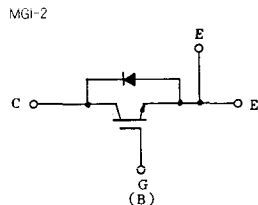
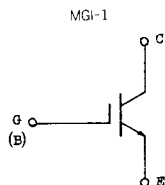


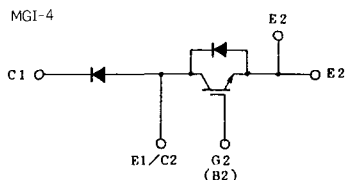
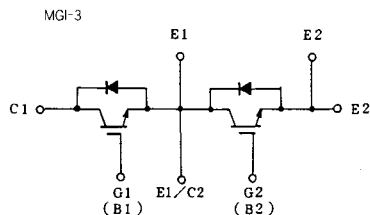
- ・ エンハンスメント・タイプ
- ・ 電極と金属ケース部が絶縁されている

■ 等価回路



注1. $T_c = 25^\circ\text{C}$. 注2. AC, 1分間。

型 名	最 大 定 格 (T _c = 25℃)										電 氣 的 特 性 (T _c = 25℃)													
	V _{CES}	V _{GES}	I _C	I _{CP}	I _F	I _{FM}	P _C	T _J	T _{J, max}	V _{DS}	I _{GES}	I _{CES}	V _{CES}	V _{GE (OFF)}		V _{CE (SAT)}		I _C	V _{GE}	I _C				
	(V)	(V)	(A)	(lms)	(A)	(lms)	(W)	(℃)	(℃)	(V)	(nA)	V _{CE}	(mA)	V _{CE}	(V)	I _C	(V)	V _{CE}	(V)	(mA)	(V)	(A)		
												最大	(V)	最大	(V)	最小	(mA)	最小	最大	(V)	最大	(V)	(A)	
MG15H1BS1	500	±20	15	30			80	150	-40~125	2500	±500	±20	1.0	500	500	2	3	6	5	15	5.0	15	15	
MG15N1BS1	1000	±20	15	30			125	150	-40~125	2500	±500	±20	1.0	1000	1000	2	3	6	5	15	5.0	15	15	
MG15N2YS1	1000	±20	15	30	15	30	125	150	-40~125	2500	±500	±20	1.0	1000	1000	2	3	6	5	15	5.0	15	15	
MG25H1BS1	500	±20	25	50			125	150	-40~125	2500	±500	±20	1.0	500	500	10	3	6	5	25	5.0	15	25	
MG25H2YS1	500	±20	25	50	25	50	125	150	-40~125	2500	±500	±20	1.0	500	500	10	3	6	5	25	5.0	15	25	
MG25N1BS1	1000	±20	25	50			150	150	-40~125	2500	±500	±20	1.0	1000	1000	2	3	6	5	25	5.0	15	25	
MG25N2YS1	1000	±20	25	50	25	50	200	150	-40~125	2500	±500	±20	1.0	1000	1000	2	3	6	5	25	5.0	15	25	
MG50H1BS1	500	±20	50	100			150	150	-40~125	2500	±500	±20	1.0	500	500	10	3	6	5	50	5.0	15	50	
MG50H1ZS1	500	±20	50	100	50	100	300	150	-40~125	2500	±500	±20	1.0	500	500	10	3	6	5	50	5.0	15	50	
MG50H2YS1	500	±20	50	100	50	100	300	150	-40~125	2500	±500	±20	1.0	500	500	10	3	6	5	50	5.0	15	50	
MG50N1BS1	1000	±20	50	100			300	150	-40~125	2500	±500	±20	1.0	1000	1000	2	3	6	5	50	5.0	15	50	
MG50N2YS1	1000	±20	50	100	50	100	300	150	-40~125	2500	±500	±20	1.0	1000	1000	2	3	6	5	50	5.0	15	50	
MG75H1BS1	500	±20	75	150			200	150	-40~125	2500	±500	±20	1.0	500	500	10	3	6	5	75	5.0	15	75	
MG75H2YS1	500	±20	75	150	75	150	350	150	-40~125	2500	±500	±20	1.0	500	500	10	3	6	5	75	5.0	15	75	
MG100H1BS1	500	±20	100	200			300	150	-40~125	2500	±500	±20	1.0	500	500	10	3	6	5	100	5.0	15	100	
MG100H2YS1	500	±20	100	200	100	200	400	150	-40~125	2500	±500	±20	1.0	500	500	10	3	6	5	100	5.0	15	100	
MG100N2YS1	1000	±20	100	200	100	200	600	150	-40~125	2500	±500	±20	2.0	1000	1000	2	3	6	5	100	5.0	15	100	
MG150H2YS1	500	±20	150	300	150	300	700	150	-40~125	2500	±500	±20	2.0	500	500	10	3	6	5	150	5.0	15	150	
MG200H2YS1	500	±20	200	400	200	400	800	150	-40~125	2500	±500	±20	2.0	500	500	10	3	6	5	200	5.0	15	200	
MG200N1US1	1000	±20	200	400	200	400	1200	150	-40~125	2500	±500	±20	4.0	1000	1000	4	3	6	5	200	5.0	15	200	



