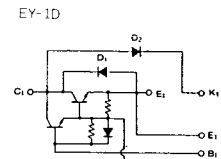
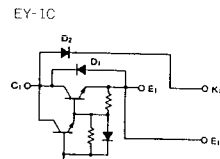
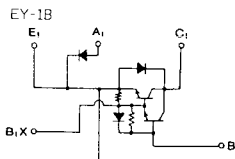
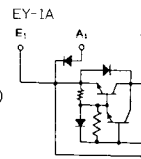


トランジスタ・モジュール [NPN, 1アーム (DCチョップ用)]

- DCチョップ用
- ダーリントン・トランジスタ1個内蔵
- フリーホイール・ダイオード付
- 絶縁形
- UL認定済

Yellow Card No. : E80276 (N)  
File No. : E80271

■等価回路

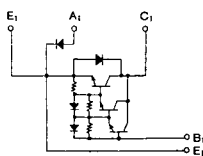


注1.  $I_c = 1A$ ,  $V_{EB} = 2V$ , #印は $V_{CEX}$  ( $V_{EB} = 2V$ )。 注2. 60Hz, 単相半波1サイクル波高値。 注3.  $T_c = 25^\circ C$ 。 注4. AC, 1分間。

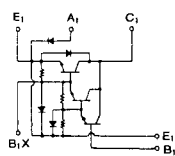
型名	最大定格 (T <sub>J</sub> = 25°C)										電気的特性										
	V <sub>CEO</sub>	V <sub>CEX (SUS)</sub>	V <sub>EB0</sub>	I <sub>c</sub>	I <sub>B</sub>	I <sub>F</sub>	I <sub>FM</sub>	P <sub>c</sub>	T <sub>J</sub>	T <sub>stg</sub>	V <sub>iso</sub>	I <sub>CEX</sub> (mA)		I <sub>EB0</sub> (mA)		V <sub>CEO (SUS)</sub> (V)		h <sub>FE</sub>			
	(V)	(注1) (V)	(V)	(A)	(A)	(A)	(A)	(W)	(°C)	(°C)	(V)	最大	V <sub>CE</sub> (V)	V <sub>EB</sub> (V)	最大	V <sub>EB</sub> (V)	最小	I <sub>c</sub> (A)	最小	V <sub>CE</sub> (V)	I <sub>c</sub> (A)
QM30E2Y-H	600	600	7	30	1.8	30	600	250	150	-40~125	2500	1	600	2	200	7			75/100	2/5	30
QM30E2Y-2H	1000	1000	7	30	2.0	30	600	310	150	-40~125	2500	1	1000	2	200	7			75/100	2.8/5	30
QM30E3Y-H	600	600	7	30	1.8	30	600	250	150	-40~125	2500	1	600	2	200	7			75/100	2/5	30
QM30E3Y-2H	1000	1000	7	30	2.0	30	600	310	150	-40~125	2500	1	1000	2	200	7			75/100	2.8/5	30
QM50E2Y-H	600	600	7	50	3.0	50	500	310	150	-40~125	2500	1	600	2	200	7			75/100	2/5	50
QM50E2Y-2H	1000	1000	7	50	3.0	50	500	400	150	-40~125	2500	1	1000	2	200	7			75/100	2.8/5	50
QM50E3Y-H	600	600	7	50	3.0	50	500	310	150	-40~125	2500	1	600	2	200	7			75/100	2/5	50
QM50E3Y-2H	1000	1000	7	50	3.0	50	500	400	150	-40~125	2500	1	1000	2	200	7			75/100	2.8/5	50
QM75E2Y-H	600	600	7	75	4.5	75	750	350	150	-40~125	2500	1	600	2	200	7			75/100	2/5	75
QM75E2Y-2H	1000	1000	7	75	4.0	75	750	500	150	-40~125	2500	1	1000	2	100	7			75/100	2.8/5	75
QM75E3Y-H	600	600	7	75	4.5	75	750	350	150	-40~125	2500	1	600	2	200	7			75/100	2/5	75
QM75E3Y-2H	1000	1000	7	75	4.0	75	750	500	150	-40~125	2500	1	1000	2	100	7			75/100	2.8/5	75
QM100E2Y-H	600	600	7	100	6.0	100	1000	620	150	-40~125	2500	2	600	2	300	7			75/100	2/5	100
QM100E2Y-2H	1000	1000	7	100	5.0	100	1000	800	150	-40~125	2500	2	1000	2	400	7			75/100	2.8/5	100
QM100E3Y-H	600	600	7	100	6.0	100	1000	620	150	-40~125	2500	2	600	2	300	7			75/100	2/5	100
QM100E3Y-2H	1000	1000	7	100	5.0	100	1000	800	150	-40~125	2500	2	1000	2	400	7			75/100	2.8/5	100
QM150E2Y-H	600	600	7	150	9.0	150	1500	690	150	-40~125	2500	2	600	2	150	7			75/100	2/5	150
QM150E2Y-2H	1000	1000	7	150	8.0	150	1500	1000	150	-40~125	2500	2	1000	2	200	7			75/100	2.8/5	150
QM150E3Y-H	600	600	7	150	9.0	150	1500	690	150	-40~125	2500	2	600	2	150	7			75/100	2/5	150
QM150E3Y-2H	1000	1000	7	150	8.0	150	1500	1000	150	-40~125	2500	2	1000	2	200	7			75/100	2.8/5	150

■スイッチング時間測定回路

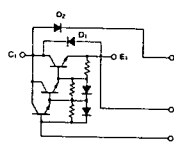
EY-2A



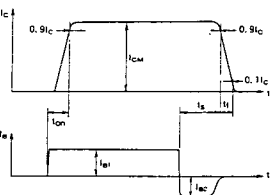
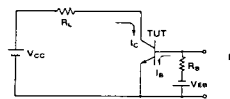
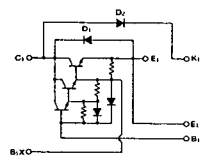
EY-2B



EY-2C



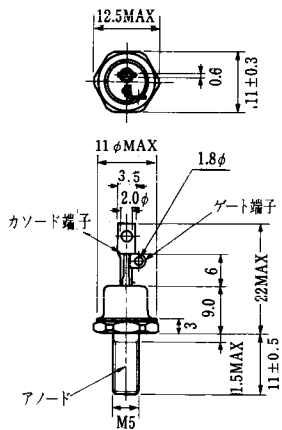
EY-2D



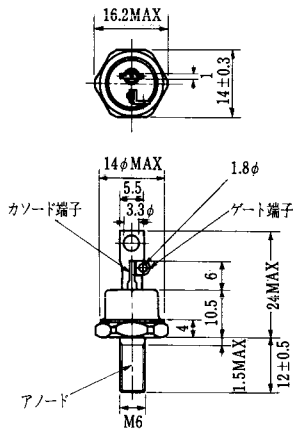
ベース信号

(Tj=25°C)										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)		スイッチング時間 (μs)		I <sub>B1</sub> I <sub>B2</sub>		V <sub>CC</sub> (V)	I <sub>C</sub> (A)	V <sub>F</sub> (V)	I <sub>F</sub> (A)	t <sub>rr</sub> (μs)		V <sub>R</sub> (V)	di/dt (A/μs)	θ <sub>J-C</sub> (°C/W)						
V <sub>CE</sub>	V <sub>BE</sub>	I <sub>C</sub>	I <sub>B</sub>	t <sub>on</sub>	t <sub>off</sub>					I <sub>B1</sub>	I <sub>B2</sub>			t <sub>rr</sub>	I <sub>F</sub>	V <sub>R</sub>				
最大	最大	(A)	(A)	最大	最大	最大	最大	最大	最大	最大	最大	最大	最大	最大	最大					
2.0	2.5	30	0.4	1.5	12	3.0	0.6	-0.6	300	30	1.85	30			0.5	2.0	EY-1A	M-4A1B		QM30E2Y-H
2.5	3.5	30	0.6	2.5	15	3.0	0.6	-0.6	600	30	1.8	30			0.4	1.5	EY-2A	M-4A1B		QM30E2Y-2H
2.0	2.5	30	0.4	1.5	12	3.0	0.6	-0.6	300	30	1.85	30			0.5	2.0	EY-1C	M-4A1B		QM30E3Y-H
2.5	3.5	30	0.6	2.5	15	3.0	0.6	-0.6	600	30	1.8	30			0.4	1.5	EY-2C	M-4A1B		QM30E3Y-2H
2.0	2.5	50	0.65	1.5	12	3.0	1.0	-1.0	300	50	1.75	50			0.4	1.3	EY-1A	M-4A1B		QM50E2Y-H
2.5	3.5	50	1.0	2.5	15	3.0	1.0	-1.0	600	50	1.8	50			0.31	1.2	EY-2A	M-4A1B		QM50E2Y-2H
2.0	2.5	50	0.65	1.5	12	3.0	1.0	-1.0	300	50	1.75	50			0.4	1.3	EY-1C	M-4A1B		QM50E3Y-H
2.5	3.5	50	1.0	2.5	15	3.0	1.0	-1.0	600	50	1.8	50			0.31	1.2	EY-2C	M-4A1B		QM50E3Y-2H
2.0	2.5	75	1.0	2.5	12	3.0	1.5	-1.5	300	75	1.85	75			0.35	1.3	EY-1A	M-4A1B		QM75E2Y-H
2.5	3.5	75	1.5	2.5	15	3.0	1.5	-1.5	600	75	1.8	75			0.25	1.2	EY-2A	M-5A1B		QM75E2Y-2H
2.0	2.5	75	1.0	2.5	12	3.0	1.5	-1.5	300	75	1.85	75			0.35	1.3	EY-1C	M-4A1B		QM75E3Y-H
2.5	3.5	75	1.5	2.5	15	3.0	1.5	-1.5	600	75	1.8	75			0.25	1.2	EY-2C	M-5A1B		QM75E3Y-2H
2.0	2.5	100	1.3	2.0	12	3.0	2.0	-2.0	300	100	1.75	100			0.2	0.65	EY-1B	M-8A1B		QM100E2Y-H
2.5	3.5	100	2.0	3.0	15	3.0	2.0	-2.0	600	100	1.8	100			0.155	0.65	EY-2B	M-9A1A		QM100E2Y-2H
2.0	2.5	100	1.3	2.0	12	3.0	2.0	-2.0	300	100	1.75	100			0.2	0.65	EY-1D	M-8A1B		QM100E3Y-H
2.5	3.5	100	2.0	3.0	15	3.0	2.0	-2.0	600	100	1.8	100			0.155	0.65	EY-2D	M-9A1A		QM100E3Y-2H
2.0	2.5	150	2.0	2.5	12	3.0	3.0	-3.0	300	150	1.85	150			0.18	0.6	EY-1B	M-8A1B		QM150E2Y-H
2.5	3.5	150	3.0	3.0	15	3.0	3.0	-3.0	600	150	1.8	150			0.125	0.6	EY-2B	M-9A1A		QM150E2Y-2H
2.0	2.5	150	2.0	2.5	12	3.0	3.0	-3.0	300	150	1.85	150			0.18	0.6	EY-1D	M-8A1B		QM150E3Y-H
2.5	3.5	150	3.0	3.0	15	3.0	3.0	-3.0	600	150	1.8	150			0.125	0.6	EY-2D	M-9A1A		QM150E3Y-2H

