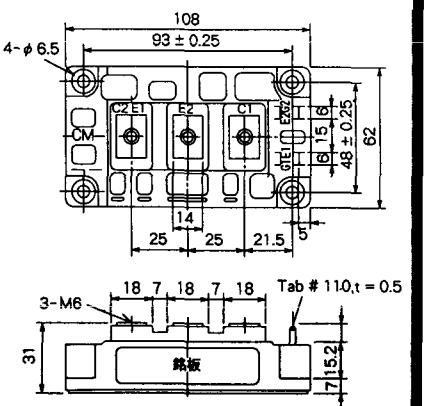
M-4C2B



M-9B1C

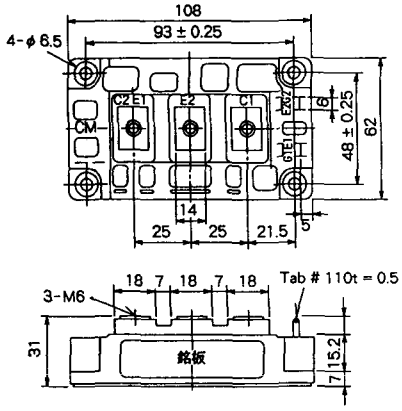


M-9D2A

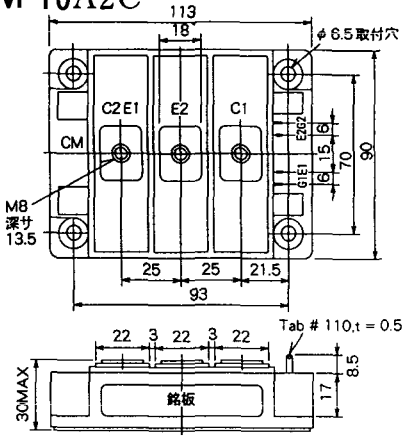


《寸法図単位：mm》

M-9D2B

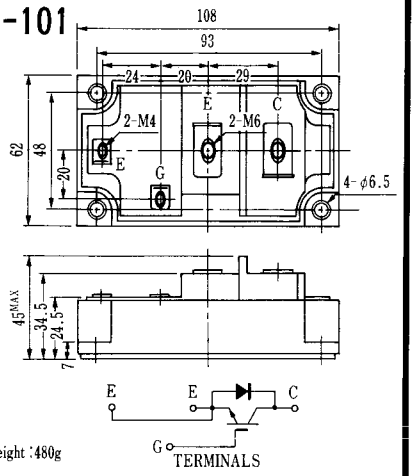


M-10A2C



《寸法図単位：mm》

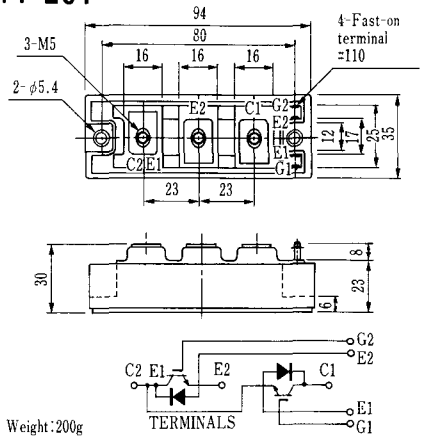
H-101



Weight :480g

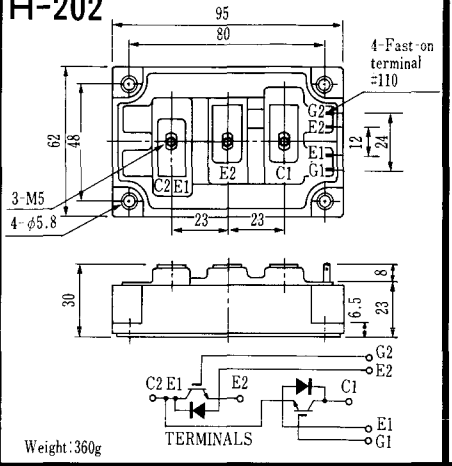
《寸法図単位:mm》

H-201



Weight:200g

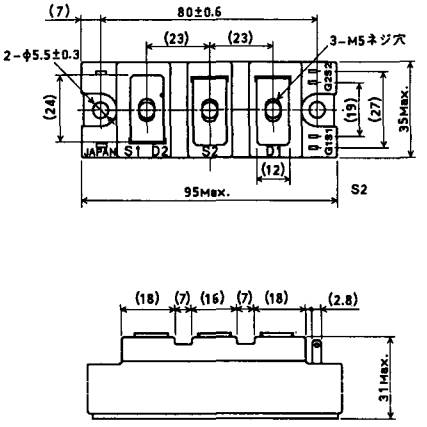
H-202



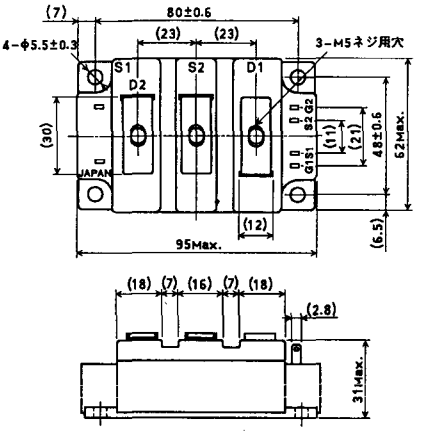
Weight:360g

《寸法図単位:mm》

LF-J

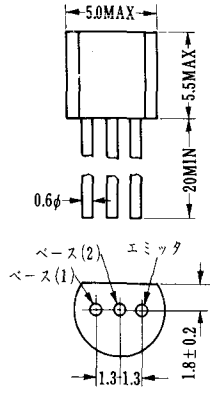