注3. スイッチング時間の*印はtyp. 値。

注4. FD: フリーホイール・ダイオード。

C _{1..} (f = 1 MHz)										スイッチング時間 (μs)										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
V _{CE}		V _{BE}		t _r		t _{on}		t _f		t _{off}		R _g		R _L		V _{CE}		V _F		I _F		t _{rr}		I _R		V _{OR}		di/dt		R _{th(j-c)} (°C/W)					
標準	(V)	V _{CE}	(V)	最大	最大	最大	最大	最大	最大	(Ω)	(Ω)	(V)	最大	(A)	最大	(A)	(V)	最大	(A)	(V)	最大	(A)	最大	(A)	(V)	最大	(A/μs)	最大	最大	最大	最大				
1400	10	0	1.0	1.0	1.0	1.5	150	20	300																				1.56	1.0	MG1-1	2-22B1A		MG15H1BS1	
2000	10	0	1.0	1.0	1.0	2.0	100	40	600																				1.0	1.0	MG1-1	2-33D1A		MG15N1BS1	
2000	10	0	1.0	1.0	1.0	2.0	100	40	600	2.5	15	0.5	15	-10	100														1.0	1.8	MG1-3	2-94C3A	F D 付, 2 個内蔵	MG15N2YS1	
1500	10	0	1.0	1.0	1.0	1.5	100	12	300																				1.0	1.0	MG1-1	2-33C1A		MG25H1BS1	
1500	10	0	1.0	1.0	1.0	1.5	100	12	300	2.5	25	0.5	25	-10	50														1.0	1.25	MG1-3	2-94C3A	F D 付, 2 個内蔵	MG25H2YS1	
3000	10	0	1.0	1.0	1.0	2.0	51	24	600																				0.83	1.0	MG1-1	2-33D1A		MG25N1BS1	
3000	10	0	1.0	1.0	1.0	2.0	51	24	600	2.5	25	0.5	25	-10	100														0.625	1.0	MG1-3	2-94C3A	F D 付, 2 個内蔵	MG25N2YS1	
3000	10	0	1.0	1.0	1.0	1.5	51	6	300																				0.83	1.0	MG1-1	2-33C1A		MG50H1BS1	
3000	10	0	1.0	1.0	1.0	1.5	51	6	300	2.5	50	0.5	50	-10	100														0.41	0.83	MG1-4	2-94C2A	F D 付	MG50H1ZS1	
3000	10	0	1.0	1.0	1.0	1.5	51	6	300	2.5	50	0.5	50	-10	100														0.41	0.83	MG1-3	2-94C3A	F D 付, 2 個内蔵	MG50H2YS1	
7200	10	0	1.0	1.0	1.0	1.5	24	12	600																				0.41	1.0	MG1-1	2-33D1A		MG50N1BS1	
7200	10	0	1.0	1.0	1.0	1.5	24	12	600	2.5	50	0.5	50	-10	100														0.41	1.0	MG1-3	2-94C3A	F D 付, 2 個内蔵	MG50N2YS1	
5600	10	0	1.5	1.5	1.0	1.5	33	4	300																				0.625	1.0	MG1-1	2-33C1A		MG75H1BS1	
5600	10	0	1.5	1.5	1.0	1.5	33	4	300	2.5	75	0.5	75	-10	100														0.35	0.83	MG1-3	2-94C3A	F D 付, 2 個内蔵	MG75H2YS1	
7200	10	0	1.5	1.5	1.0	1.5	24	3	300																				0.41	1.0	MG1-1	2-33C1A		MG100H1BS1	
7200	10	0	1.5	1.5	1.0	1.5	24	3	300	2.5	100	0.5	100	-10	100														0.31	0.83	MG1-3	2-94C3A	F D 付, 2 個内蔵	MG100H2YS1	
15000	10	0	1.0	1.0	1.0	2.0	12	6	600	3.0	100	0.5	100	-10	200														0.208	0.5	MG1-3	2-109B4A	F D 付, 2 個内蔵	MG100N2YS1	
11000	10	0	1.5	1.5	1.0	1.5	16	2	300	2.5	150	0.5	150	-10	200														0.178	0.415	MG1-3	2-96A4A	F D 付, 2 個内蔵	MG150H2YS1	
15000	10	0	1.5	1.5	1.0	1.5	12	1.5	300	2.5	200	0.5	200	-10	200														0.156	0.415	MG1-3	2-96A4A	F D 付, 2 個内蔵	MG200H2YS1	
30000	10	0	1.5	2.0	1.0	2.0	6.2	3	600	3.0	200	0.5	200	-10	300														0.104	0.25	MG1-2	2-109A4A	F D 付	MG200N1US1	