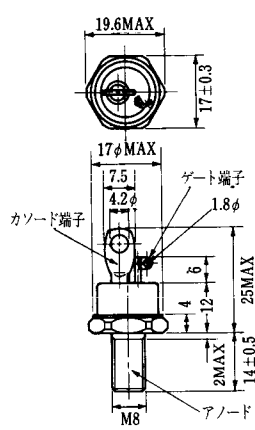
FD-1



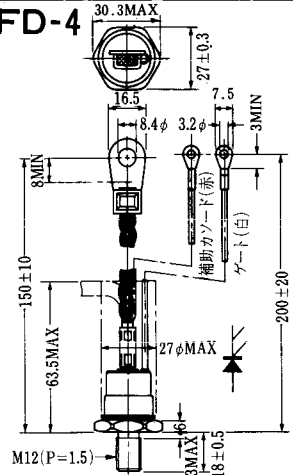
FD-2



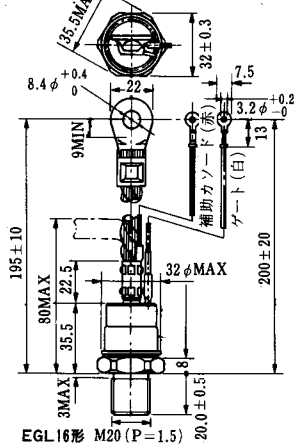
FD-3



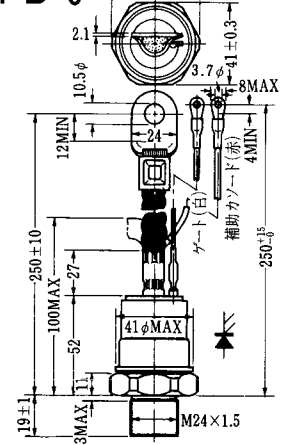
FD-4



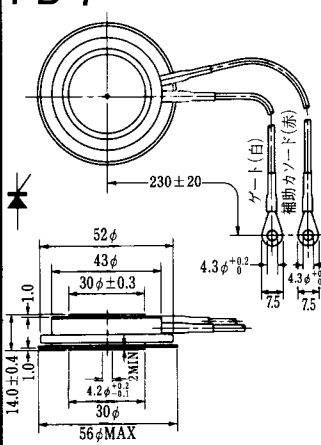
FD-5



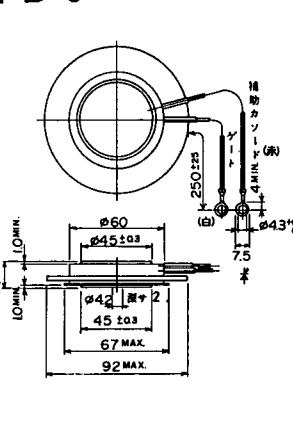
FD-6



FD-7



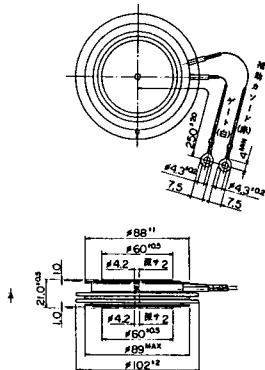
FD-8



FD-9

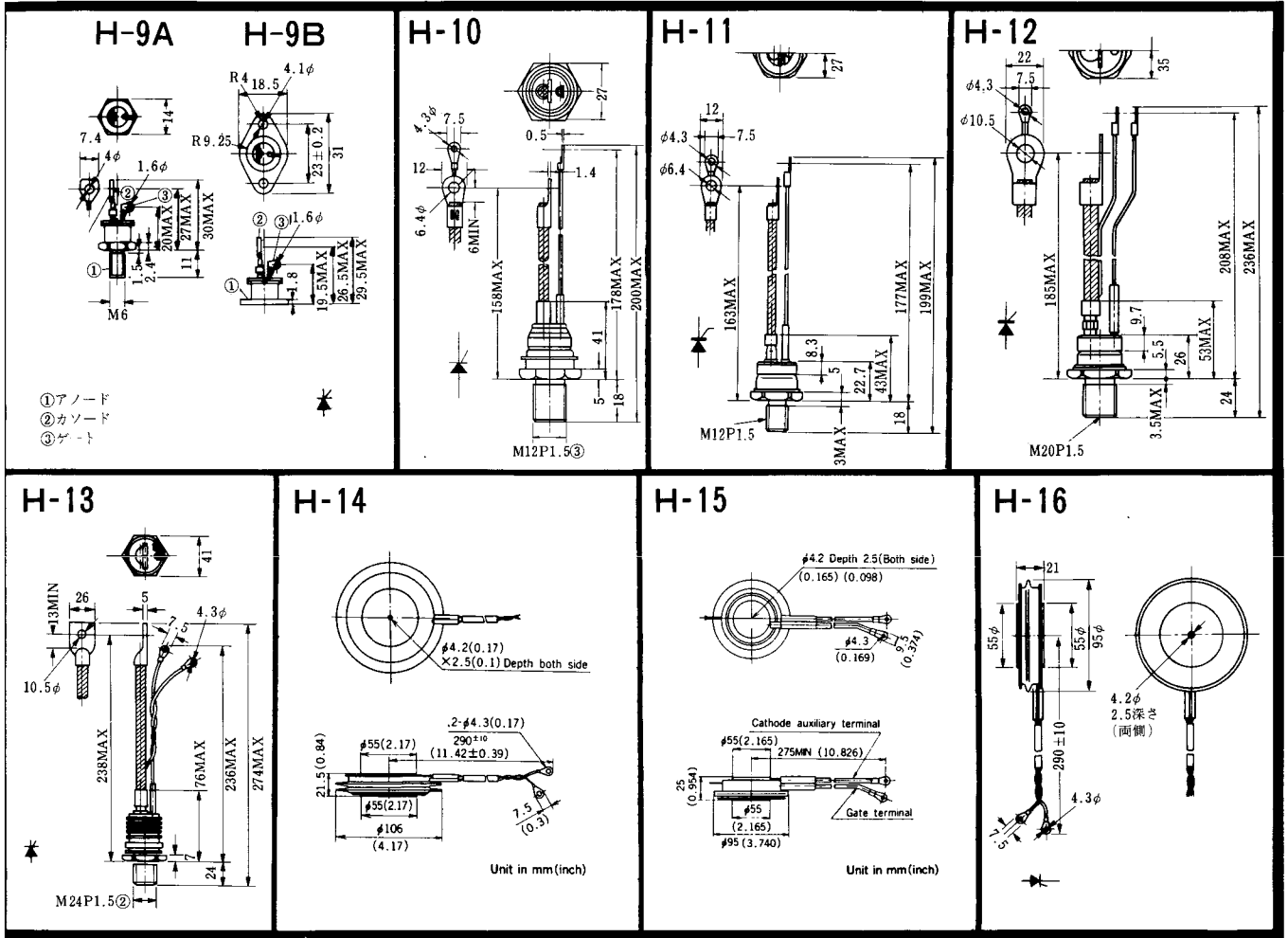


FD-10



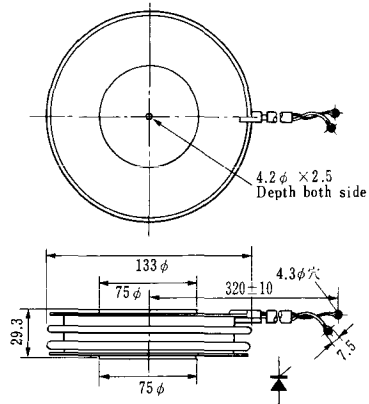
FD-12



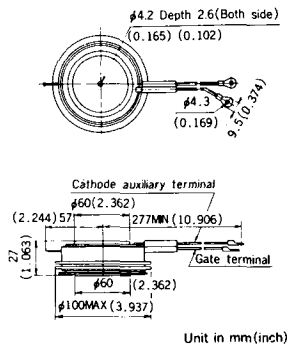


《寸法図単位：mm》

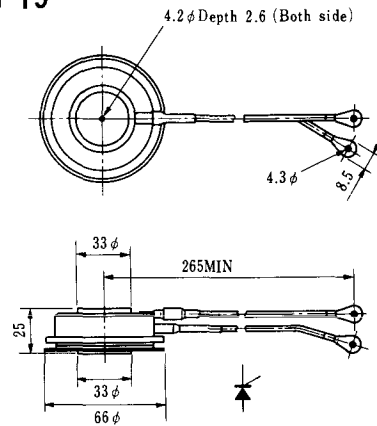
### H-17



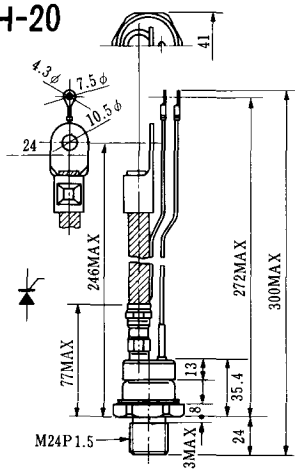
### H-18



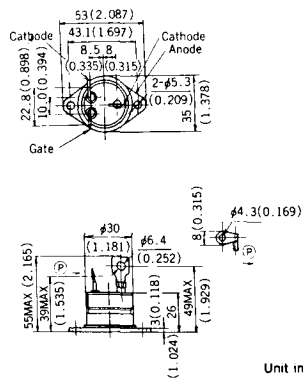
### H-19



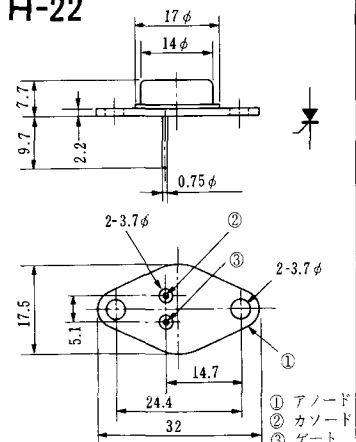
### H-20



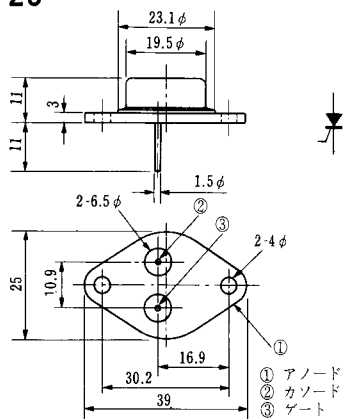
### H-21



### H-22

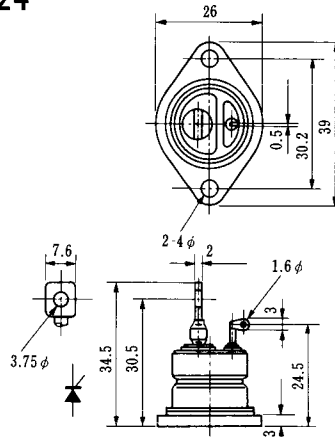


### H-23

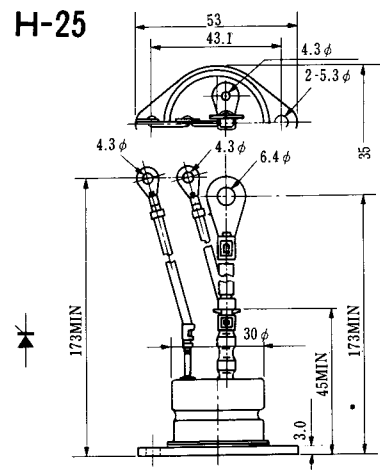


① アノード  
② カソード  
③ ゲート

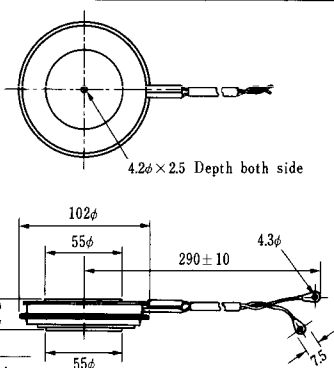
### H-24



### H-25



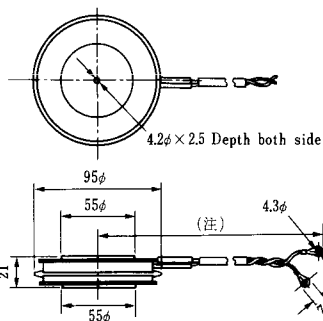
### H-26



Type	Direction of polarity
------	-----------------------

CA12	
------	--

### H-27

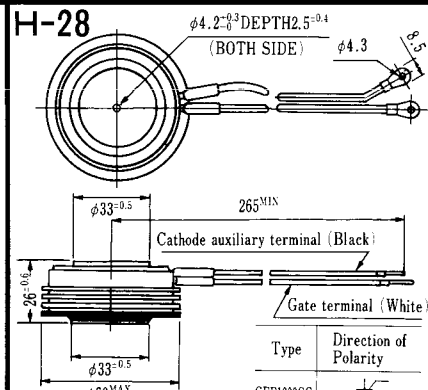


Type	Direction of polarity
------	-----------------------

CF11V	
-------	--

(注) CC11V : 400 ± 10  
CF11V : 250 ± 10

### H-28



Type	Direction of Polarity
------	-----------------------

GFP100GG	
----------	--

Weight: 360(g)

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



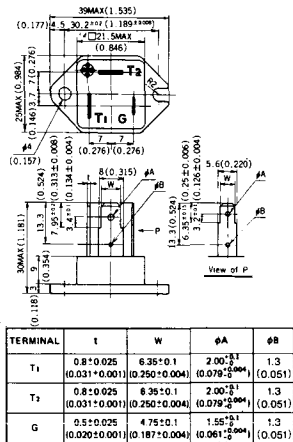


Note : The thickness is a dimension in press at the rated mounting force. Weight: 870(g)



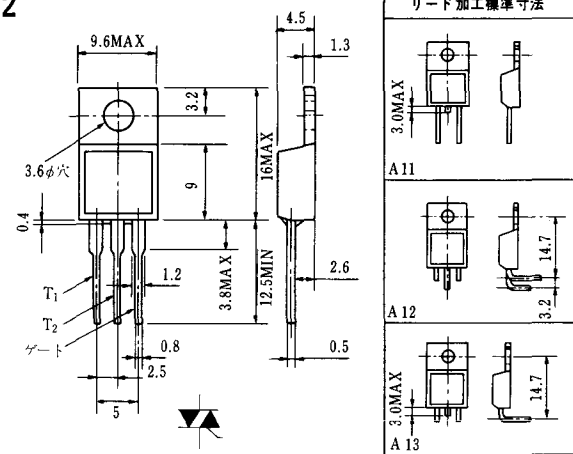
Note : The thickness is a dimension in press at the rated mounting force. Weight: 1,460(g)

# HT-1



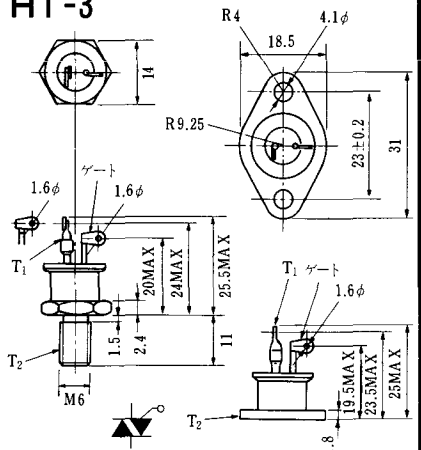
Unit in mm.(inch)