LF-K

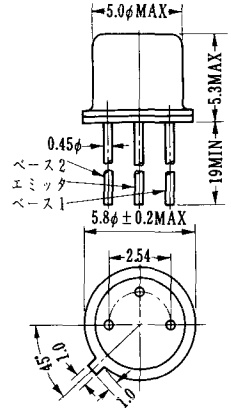


《寸法図単位：mm》

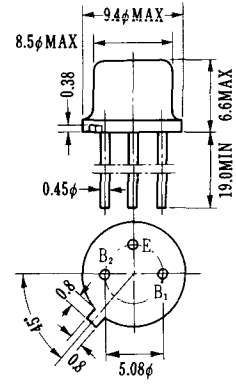
U-1



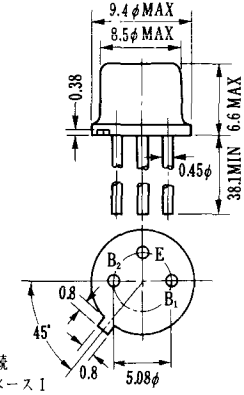
U-2



U-3

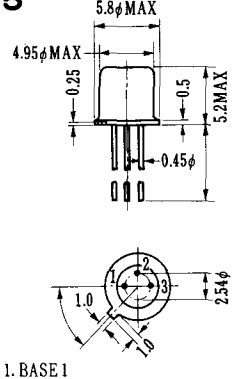


U-4



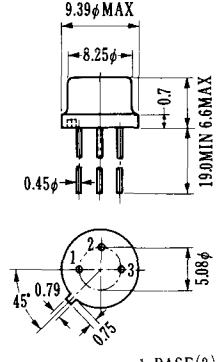
電極接続
B_1：ベース1
B_2：ベース2
E：エミッタ

U-5



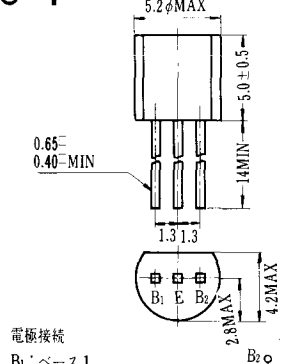
1. BASE 1
2. EMITTER
3. BASE 2 (CASE)

U-6



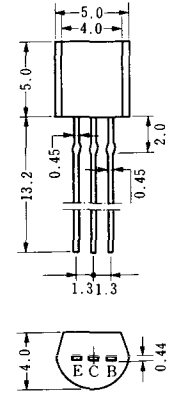
1. BASE(2)
2. EMITTER
3. BASE(1)

U-7



電極接続
B_1：ベース1
E：エミッタ
B_2：ベース2

U-8



〈寸法図単位：mm〉