FD-1



FD-2



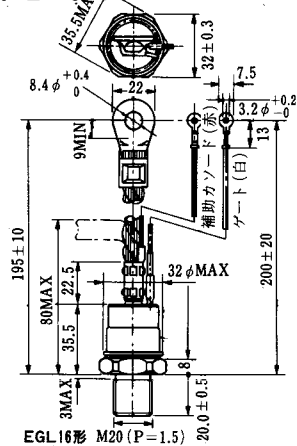
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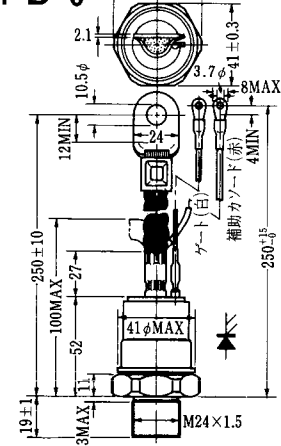
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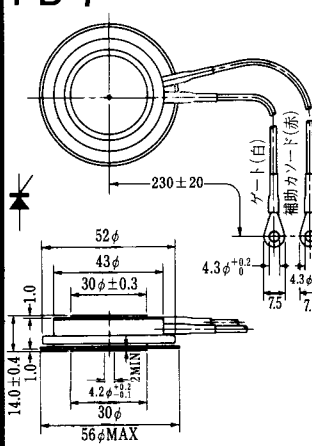
FD-5