# HT-2

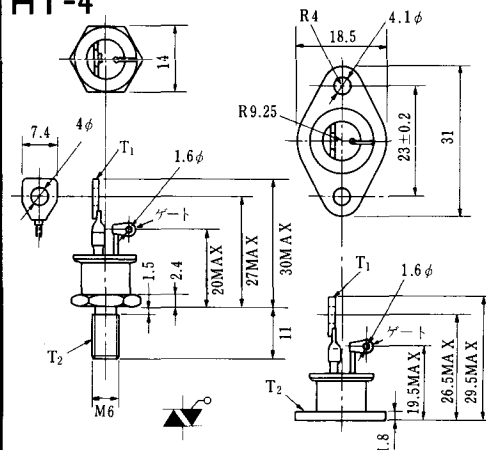


### リード加工標準寸法

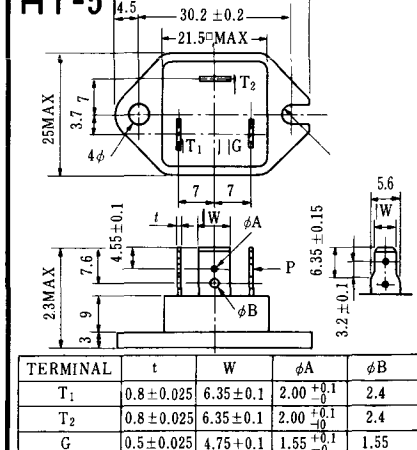
# HT-3



# HT-4



# HT-5



### M-1



### M-2



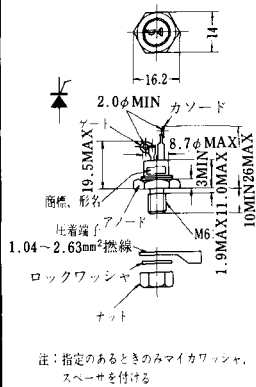
### M-3



### M-4



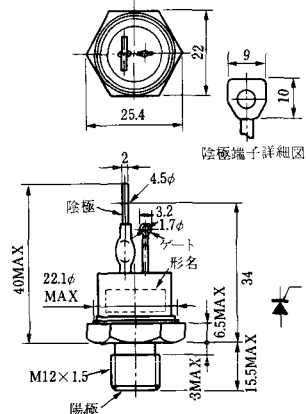
### M-5



### M-6



### M-7



### M-8



M-9



M-10



M-11



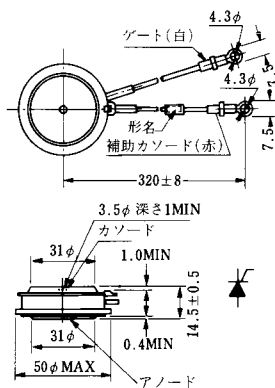
M-12



M-13



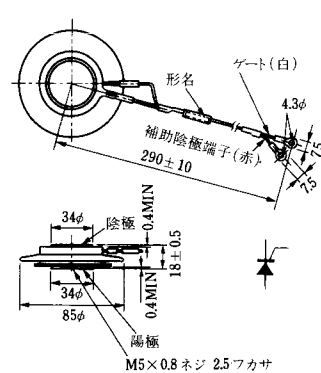
M-14



M-15

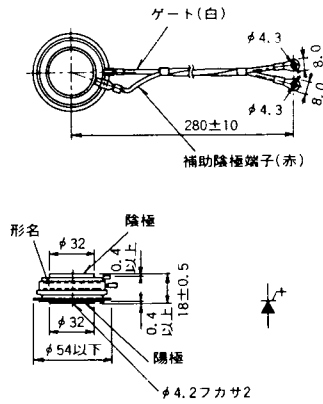


M-16

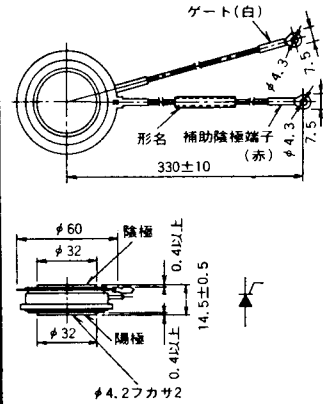




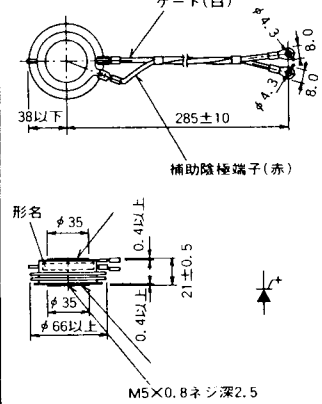
M-25



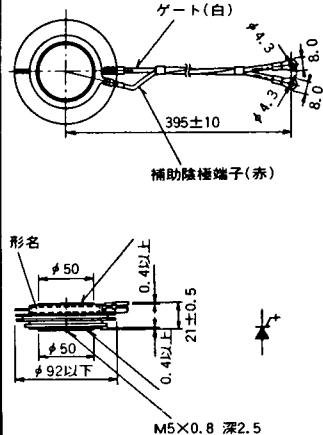
M-26



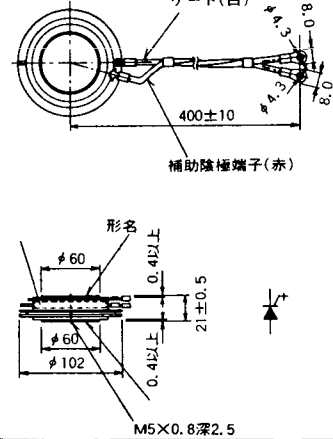
M-27



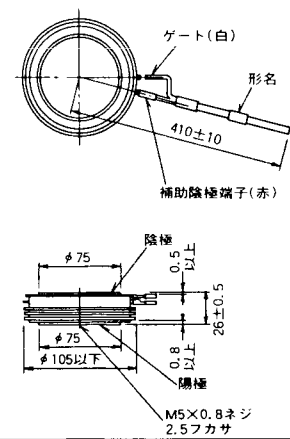
M-28



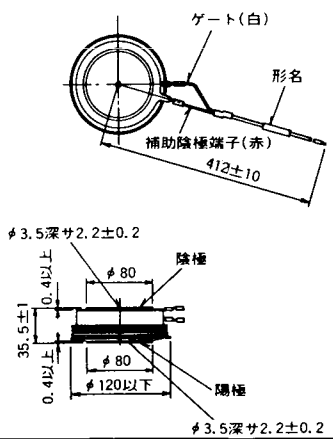
M-29



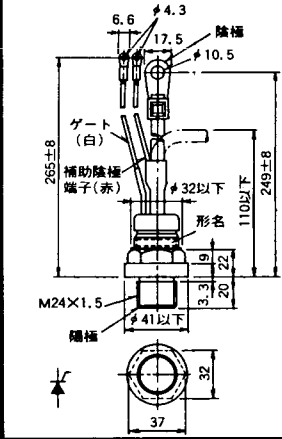
M-30



M-31



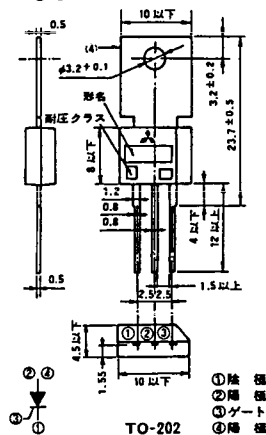
M-32



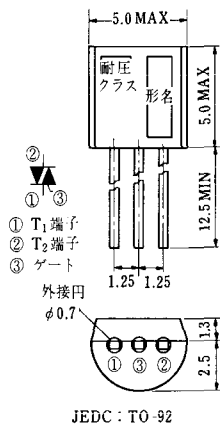
### M-33



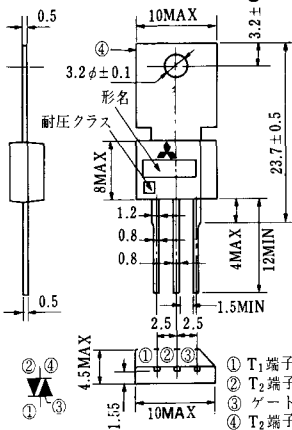
### M-34



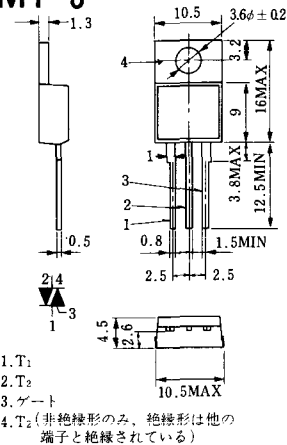
### MT-1



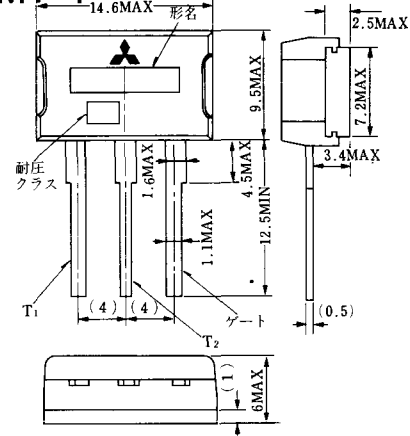
### MT-2



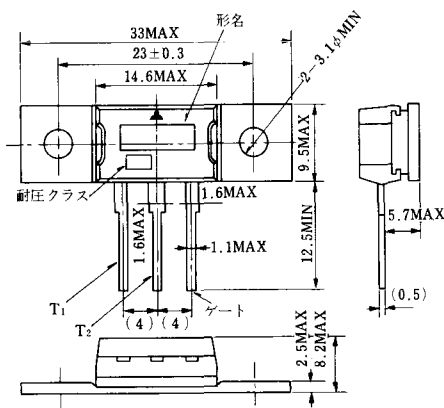
### MT-3



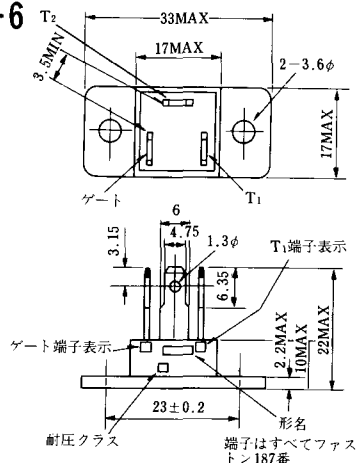
### MT-4



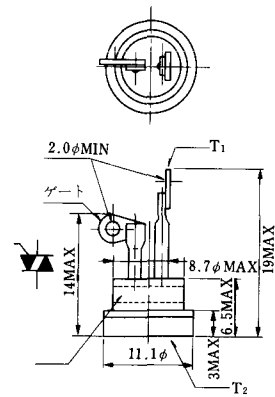
### MT-5



### MT-6



### MT-7

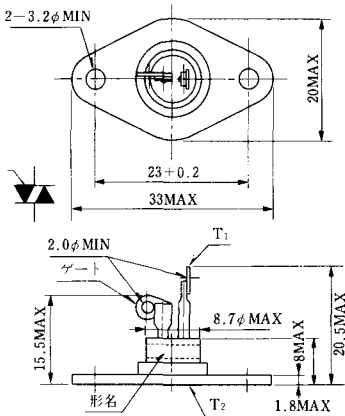




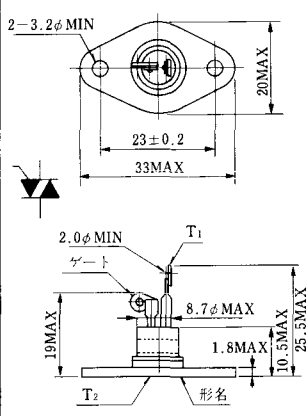
MT-8



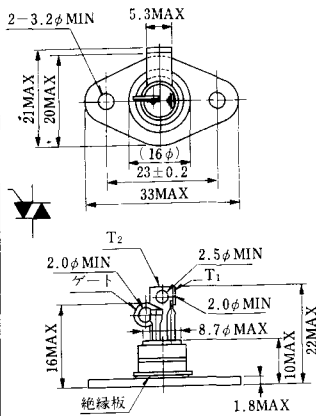
MT-9



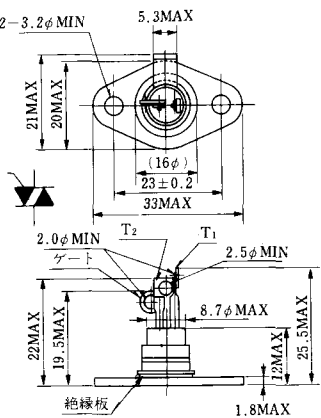
MT-10



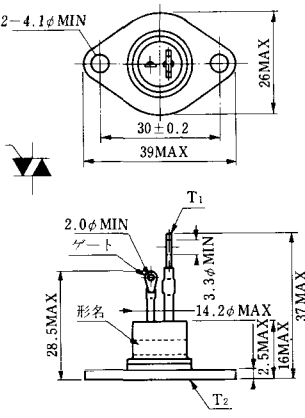
MT-11



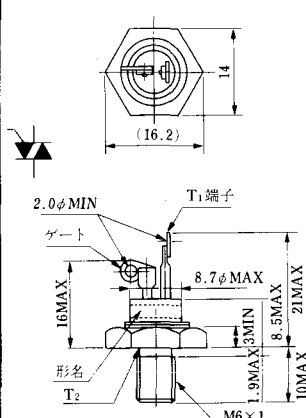
MT-12



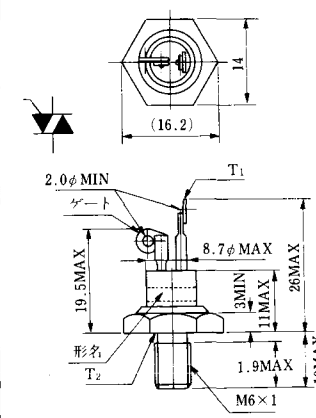
MT-13



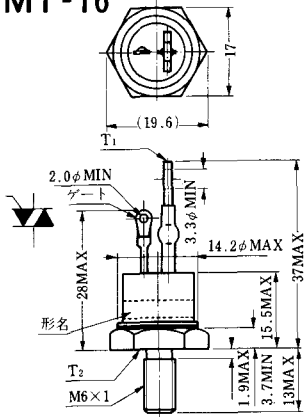
MT-14



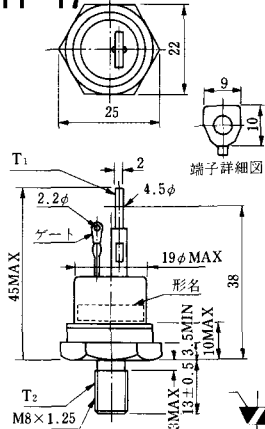
MT-15



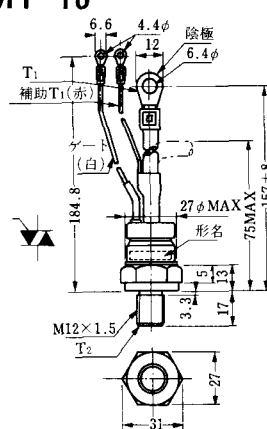
MT-16



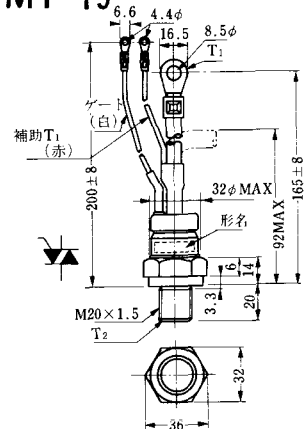
MT-17



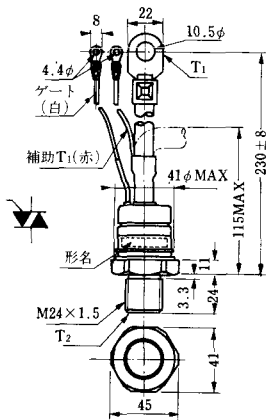
MT-18



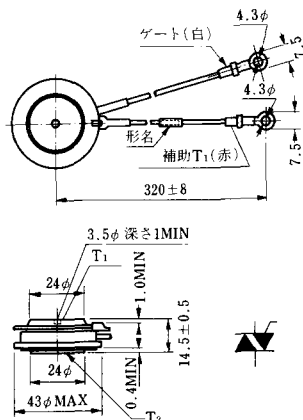
MT-19



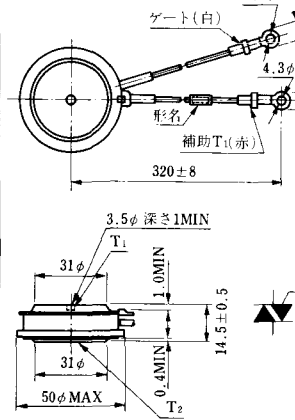
MT-20



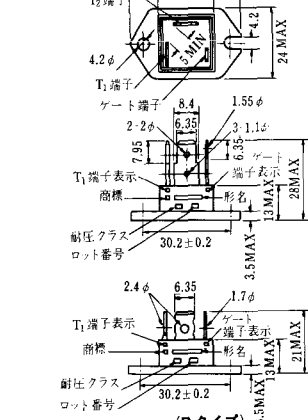
MT-21



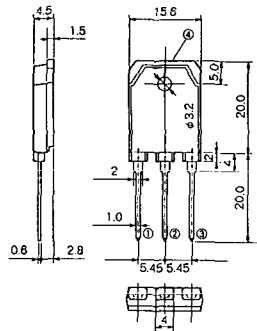
MT-22



MT-23

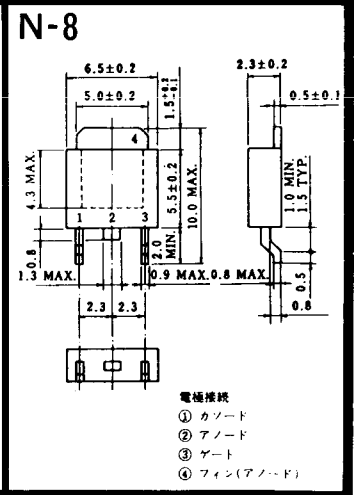
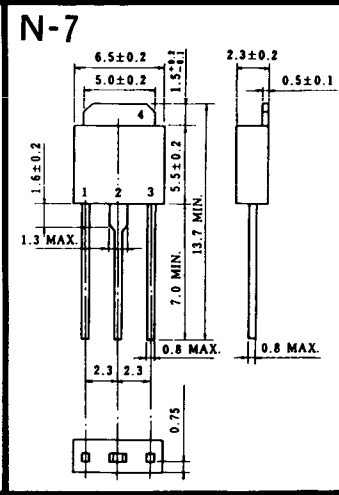
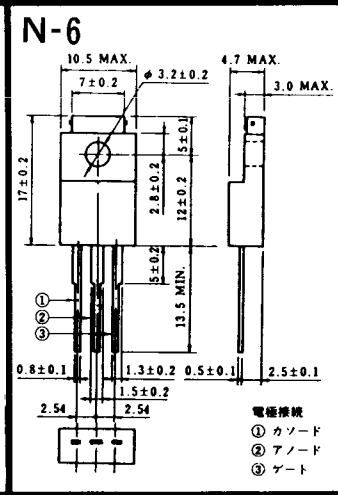
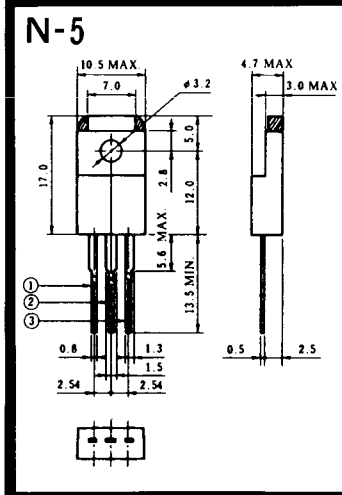
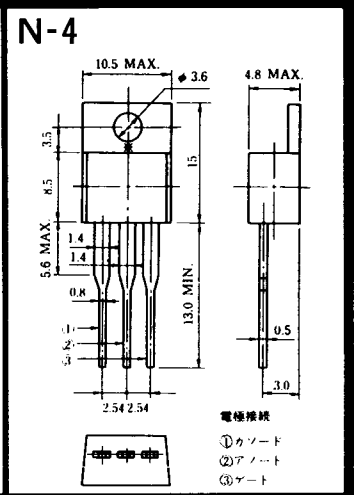
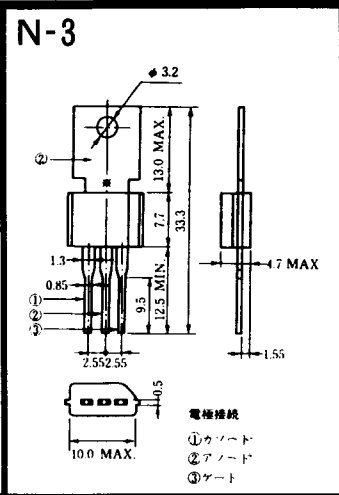
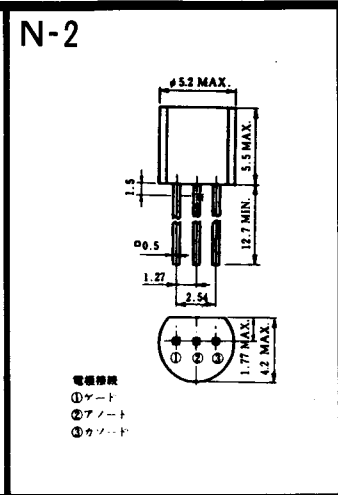
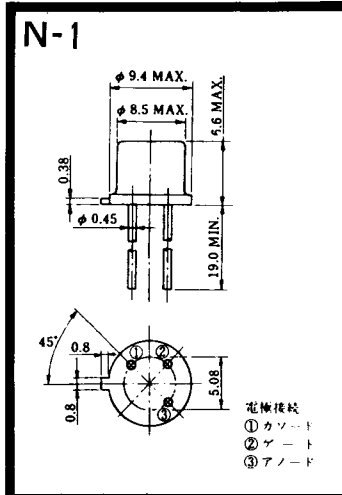


# MT-24

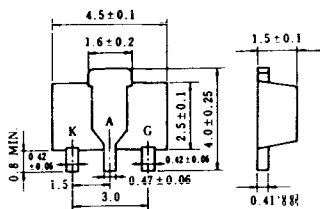


TO - 3P

- ① T1 端子
- ② T2 端子
- ③ ゲート端子
- ④ T2 端子



N-9



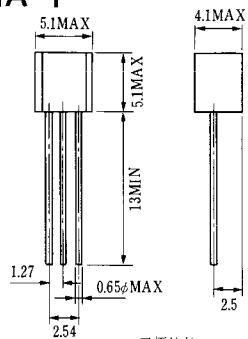
電極接続

K : カソード

A : アノード

G : ゲート

### NA-1

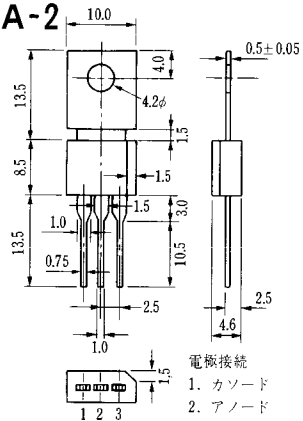


電極接続

1. ゲート
2. アノード
3. カソード

JEDEC: TO-92

### NA-2

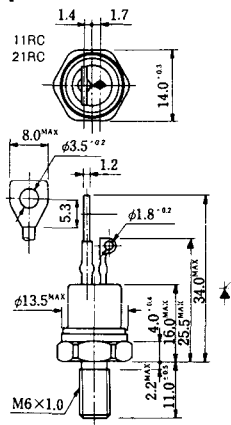


電極接続

1. カソード
2. アノード
3. ゲート

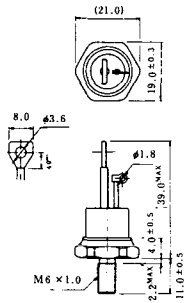
JEDEC: TO-202AA

### NI-1



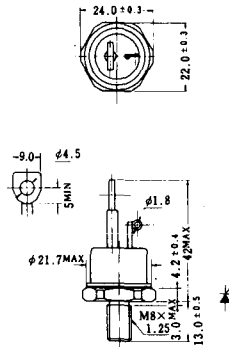
### NI-2

29RD



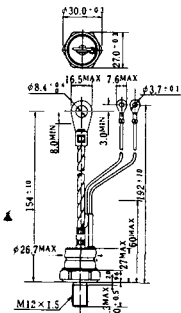
### NI-3

39RC  
59RC  
39RF  
59RF



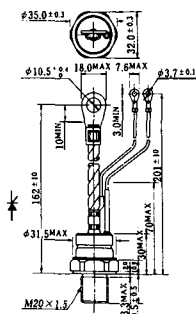
### NI-4

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



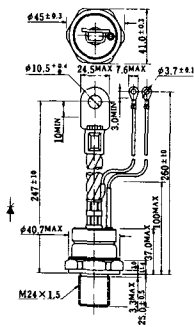
### NI-5

158RP, 208RP, 128RS, 178RS,  
156RT, 178RLD, 178RLE,  
178RLF, 178RLG, 178RLH,  
208RLE



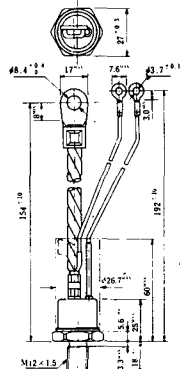
### NI-6

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



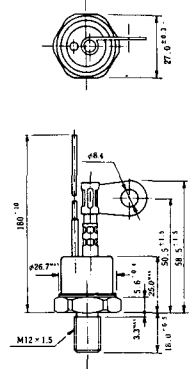
### NI-7

89RW<sub>JL</sub>  
129RW<sub>JL</sub>



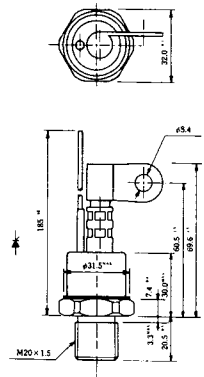
### NI-8

89RW  
129RW



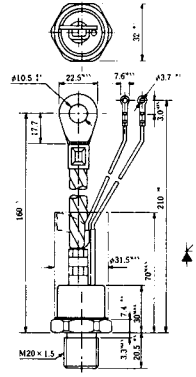
### NI-9

259RW  
309RW



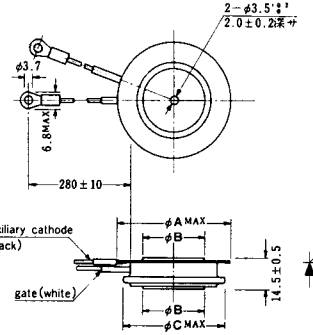
### NI-10

259RW<sub>JL</sub>  
309RW<sub>JL</sub>



### NI-11

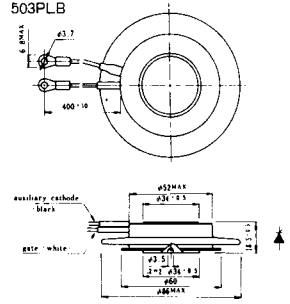
103PA  
253PA  
503PA  
553PA  
803PA  
103PLE  
103PLG  
103PLH  
203PLG  
253PLE  
253PLH  
353PLG  
403PLE  
403PLH



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

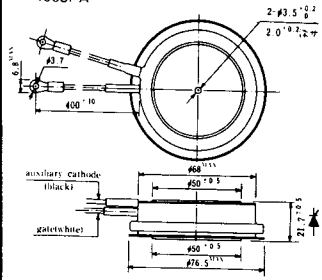
### NI-12

403PAB  
503PAB  
503PLB



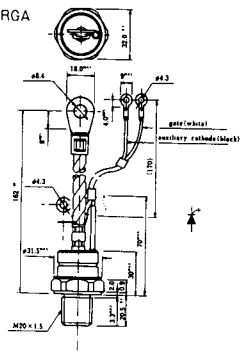
### NI-13

1003PA  
1003PAB  
1003PLF  
1003PLH  
1503PA



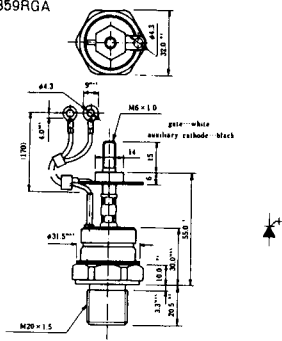
### NI-14

358RGA

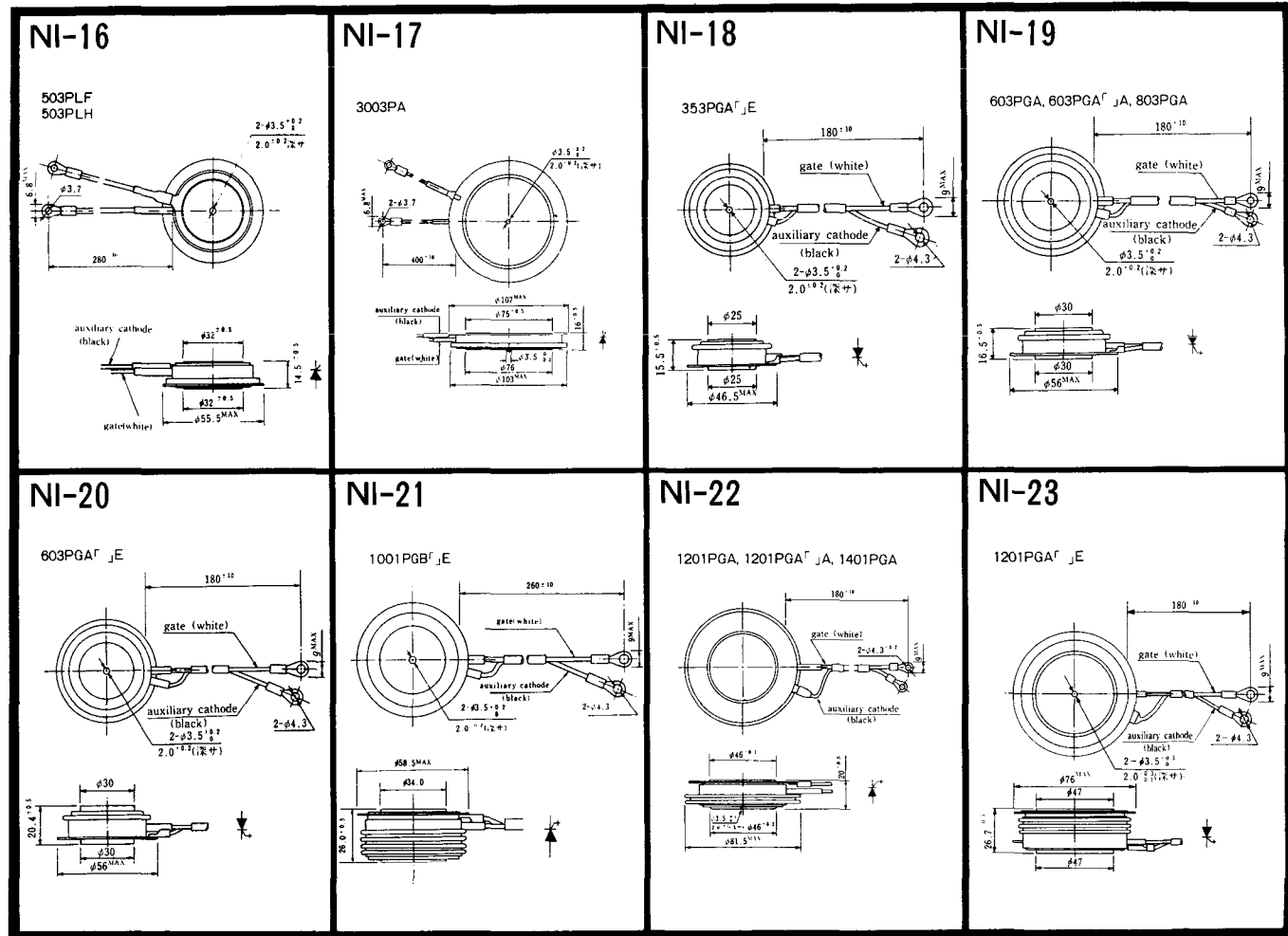


### NI-15

359RGA







NI-24

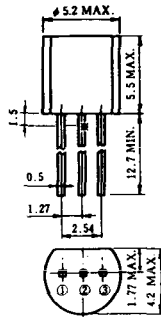
2001PGB<sup>r</sup> JE



NI-25

NI-26

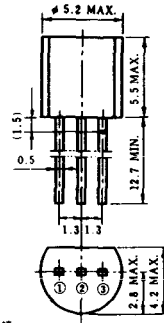
### NT-1



電極接続

- ① T<sub>1</sub>
- ② ゲート
- ③ T<sub>2</sub>

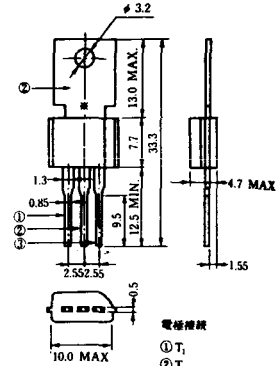
### NT-2



電極接続

- ① T<sub>1</sub>
- ② ゲート
- ③ T<sub>2</sub>

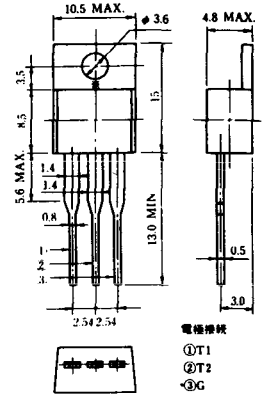
### NT-3



電極接続

- ① T<sub>1</sub>
- ② T<sub>2</sub>
- ③ ゲート

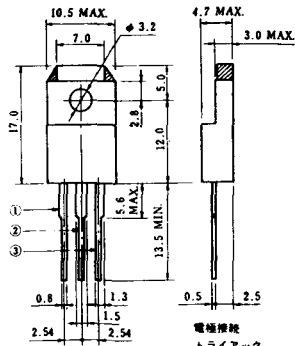
### NT-4



電極接続

- ① T<sub>1</sub>
- ② T<sub>2</sub>
- ③ G

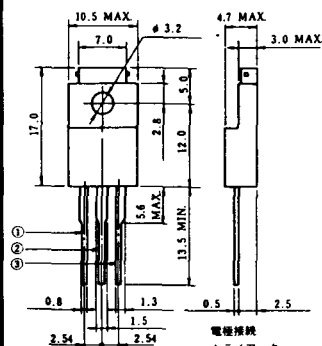
### NT-5



電極接続  
トライアック

- ① T<sub>1</sub>
- ② T<sub>2</sub>
- ③ ゲート

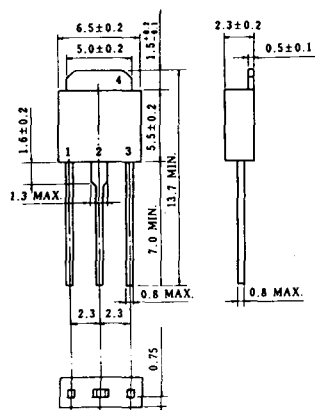
### NT-6



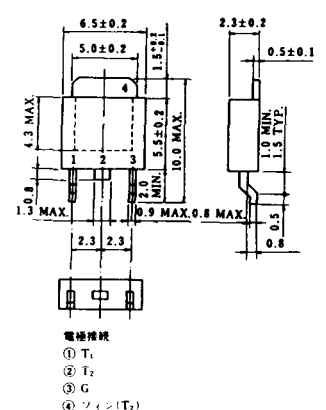
電極接続  
トライアック

- ① T<sub>1</sub>
- ② T<sub>2</sub>
- ③ ゲート

### NT-7



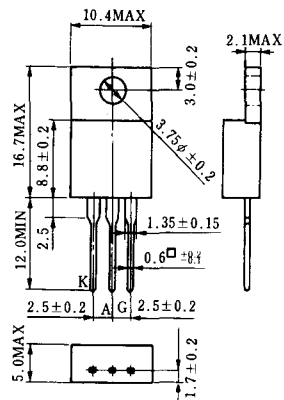
### NT-8



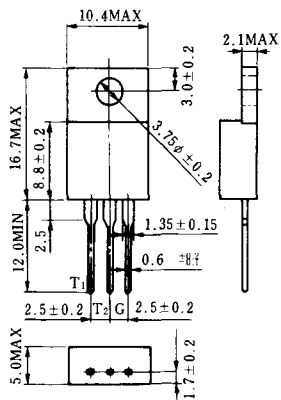
電極接続

- ① T<sub>1</sub>
- ② T<sub>2</sub>
- ③ G
- ④ シェン(T<sub>2</sub>)

### S-1



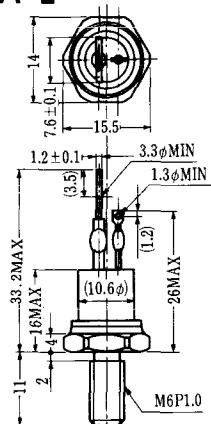
### ST-1



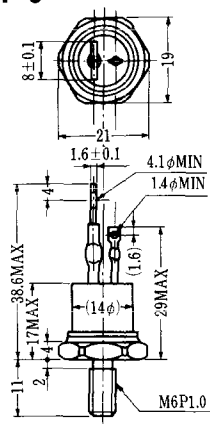
SA-1



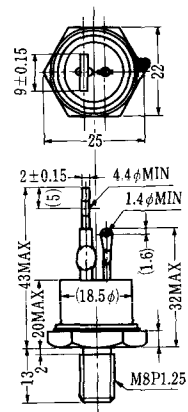
SA-2



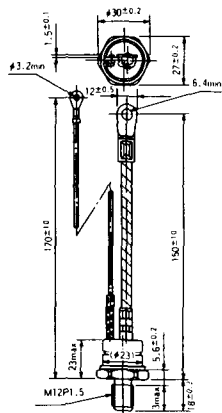
SA-3



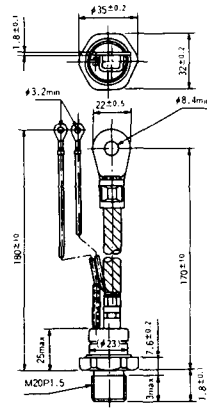
SA-4



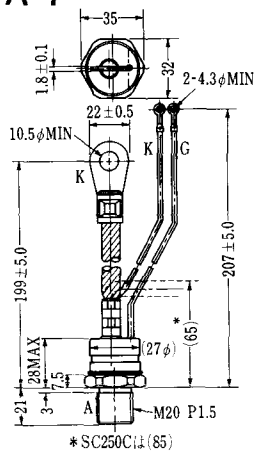
SA-5



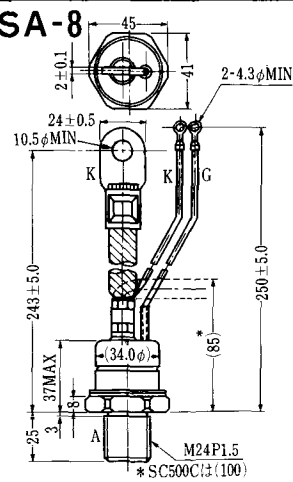
SA-6



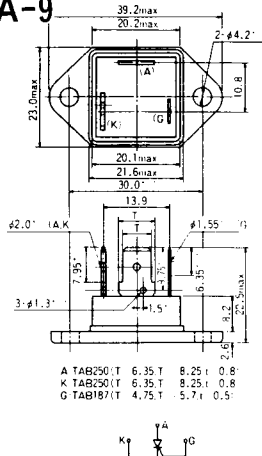
SA-7



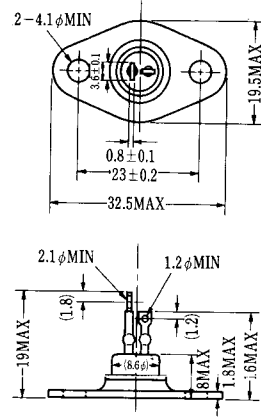
SA-8



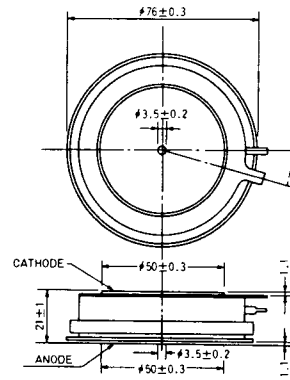
SA-9



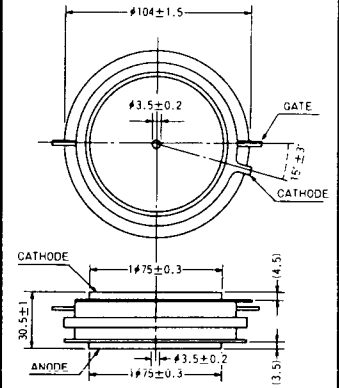
SA-10



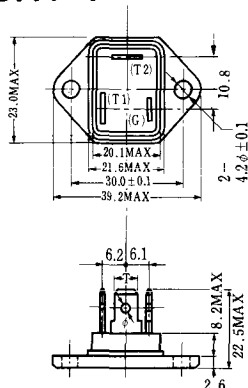
SA-11



SA-12

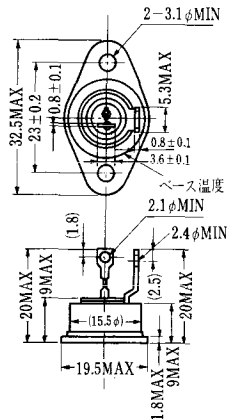


SAT-1

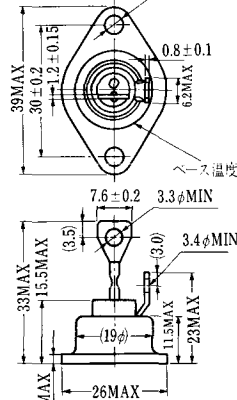


T1 端子: フラスト > 250 (T=6.35, t=0.8, φ=1.65)  
 T2 端子: フラスト > 250 (T=6.35, t=0.8, φ=1.65)  
 C 端子: フラスト > 187 (T=4.75, t=0.5, φ=1.3)

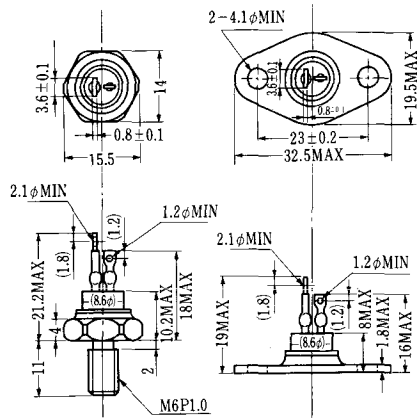
SAT-2



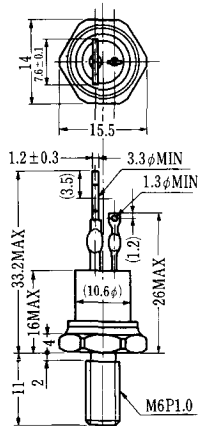
SAT-3



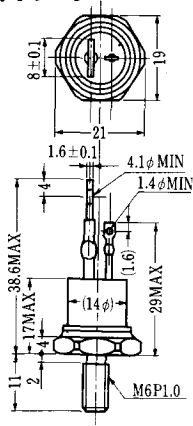
SAT-4



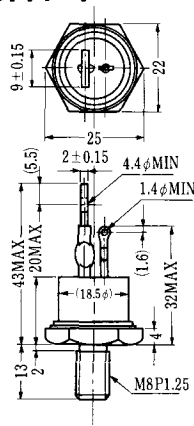
SAT-5



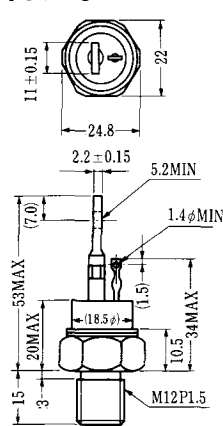
SAT-6



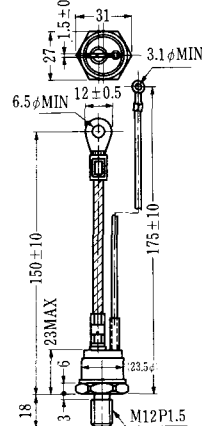
SAT-7



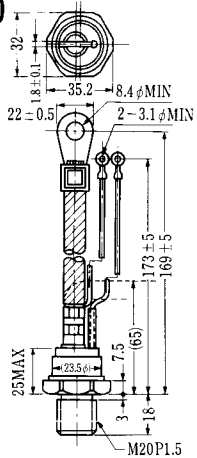
SAT-8



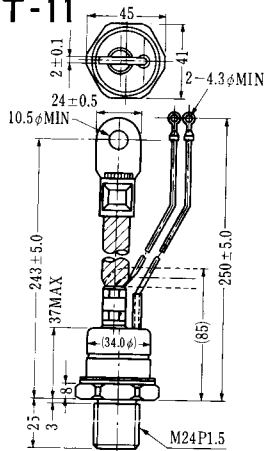
SAT-9



SAT-10



SAT-11



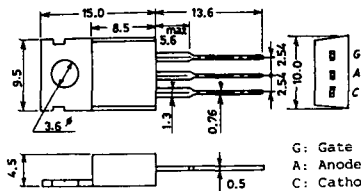


### SY-1 (1096A)



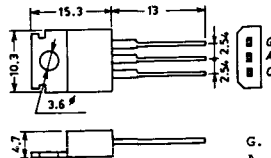
C: Cathode  
A: Anode  
G: Gate

### SY-2 (1151)



G: Gate  
A: Anode  
C: Cathode

### SY-3 (1104)



G: Gate  
A: Anode  
C: Cathode

### SY-4 (1150)



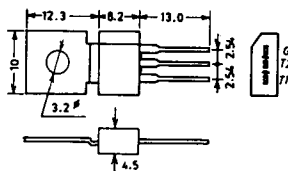
G: Gate  
A: Anode  
C: Cathode

### 1097A



G: Gate

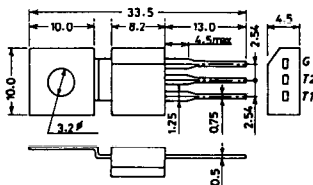
### 1102



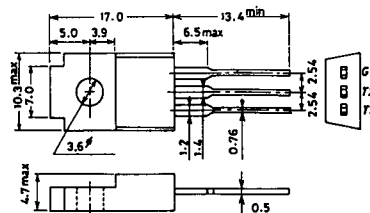
### 1141



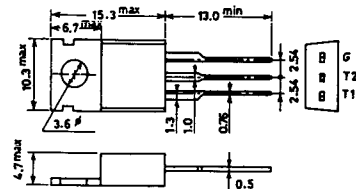
### 1142



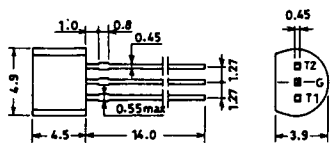
### 1144



### 1155

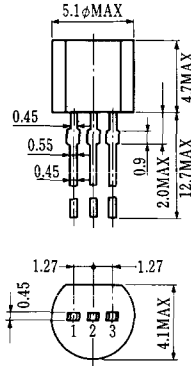


### 1192A



G: Gate

**T-1 (13-5A1A)**



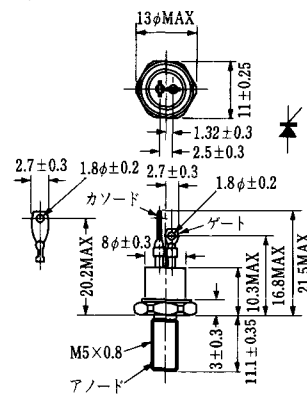
- 1 ゲート
- 2 アノード
- 3 カソード

**T-2 (13-8A1A)**



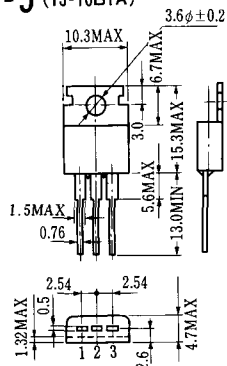
1. カソード
2. ゲート
3. アノード(ケース)

**T-3 (13-8C1A)**



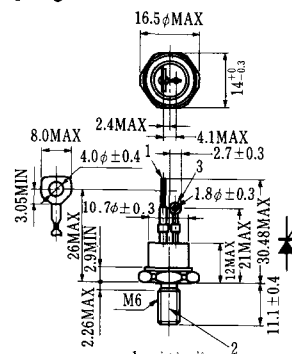
- 1 カソード
- 2 アノード
- 3 ゲート

**T-5 (13-10B1A)**



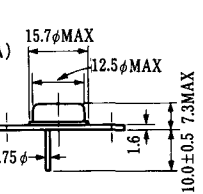
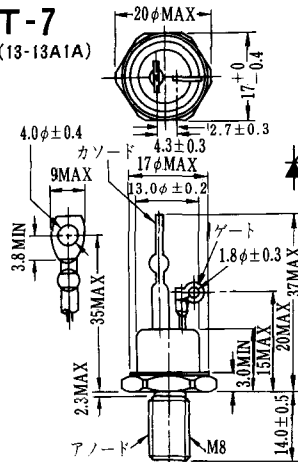
- 1 カソード
- 2 アノード
- 3 ゲート

**T-6 (13-11D1A)**

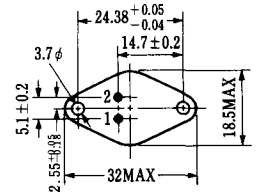


- 1 カソード
- 2 アノード
- 3 ゲート

**T-7 (13-13A1A)**

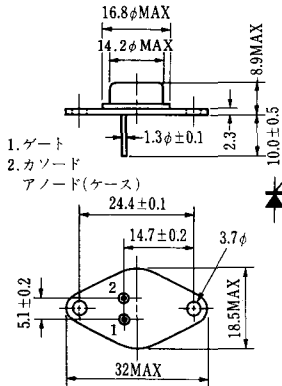


**T-8 (13-13B1A)**



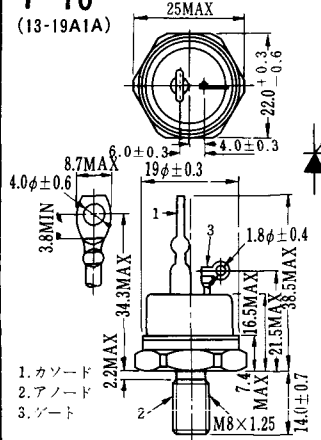
1. ゲート
2. カソード
3. アノード(ケース)

### T-9 (13-14A1A)



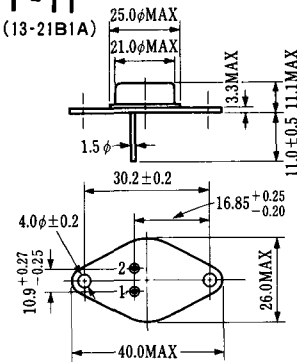
1. ゲート
2. カソード
- アノード(ケース)

### T-10 (13-19A1A)



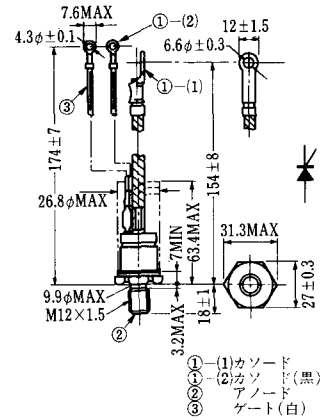
1. カソード
2. アノード
3. ゲート

### T-11 (13-21B1A)



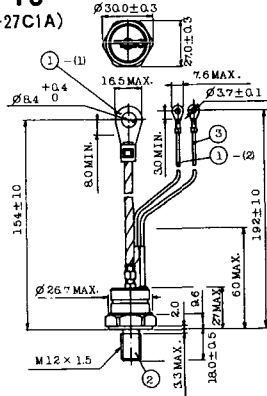
1. ゲート
2. カソード
- アノード(ケース)