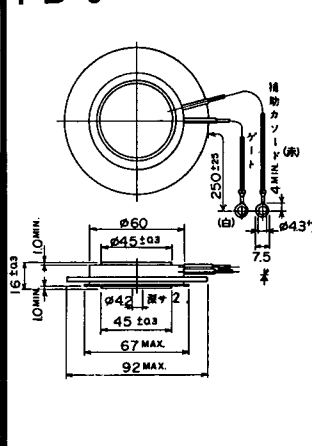
FD-6



FD-7



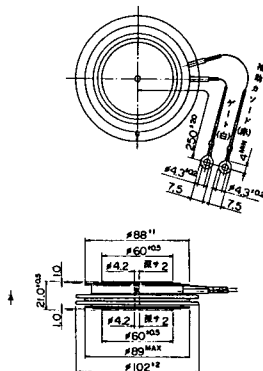
FD-8



FD-9



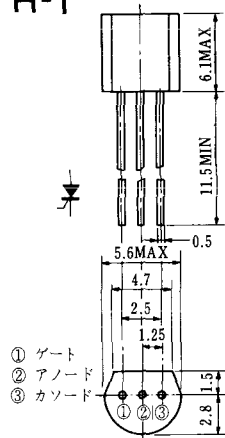
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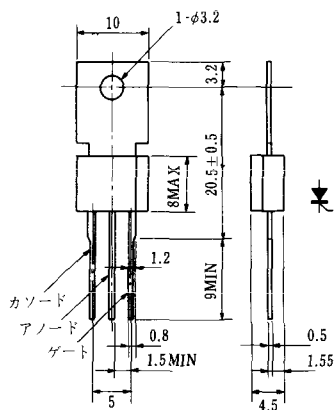
FD-11