### T-12 (13-27B1B)



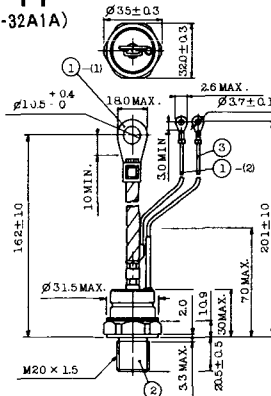
- ① (1) カソード
- ② (1) カソード(黒)
- ③ (1) アノード
- ④ (1) ゲート(白)

### T-13 (13-27C1A)



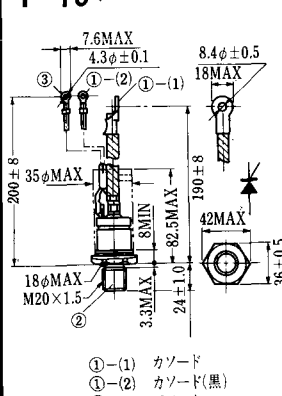
- 1-(1) カソード
- 2-(1) カソード(黒)
- 3-(1) アノード
- 4-(1) ゲート(白)

### T-14 (13-32A1A)



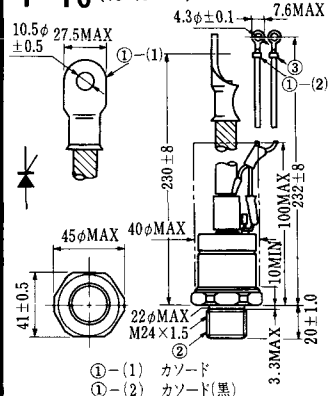
- 1-(1) カソード
- 2-(1) カソード(黒)
- 3-(1) アノード
- 4-(1) ゲート(白)

### T-15 (13-35C1B)



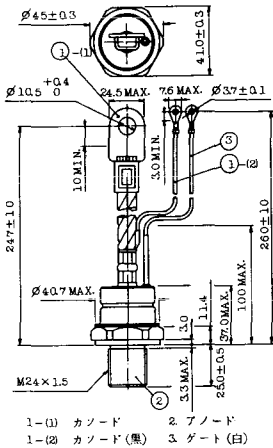
- ① (1) カソード
- ② (2) カソード(黒)
- ③ (1) アノード
- ④ (1) ゲート(白)

### T-16 (13-40B1A)

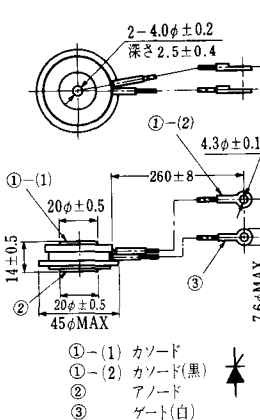


- ① (1) カソード
- ② (2) カソード(黒)
- ③ (1) アノード
- ④ (1) ゲート(白)

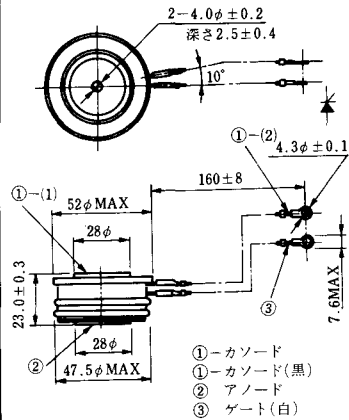
**T-17 (13-42A1A)**



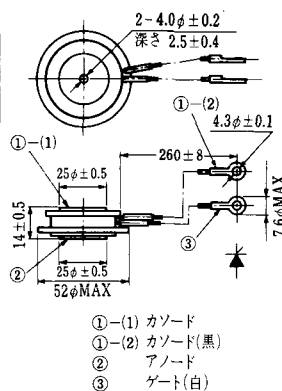
**T-18 (13-45D1A)**



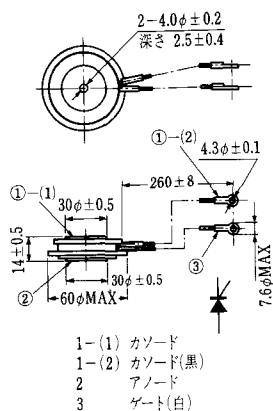
**T-19 (13-52B1A)**



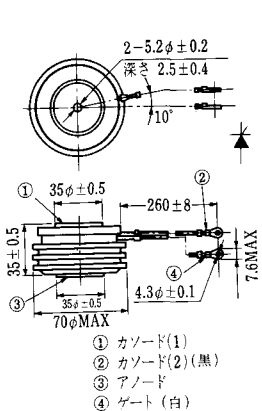
**T-20 (13-52C1A)**



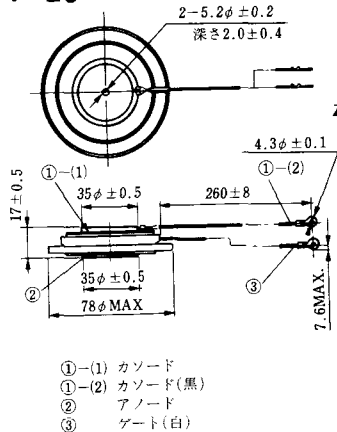
**T-21 (13-60A1A)**



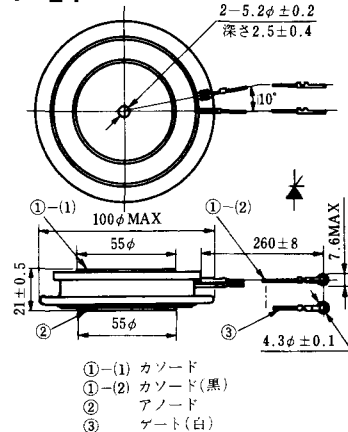
**T-22 (13-70C1A)**



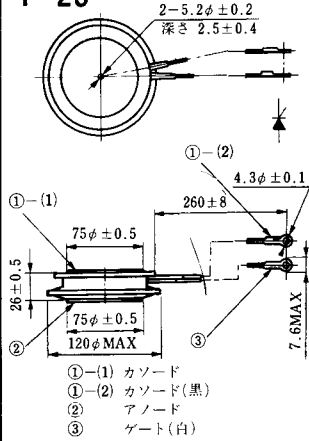
**T-23 (13-78A1A)**



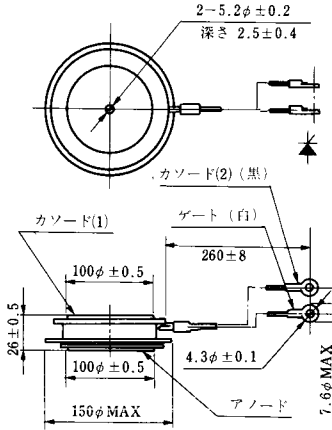
**T-24 (13-100C1A)**



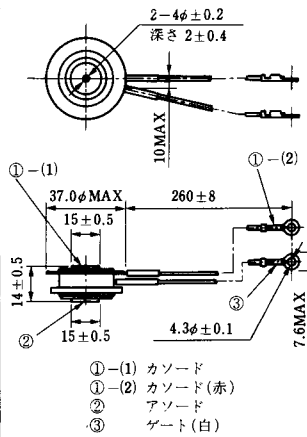
**T-25 (13-120A2A)**



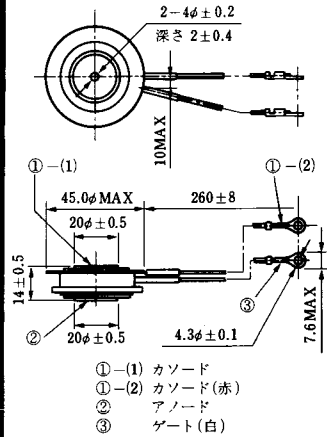
**T-26 (13-150A1A)**



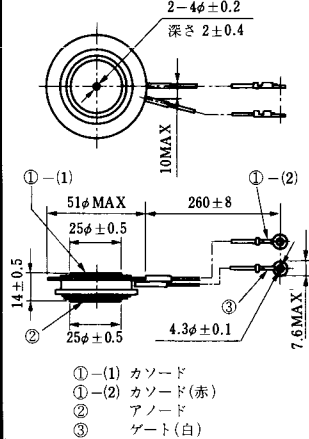
**T-27 (13-37A1A)**



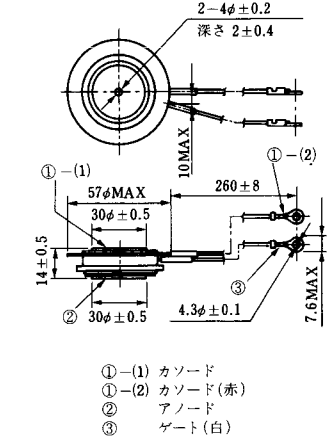
**T-28 (13-45E1A)**



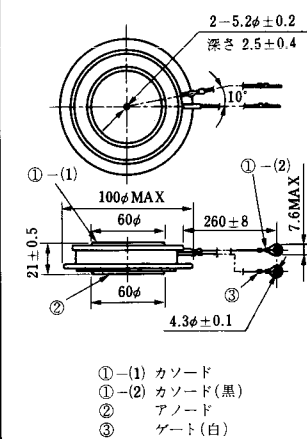
**T-29 (13-51A1A)**



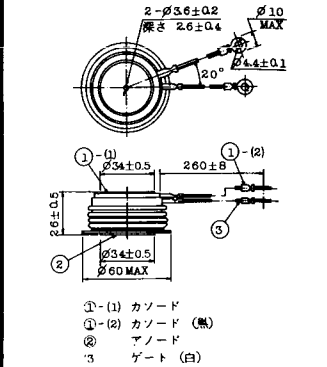
**T-30 (13-57A1A)**



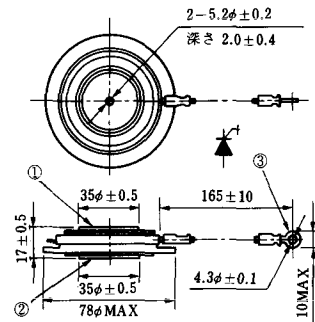
**T-31 (13-100E1A)**



**T-32 (13-60E3A)**

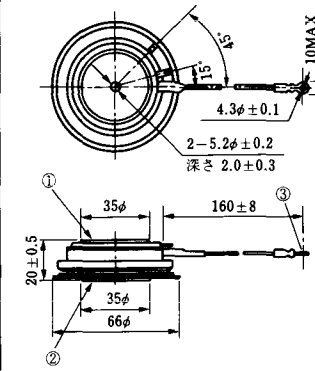


**T-33 (13-78B1A)**



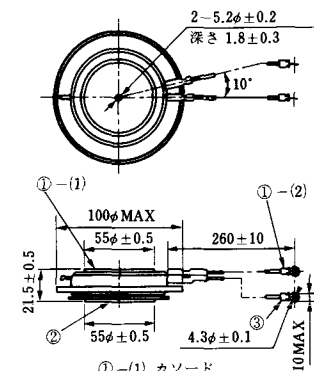
- ① カソード
- ② アノード
- ③ ゲート

**T-34 (13-66A1A)**



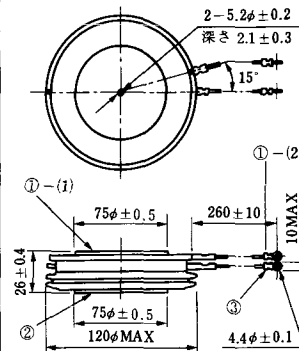
- ① カソード
- ② アノード
- ③ ゲート

**T-35 (13-100D1A)**



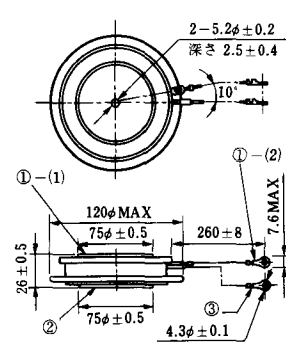
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

**T-36 (13-120E1A)**



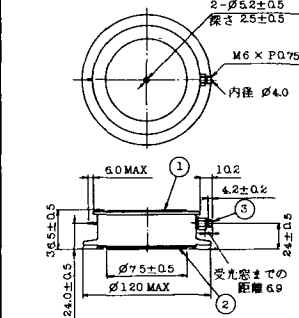
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

**T-37 (13-120A1A)**



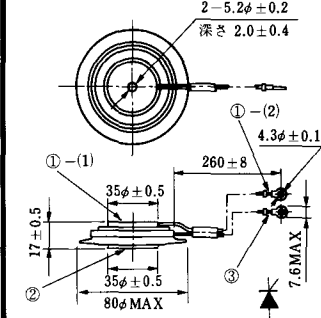
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

**T-38 (13-120C1A)**



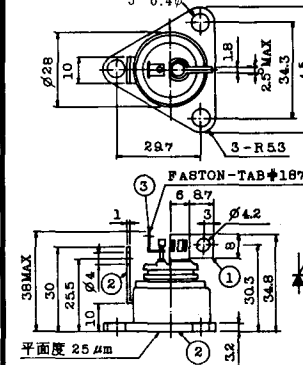
- ① カソード
- ② アノード
- ③ ゲート

**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)**

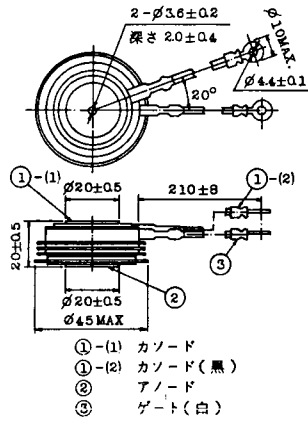


- 1. カソード
- 2. アノード
- 3. ゲート

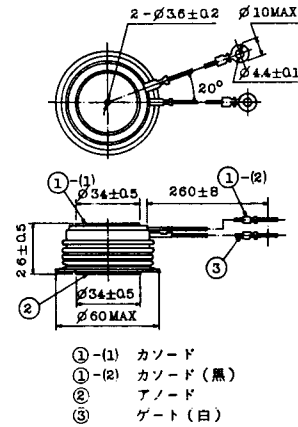
### T-41 (13-28A2A)



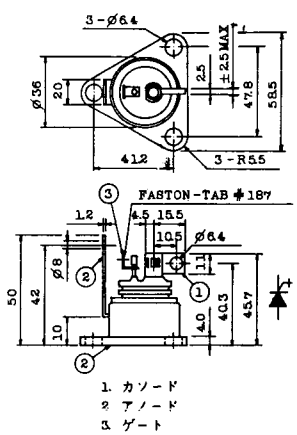
### T-42 (13-45F1A)



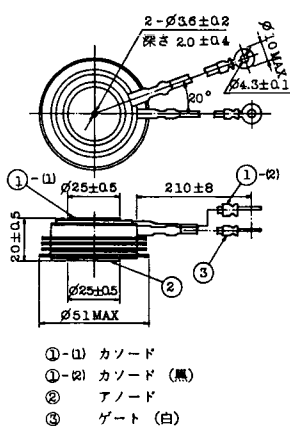
### T-43 (13-60E2A)



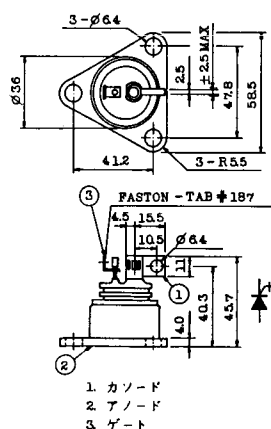
### T-44 (13-36A1A)



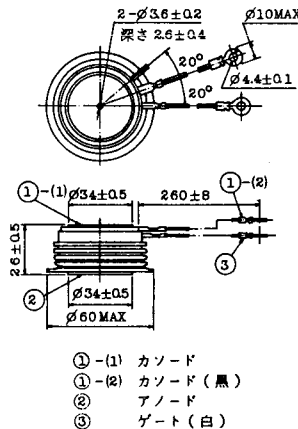
### T-45 (13-51B1A)



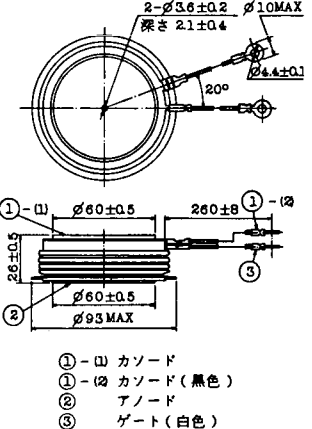
### T-46 (13-36B1A)



### T-47 (13-60E1A)

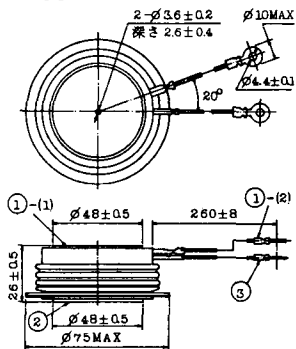


### T-48 (13-93C1A)



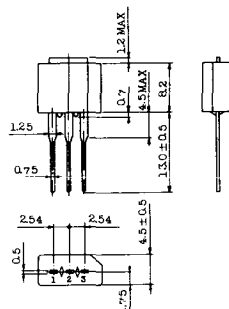


**T-49** (13-75A1A)



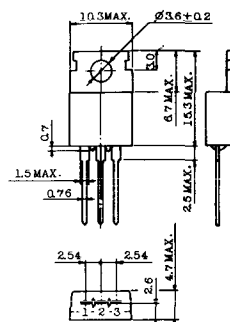
- 1-(1) カソード
- 1-(2) カソード(黒)
- 2 アノード
- 3 ゲート(白)

**T-50** (13-10A3A)



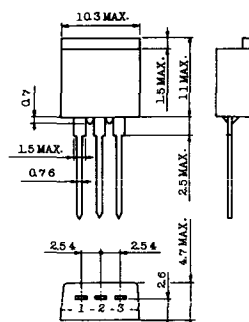
- 1 カソード
- 2 アノード
- 3 ゲート

**T-51** (13-10D1A)



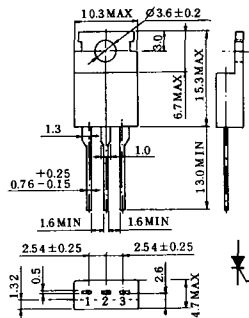
- 1 カソード
- 2 アノード
- 3 ゲート

**T-52** (13-10D2A)



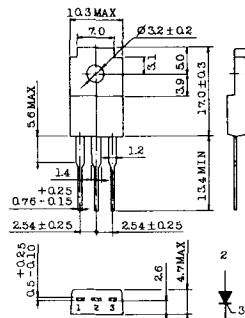
- 1 カソード
- 2 アノード
- 3 ゲート

**T-53** (13-10E1B)



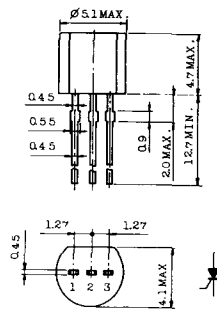
- 1 カソード
- 2 アノード
- 3 ゲート

**T-54** (13-10F1B)



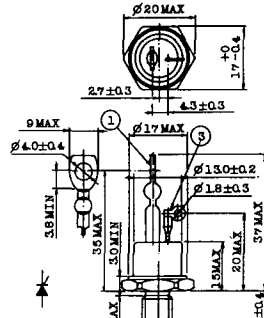
- 1 カソード
- 2 アノード
- 3 ゲート

**T-55** (13-5A1D)



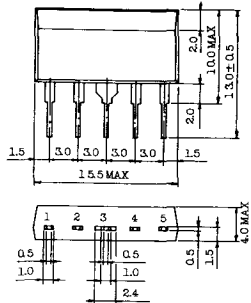
- 1 カソード
- 2 アノード
- 3 アノード

**T-56** (13-13C1A)



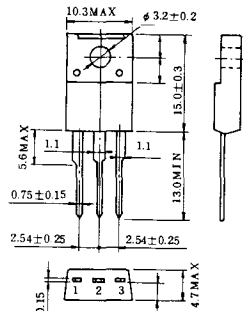
- 1 カソード
- 2 アノード
- 3 ゲート

T-57 (12-16C1A)