FD-12

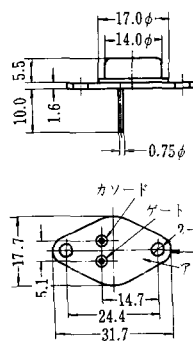
H-1



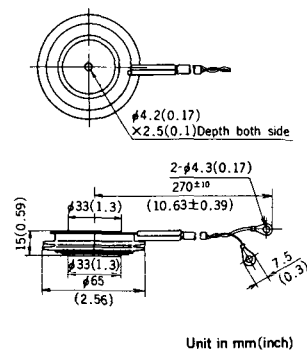
H-2



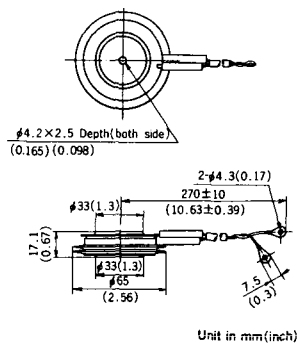
H-3



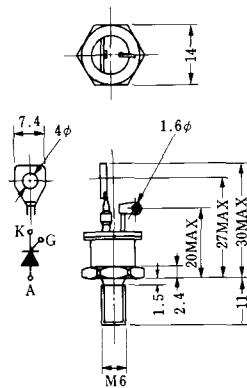
H-4



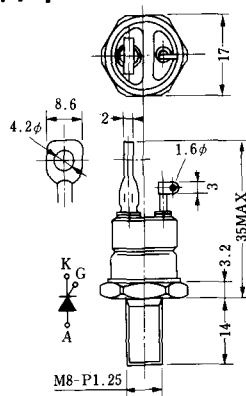
H-5



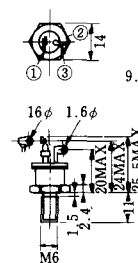
H-6



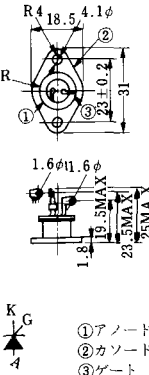
H-7



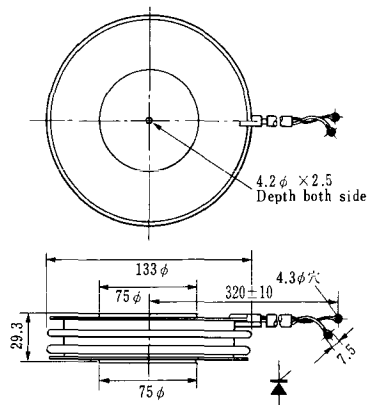
H-8A



H-8B



H-17



H-18



H-19



H-20



H-21



H-22



H-23



H-24



H-25



H-26



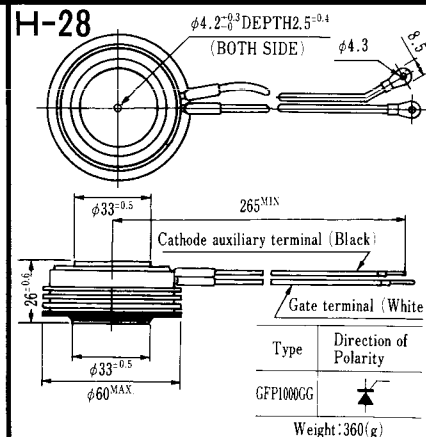
Type	Direction of polarity
CA12	

H-27



Type	Direction of polarity
CF11V	

H-28



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

H-29



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

H-30



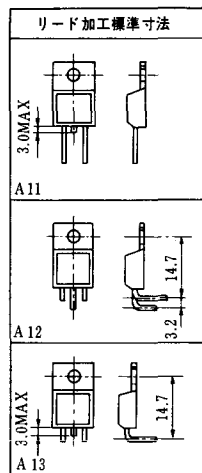
Note : The thickness is a dimension in press at the rated mounting force. Weight: 1,460(g)

HT-1

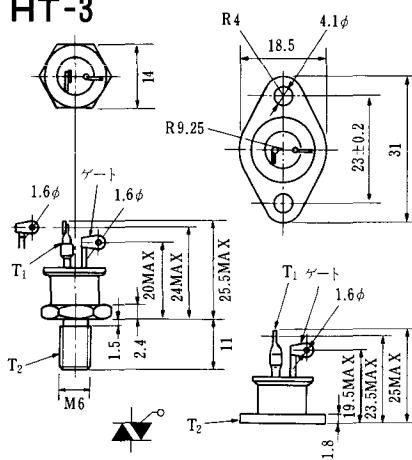


Unit in mm (inch)