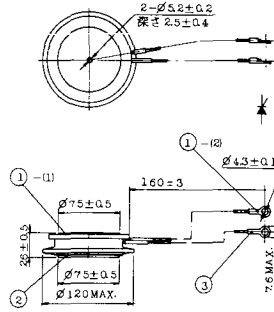
1. アノード (主)
2. ゲート (主)
3. カソード (共通)
4. ゲート (補助)
5. アノード (補助)

T-58 (13-10H1B)



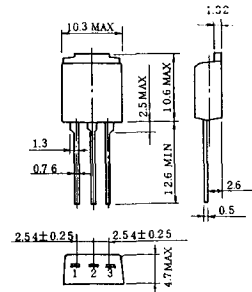
1. カソード
2. アノード
3. ゲート

T-59 (13-120A1A)



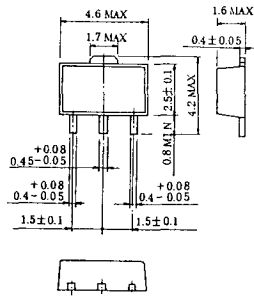
- 1-(1) カソード
- 1-(2) カソード (黒)
- 2 アノード
- 3 ゲート (白)

T-60



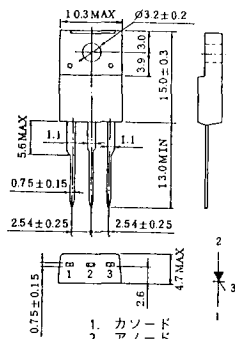
1. カソード
2. アノード
3. ゲート

T-61 (13-5B1A)



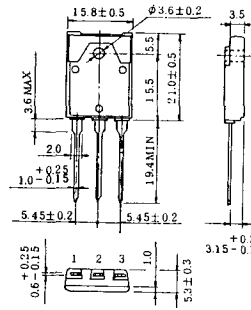
1. ゲート
2. アノード
3. カソード

T-62 (13-10H1A)



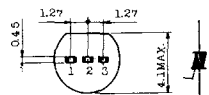
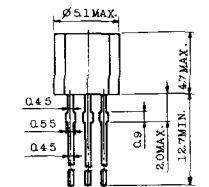
1. カソード
2. アノード
3. ゲート

T-63 (13-16A1B)



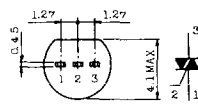
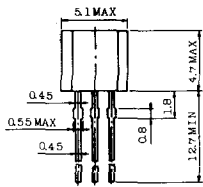
1. カソード
2. アノード
3. ゲート

TT-1



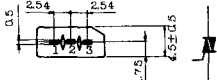
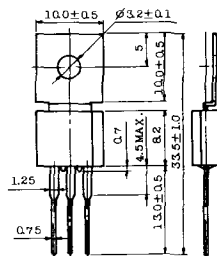
- 1 ゲート
- 2 T<sub>2</sub>
- 3 T<sub>1</sub>

TT-2



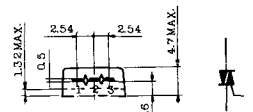
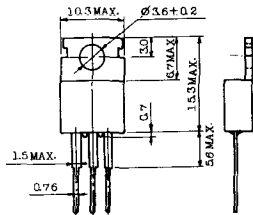
- 1 T<sub>1</sub>
- 2 ゲート
- 3 T<sub>2</sub>

TT-3



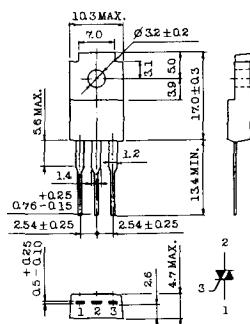
- 1 T<sub>1</sub>
- 2 T<sub>2</sub>
- 3 ゲート

TT-4



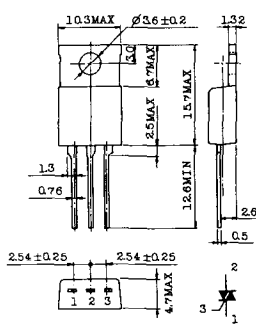
- 1 T<sub>1</sub>
- 2 T<sub>2</sub>
- 3 ゲート

TT-5



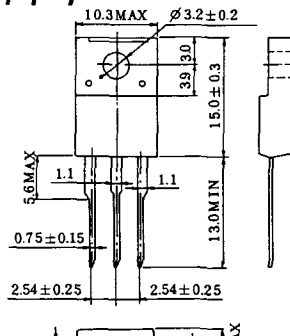
- 1 T<sub>1</sub>
- 2 T<sub>2</sub>
- 3 ゲート

TT-6



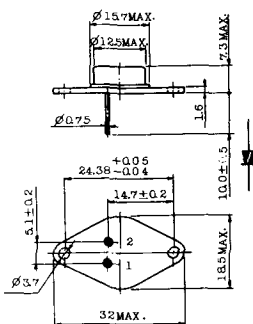
- 1 T<sub>1</sub>
- 2 T<sub>2</sub> (放熱板)
- 3 ゲート

TT-7



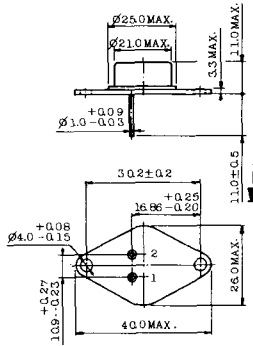
- 1 T<sub>1</sub>
- 2 T<sub>2</sub>
- 3 ゲート

TT-8



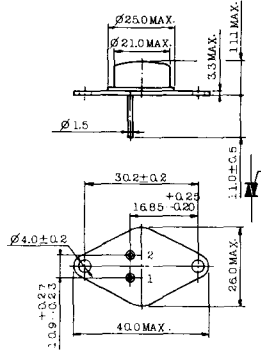
- 1 ゲート
- 2 T<sub>1</sub>
- T<sub>2</sub> (ケース)

### TT-9



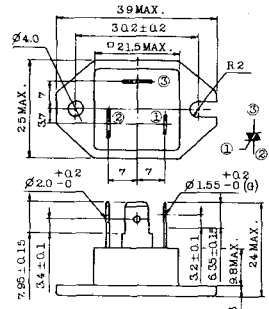
- 1. ゲート
- 2. T<sub>1</sub>
- 3. T<sub>2</sub> (ケース)

### TT-10



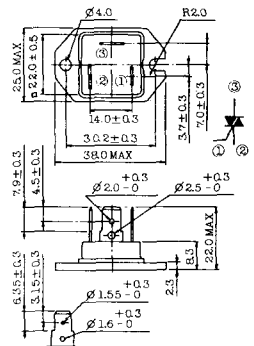
- 1. ゲート
- 2. T<sub>1</sub>
- 3. T<sub>2</sub> (ケース)

### TT-11



- 1. ゲート (フーストン端子 #187)
- 2. T<sub>1</sub> ( " #250)
- 3. T<sub>2</sub> ( " #250)

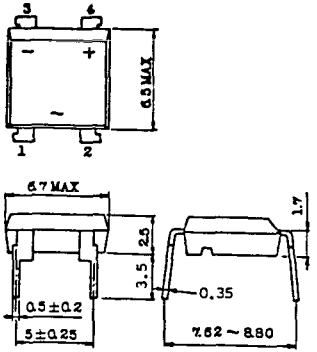
### TT-12



ゲート端子詳細

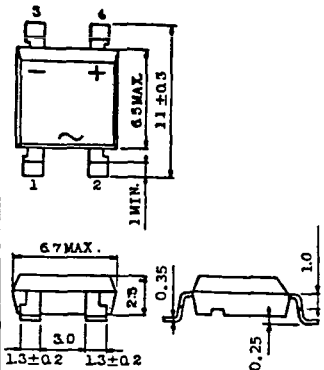
- ① ゲート (フーストン端子 #187)
- ② T<sub>1</sub> ( " #250)
- ③ T<sub>2</sub> ( " #250)

### TT-13



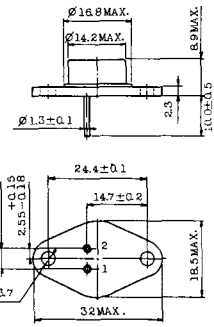
- 1, 2: T<sub>2</sub>
- 3: GATE
- 4: T<sub>1</sub>

### TT-14



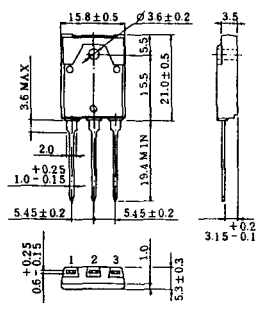
- 1, 2: T<sub>2</sub>
- 3: GATE
- 4: T<sub>1</sub>

### TT-15 (13-14A1B)



- 1. ゲート
- 2. T<sub>1</sub>
- T<sub>2</sub> (ケース)

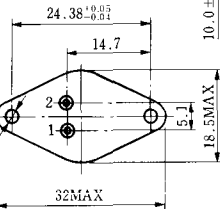
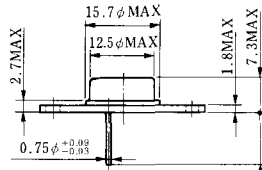
### TT-16 (13-16A1A)



- 1. T<sub>1</sub>
- 2. T<sub>2</sub>
- 3. ゲート

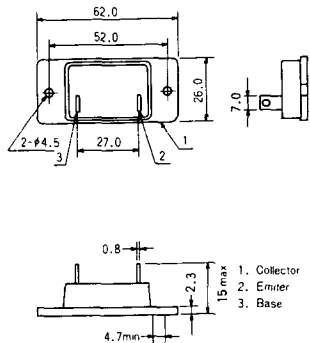


# TS-8

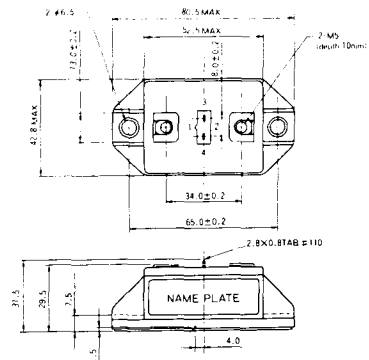


- 1. ベース
- 2. エミッタ  
コレクタ  
(ケース)