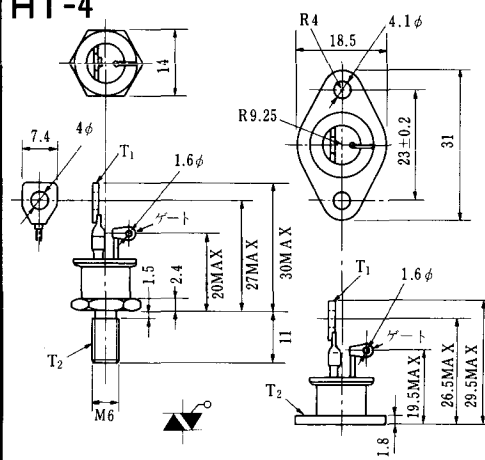
HT-2



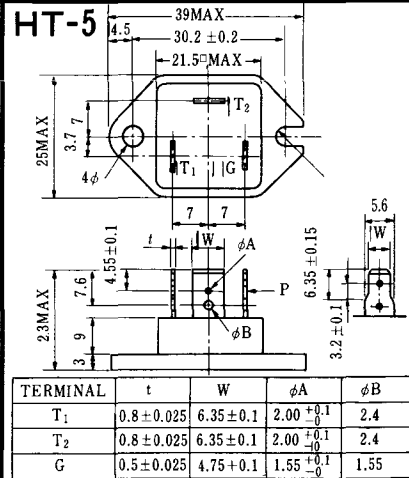
HT-3



HT-4



HT-5



《寸法図単位：mm》

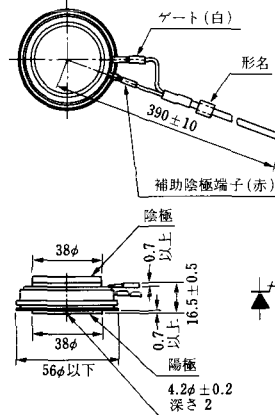
M-1



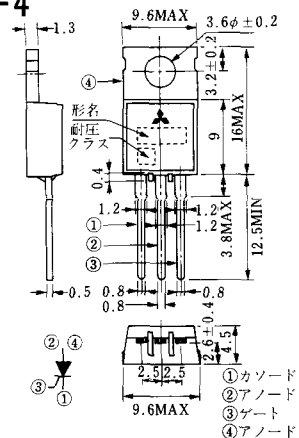
M-2



M-3



M-4



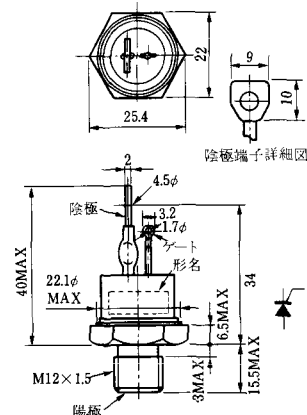
M-5



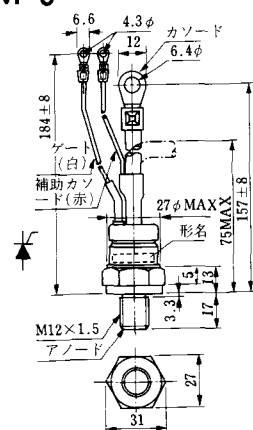
M-6



M-7



M-8



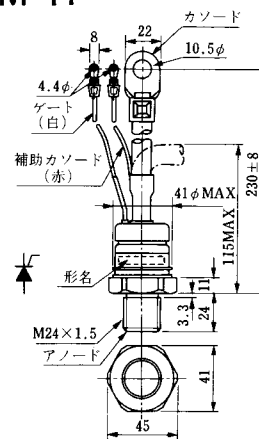
M-9



M-10



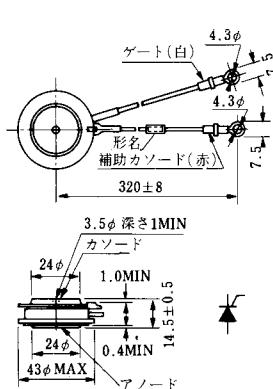
M-11



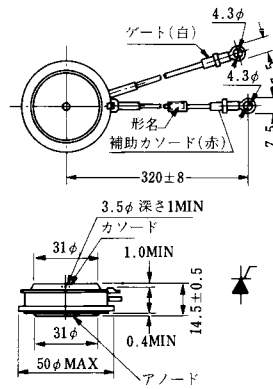
M-12



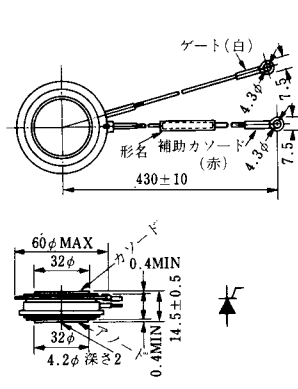
M-13



M-14



M-15



M-16



M-17



M-18



M-19



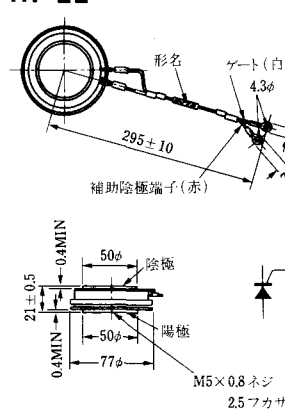
M-20



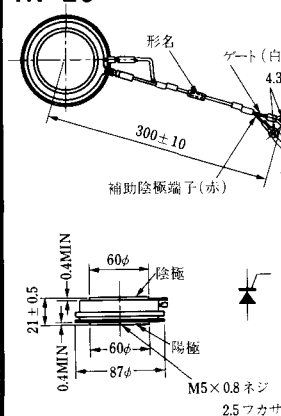
M-21



M-22



M-23