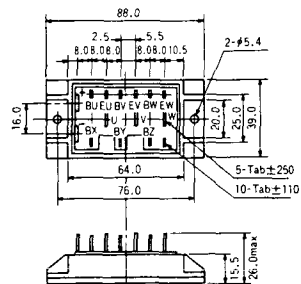
S-62A1A



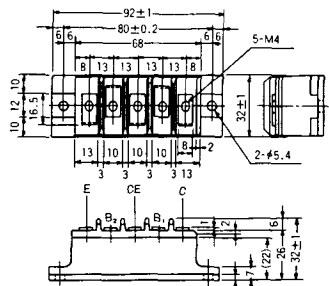
S-80A1A



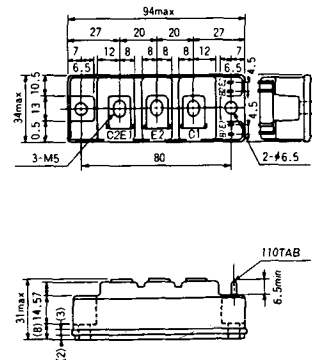
S-88D1A



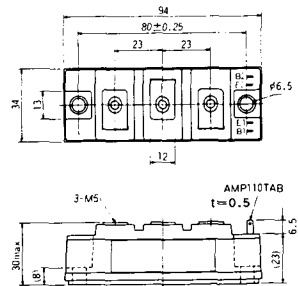
S-92B1A



S-94B1A



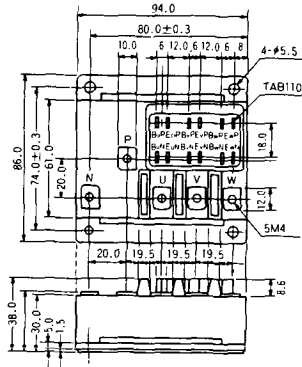
S-94B1B



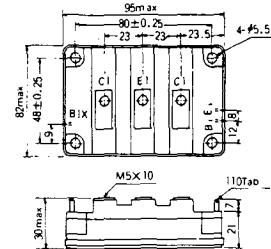
S-94B2A



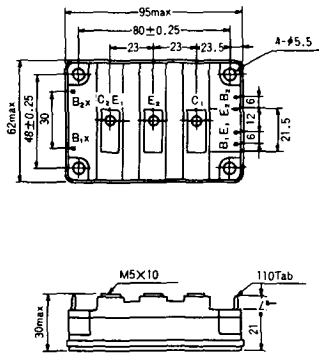
S-94D1A



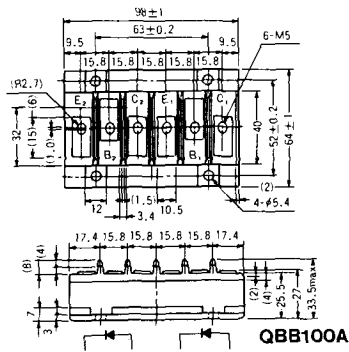
S-95A1A



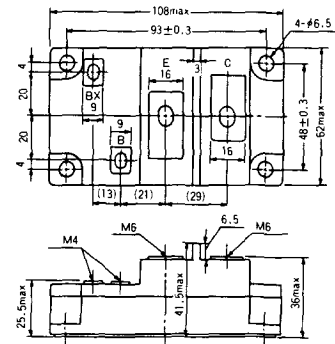
S-95B1A



S-98B1B

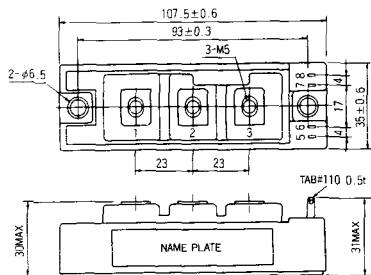


S-108A2A

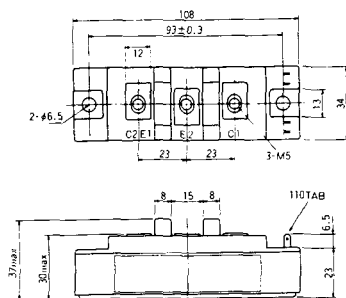




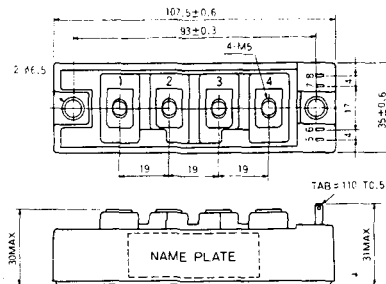
S-108B1A



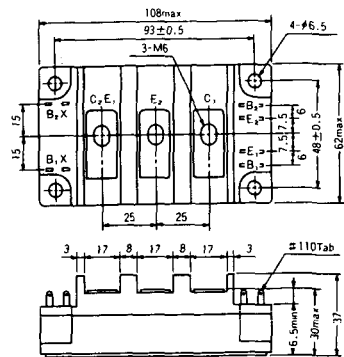
S-108B1B



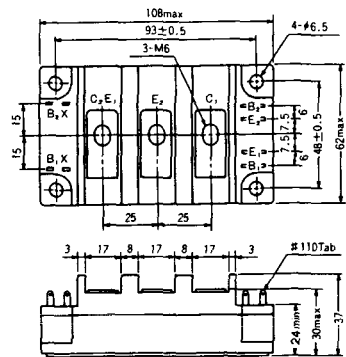
S-108B1C



S-108B2A



S-108B2B



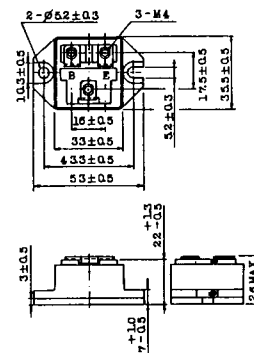
### 2-22B1A



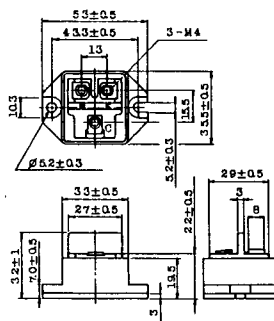
### 2-27A4A



### 2-33C1A



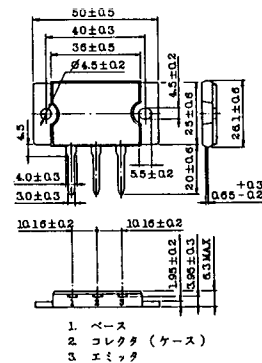
### 2-33D1A



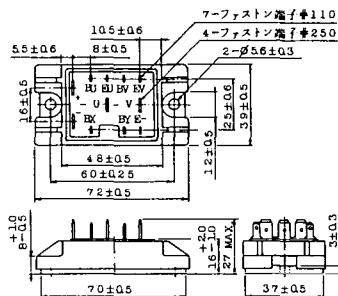
### 2-33F1A



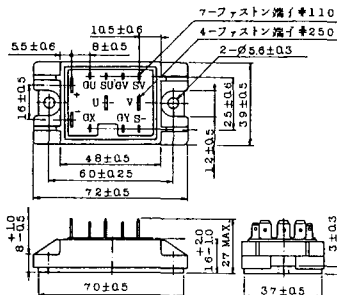
### 2-37A1A



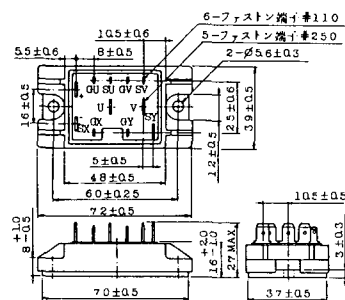
2-48A3A



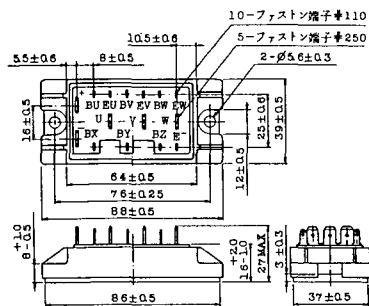
2-48A3B



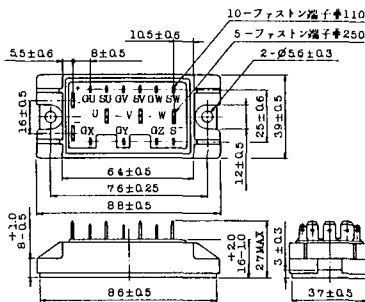
2-48A4A



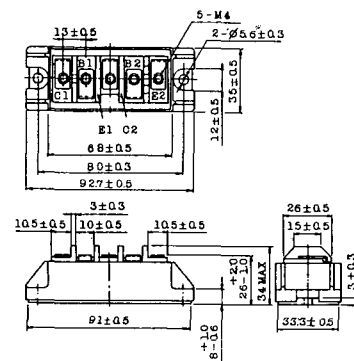
2-64A2A



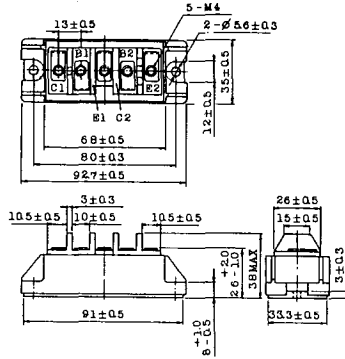
2-64A2B



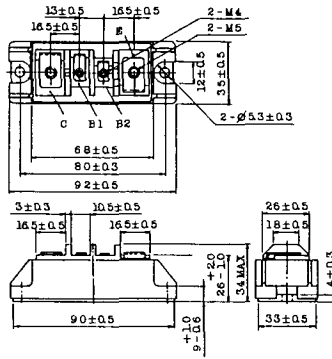
2-68A2A



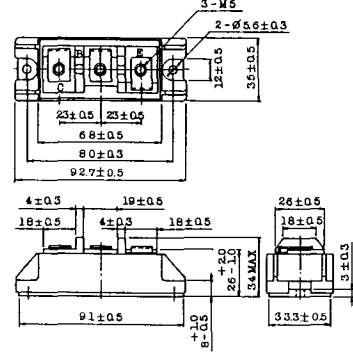
2-68B2A



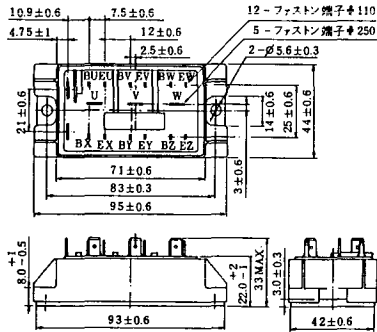
2-68C1A



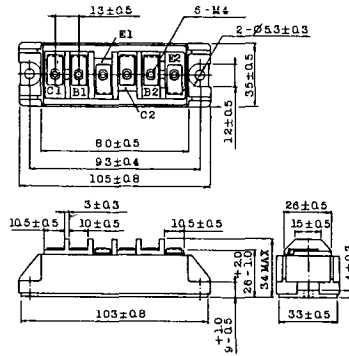
2-68D2A



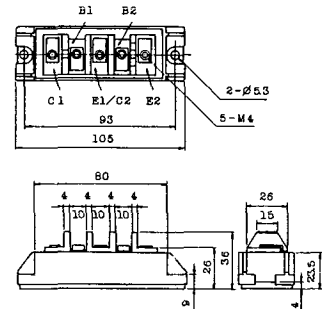
2-72A3A



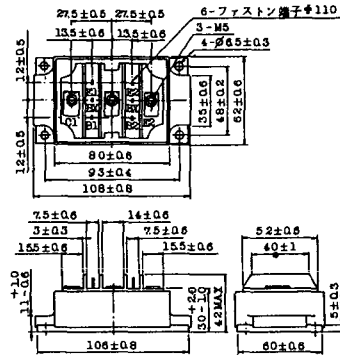
2-80A1A



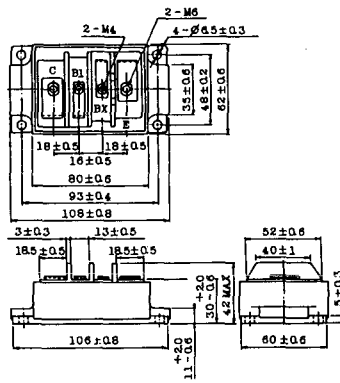
2-80B1A



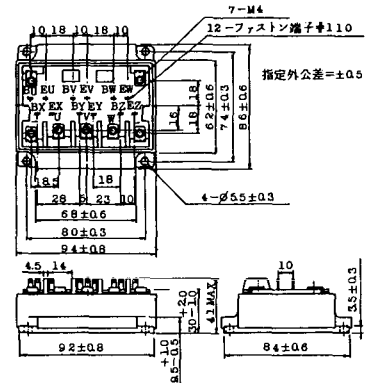
### 2-80C1A



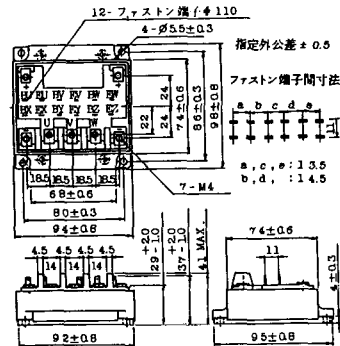
### 2-80D2A



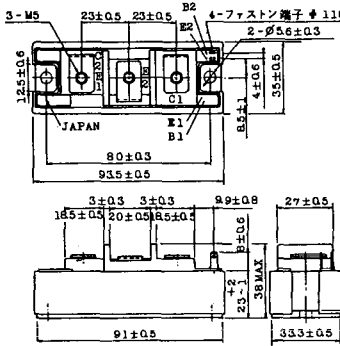
### 2-94A2A



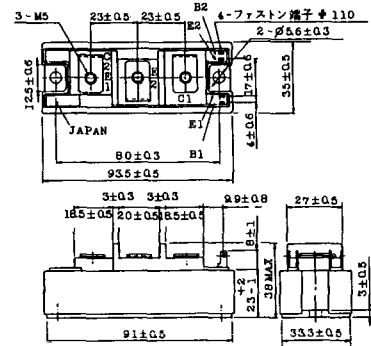
### 2-94B1A



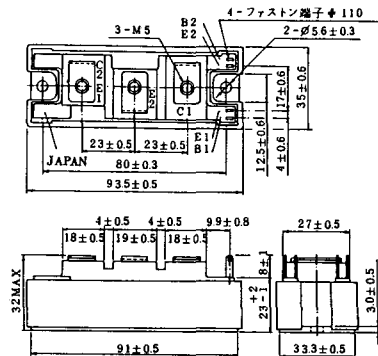
### 2-94C2A



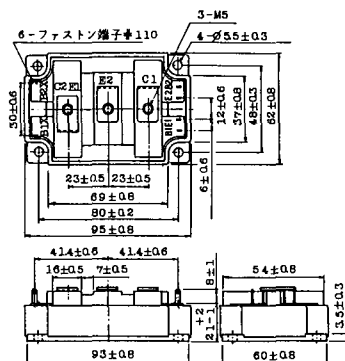
### 2-94C3A



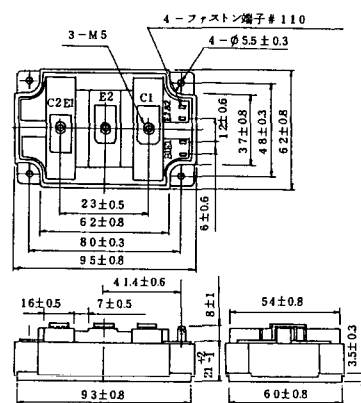
### 2-94D1A



### 2-96A3A



### 2-96A4A



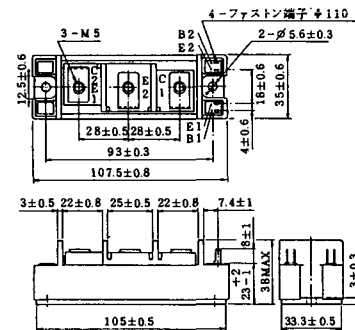
### 2-98B1A



### 2-98C2A



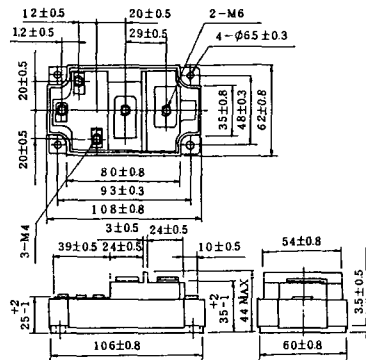
### 2-108A2A



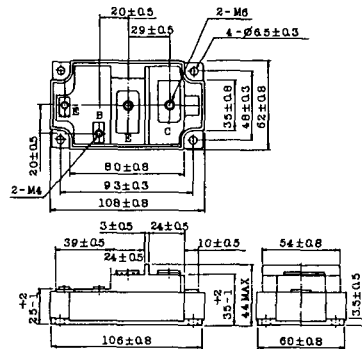
### 2-108B1A



### 2-109A3A



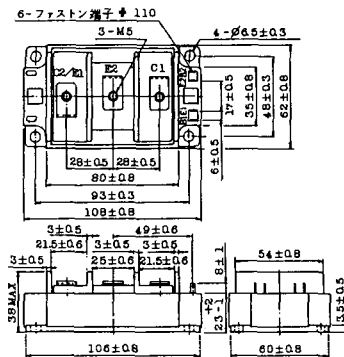
### 2-109A4A



### 2-109B3A

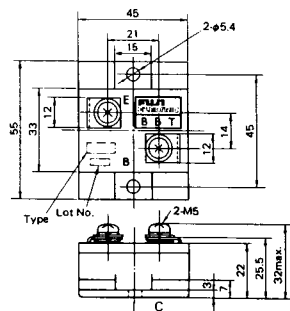


### 2-109B4A



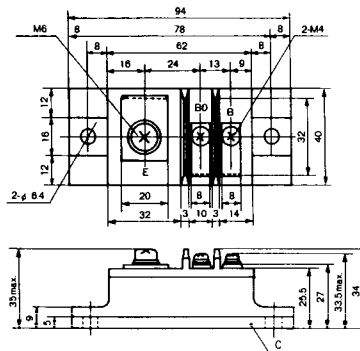
### BBT-II

BBTII  
1D200A-020



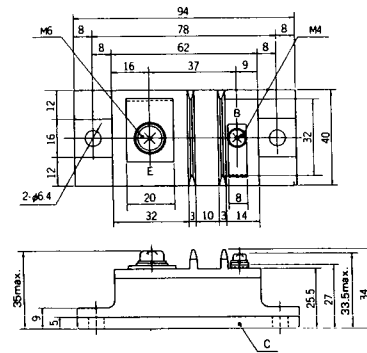
### BBT-III

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



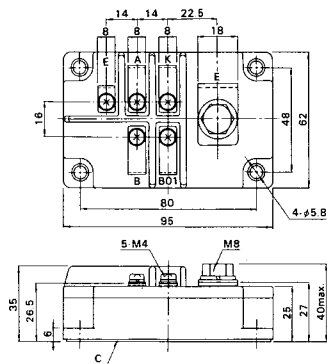
### BBT-III

BBTIII  
ETN01-055  
ET1257



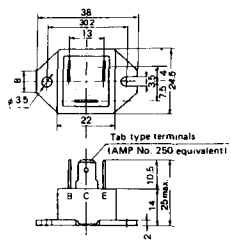
### BBT-IV

BBTIV  
1D500A-030

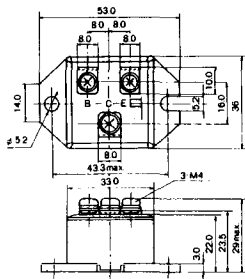




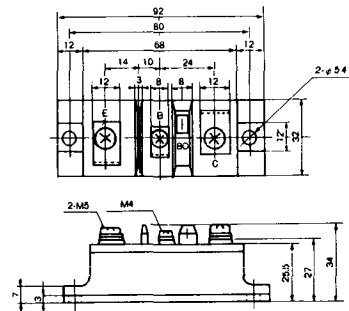
M-101



M-102



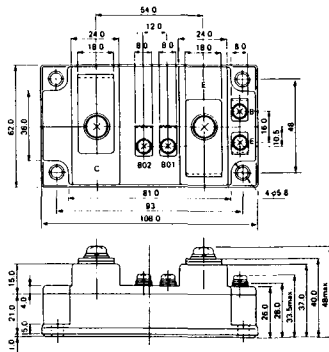
M-103



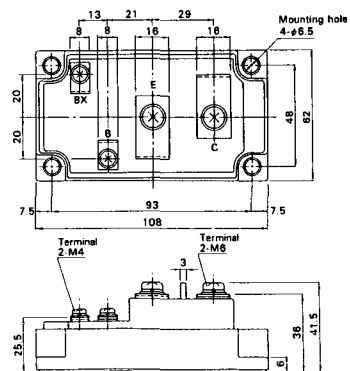
M-104



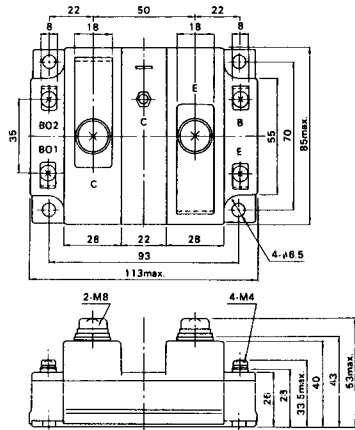
M-105



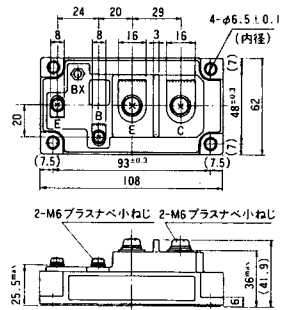
M-106



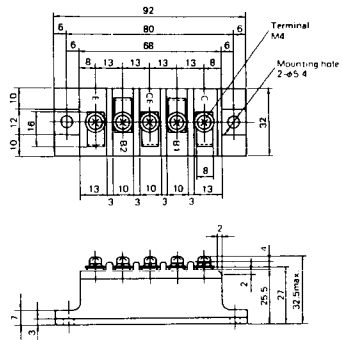
### M-107



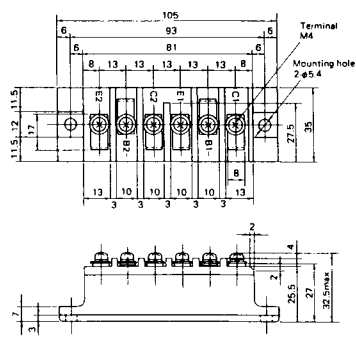
### M-116



### M-201



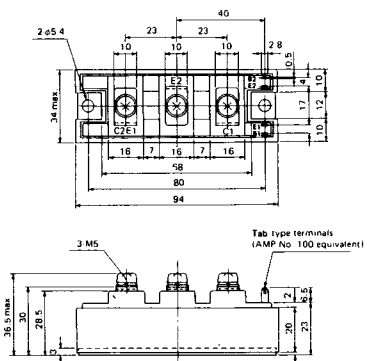
### M-202



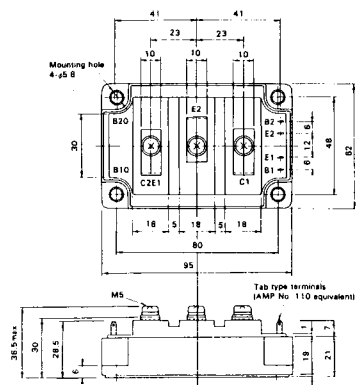
### M-203



### M-204



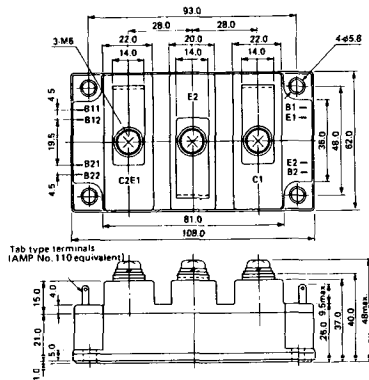
### M-205



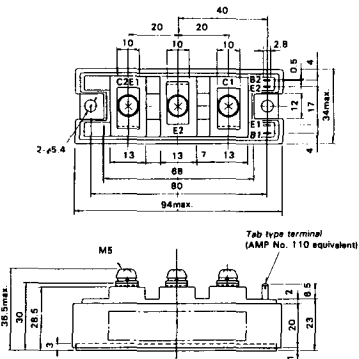
### M-206



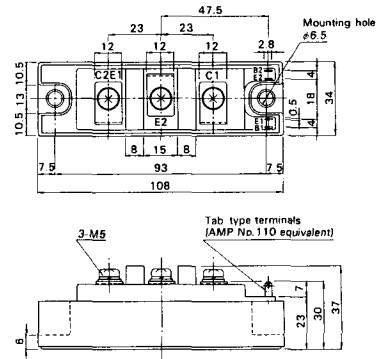
M-207



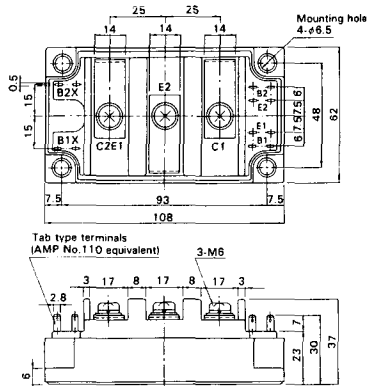
M-208



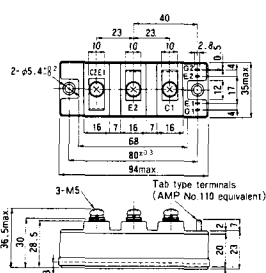