M-24



M-25



M-26



M-27



M-28



M-29



M-30



M-31



M-32



M-33



M-34



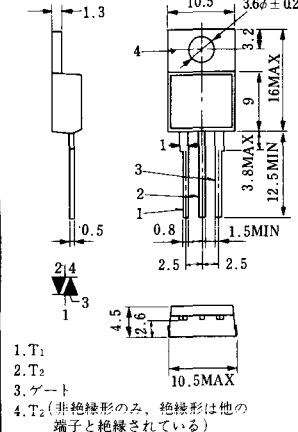
MT-1



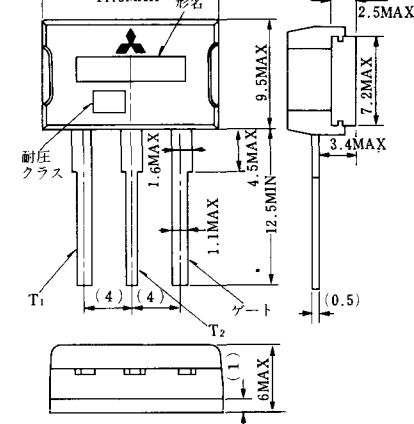
MT-2



MT-3



MT-4



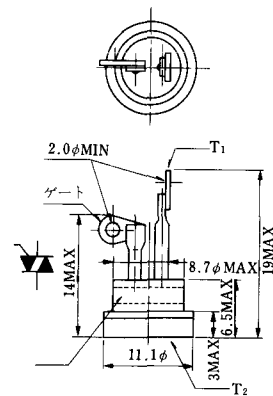
MT-5



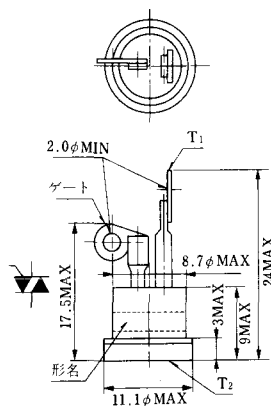
MT-6



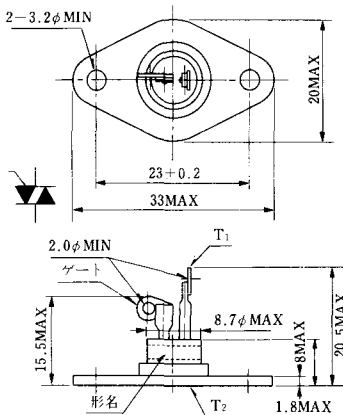
MT-7



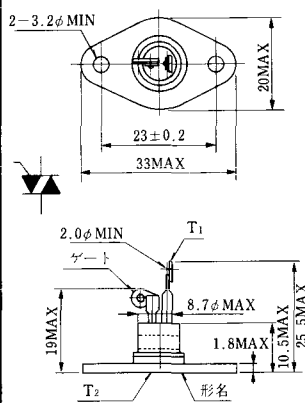
MT-8



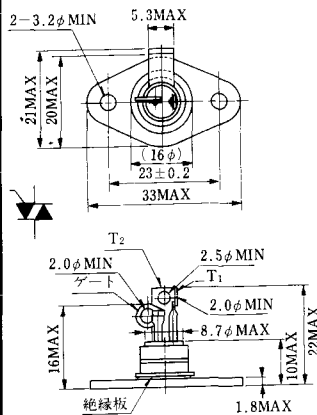
MT-9



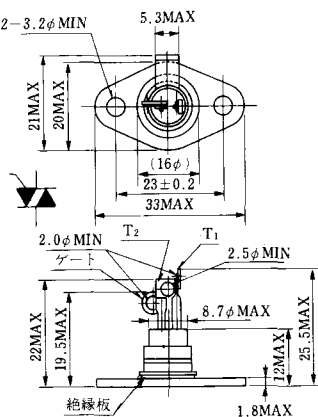
MT-10



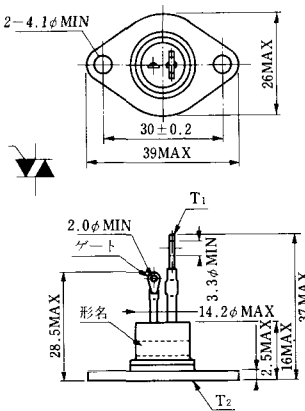
MT-11



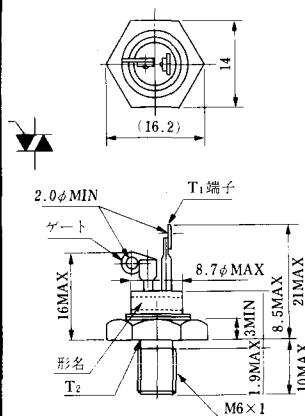
MT-12



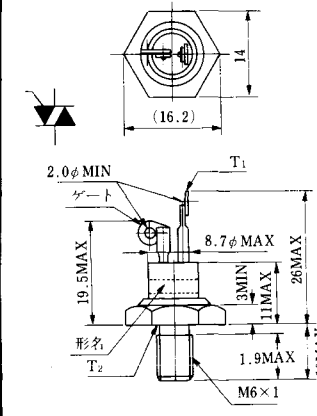
MT-13



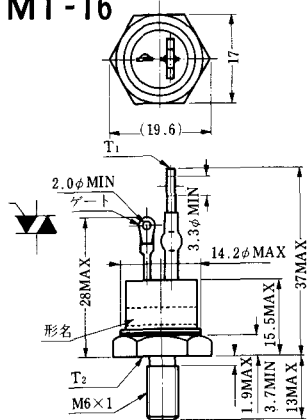
MT-14



MT-15