M-209



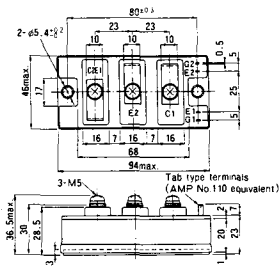
M-210



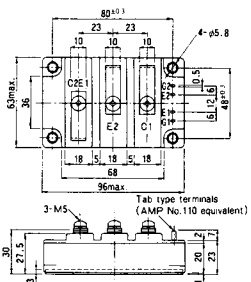
M-211



M-212

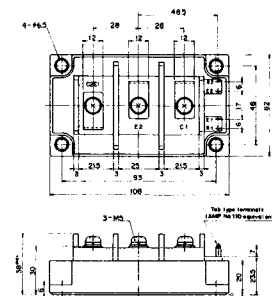


M-213

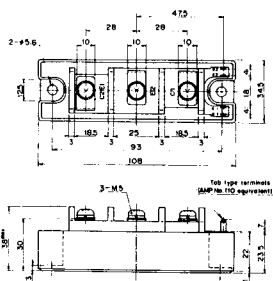


M-214

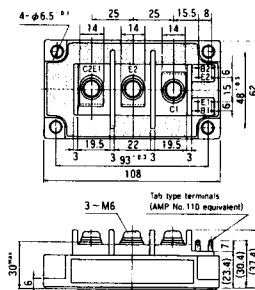
M-215



M-216



M-217



M-218



M-219

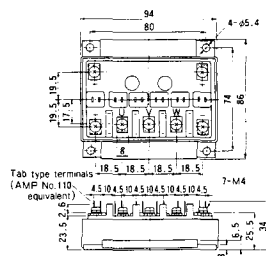




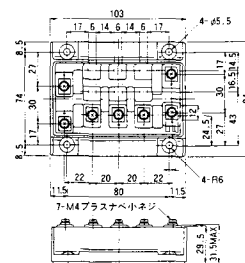
M-607



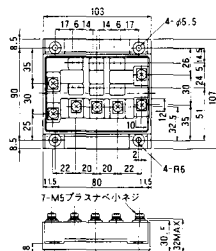
M-608



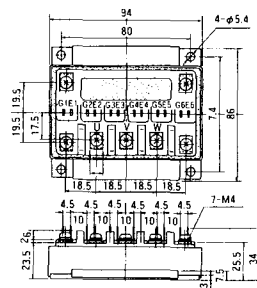
M-609



M-610

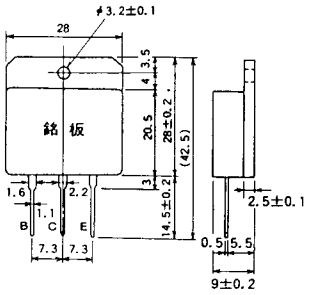


M-616

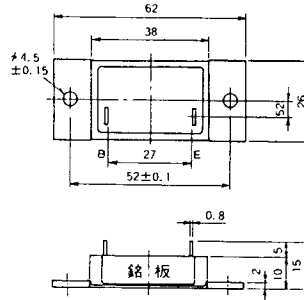




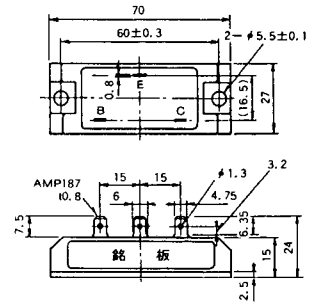
M-1A1A



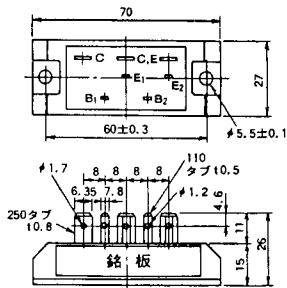
M-2A1A



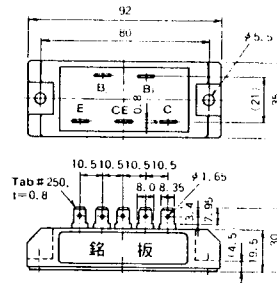
M-2B1A



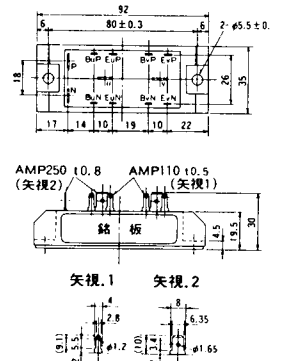
M-2B2A



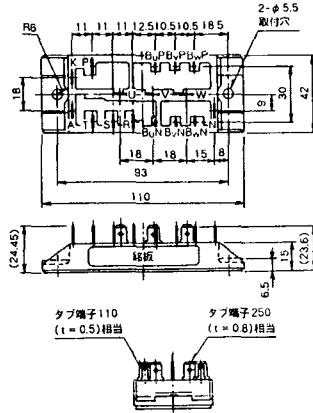
M-2C2A



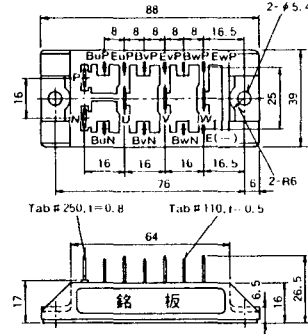
M-2D4A



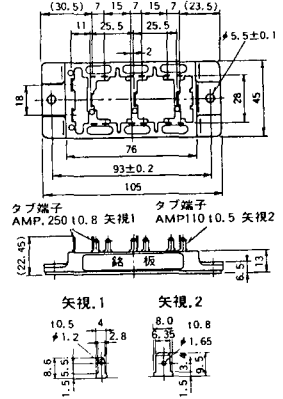
### M-2E6A



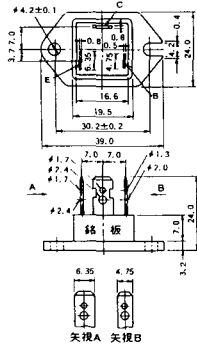
### M-2F6A



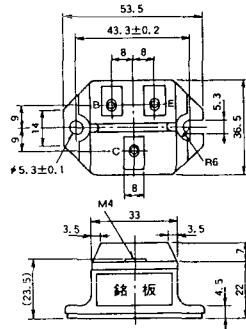
### M-2G6A



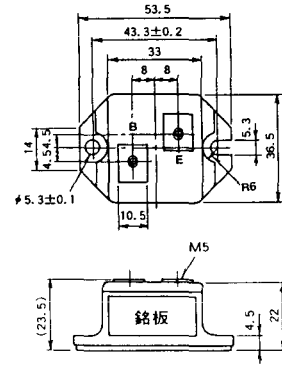
### M-3A1A



### M-3B1A



### M-3B1B



M-3C1A



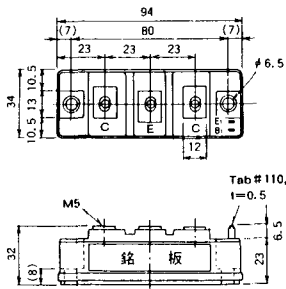
M-3D6A



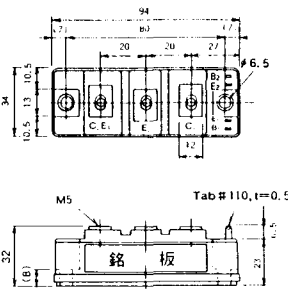
M-3E6A



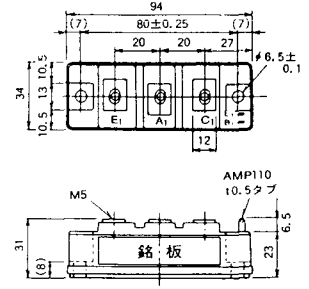
M-4A1A



M-4A2A



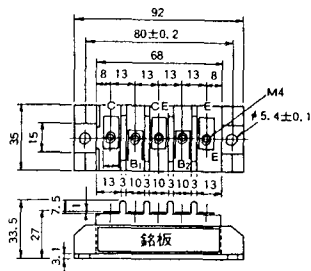
M-4A1B



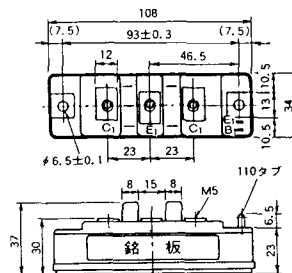
M-4A2B



M-4B2A



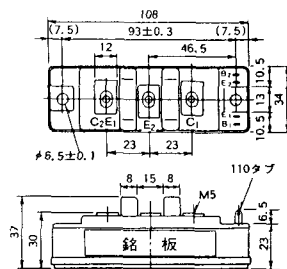
M-5A1A



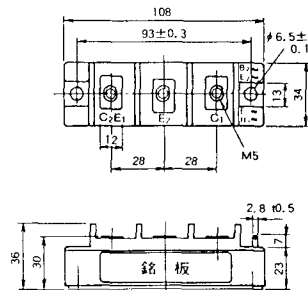
M-5A1B



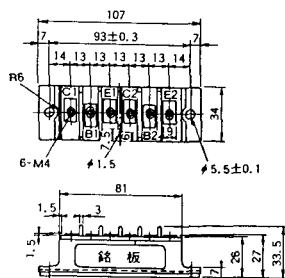
M-5A2A



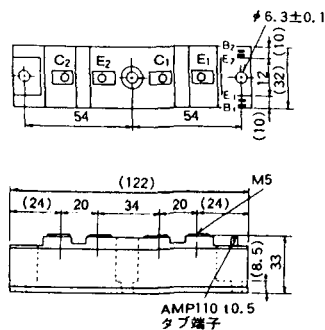
M-5B2A



M-5C2A



M-5D2A



M-6A1A



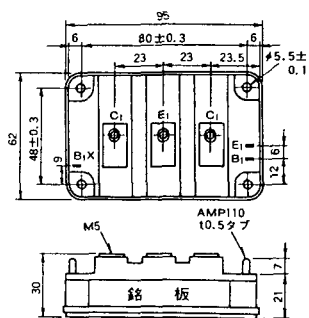
M-7A1A



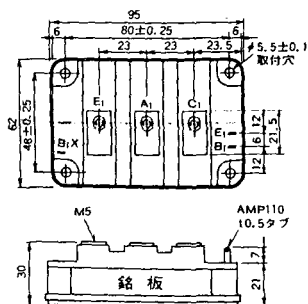
M-7B1A



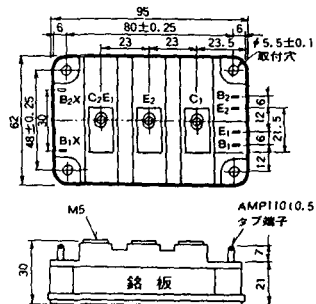
M-8A1A



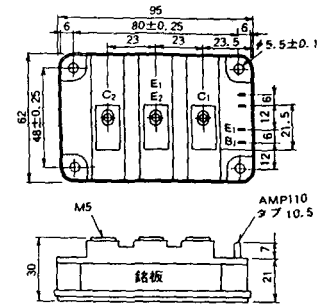
M-8A1B



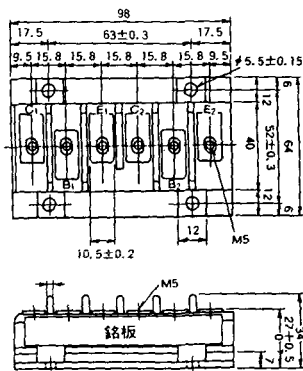
M-8A2A



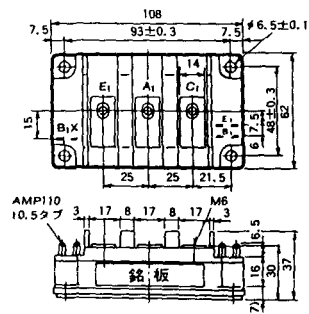
M-8A2B



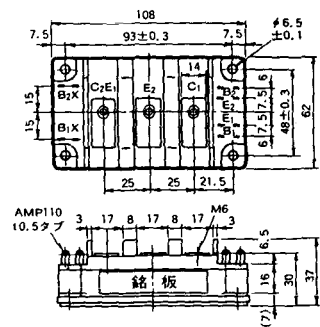
M-8B2A



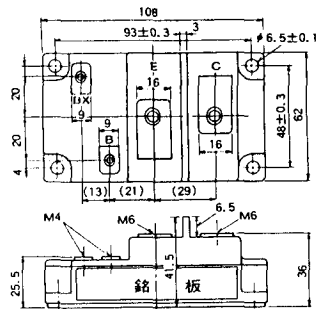
M-9A1A



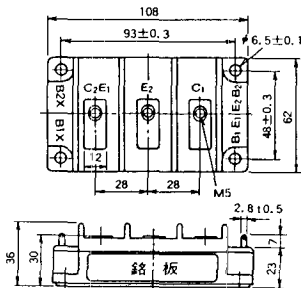
M-9A2A



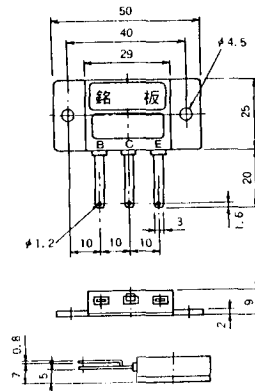
M-9B1A



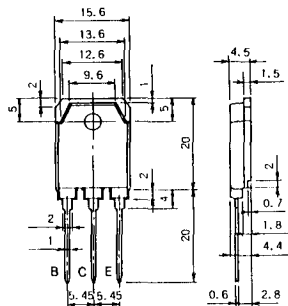
M-9C2A



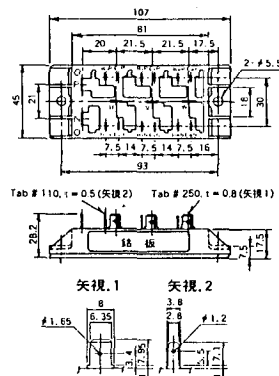
M-1A1B



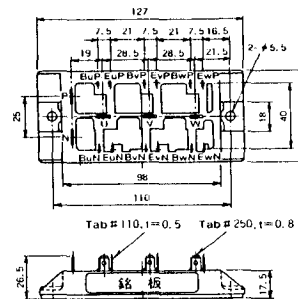
M-1A1C



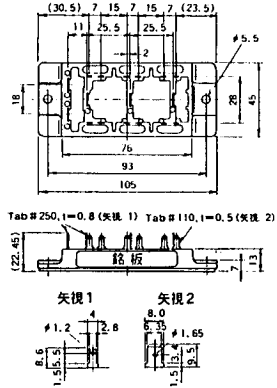
M-2E6B



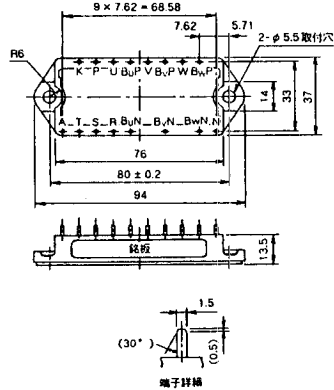
M-2E6C



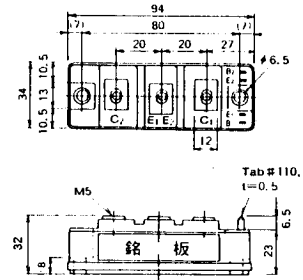
### M-2G6B



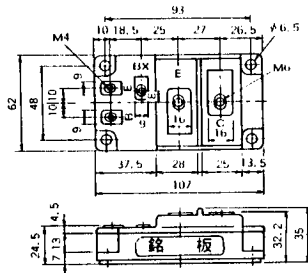
### M-3D6B



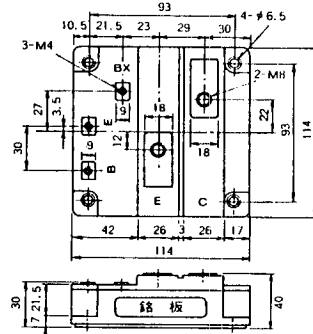
### M-4A2C



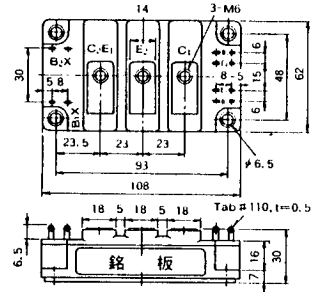
### M-7A1B



### M-7C1A



### M-8A2C

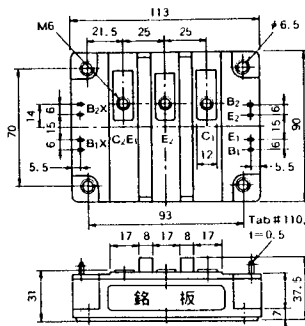




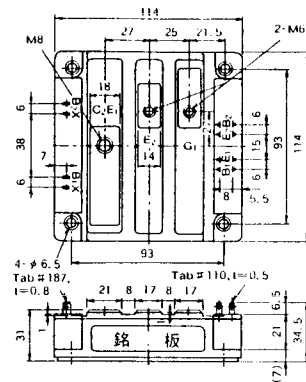
M-10A2A



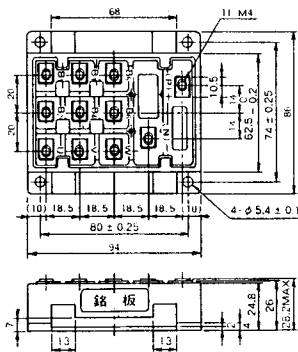
M-10A2B



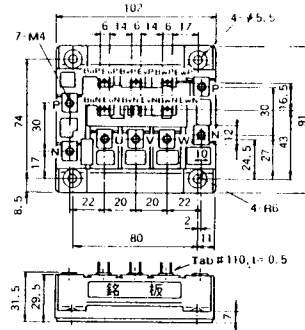
M-11A2A



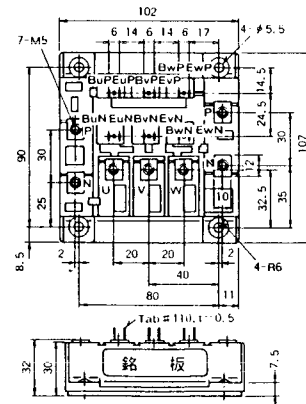
M-12A6A



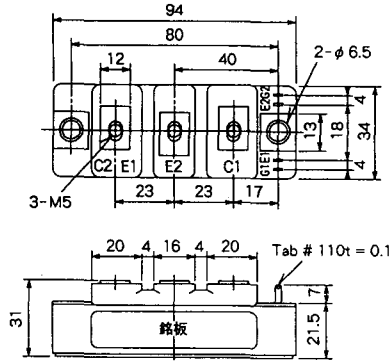
M-12B6A



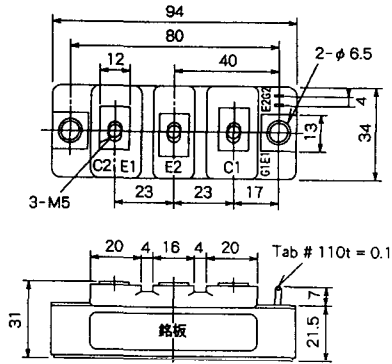
M-12B6B



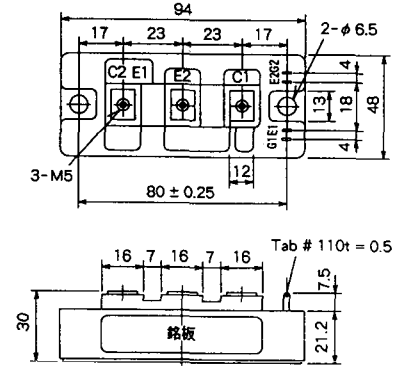
### M-4A2D



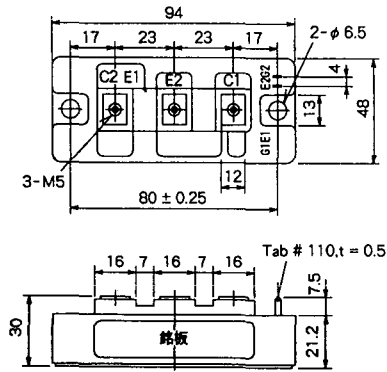
### M-4A2E



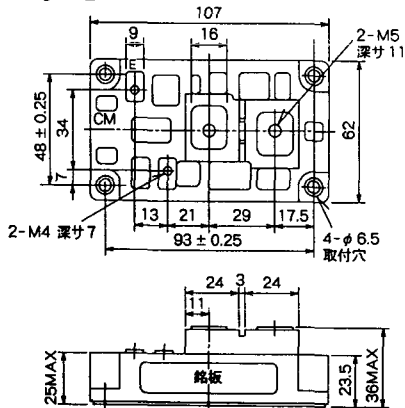
### M-4C2A



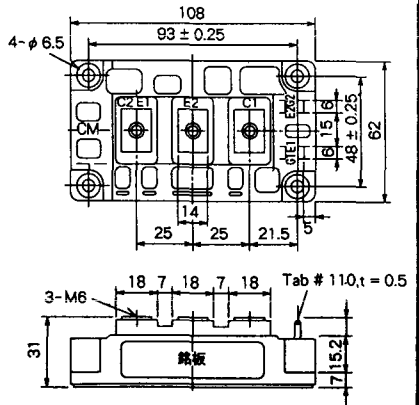
### M-4C2B



### M-9B1C



### M-9D2A



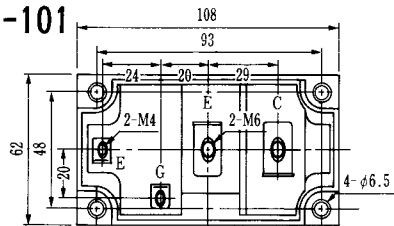
M-9D2B



M-10A2C

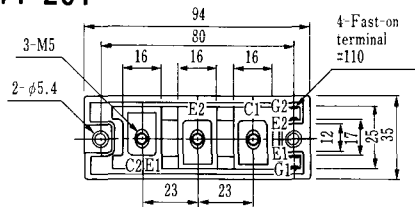


H-101



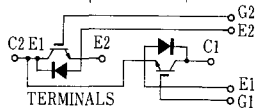
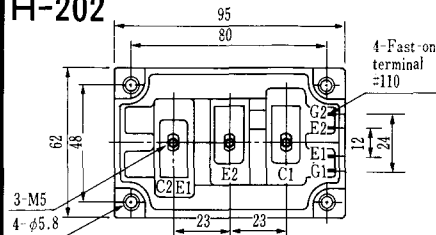
Weight :480g

### H-201



Weight: 200g

### H-202



Weight: 360g

### LF-J



### LF-K