MT-16



MT-17



MT-18



MT-19



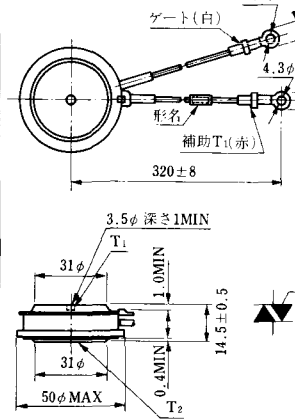
MT-20



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

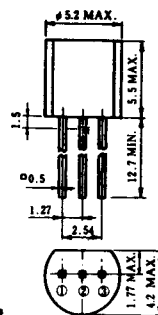
N-1



電極接続

- ① カソード
- ② ゲート
- ③ アノード

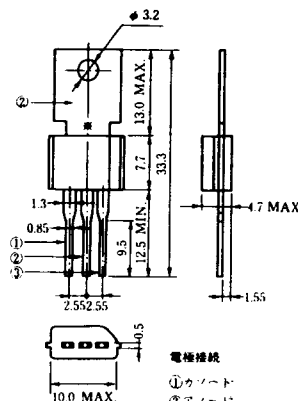
N-2



電極接続

- ① ヤート
- ② アノード
- ③ カソード

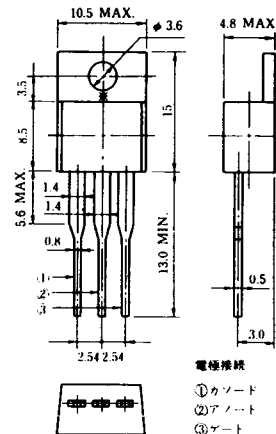
N-3



電極接続

- ① カソード
- ② アノード
- ③ ゲート

N-4



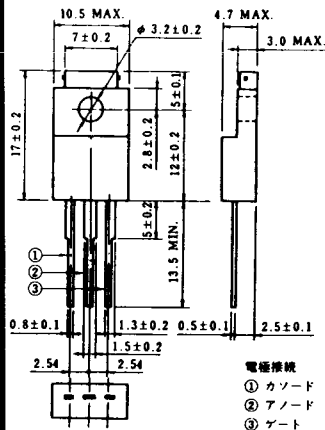
電極接続

- ① カソード
- ② アノード
- ③ ゲート

N-5



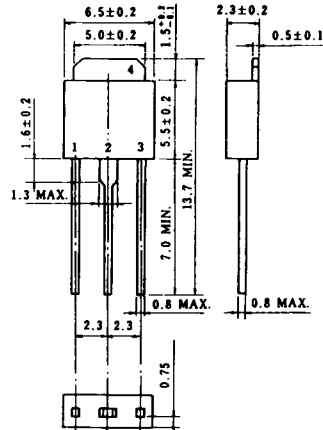
N-6



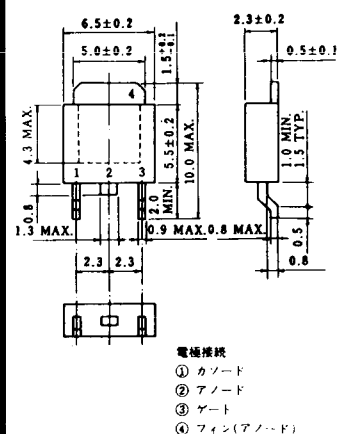
電極接続

- ① カソード
- ② アノード
- ③ ゲート

N-7



N-8



電極接続

- ① カソード
- ② アノード
- ③ ゲート
- ④ フィン(アノード)

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

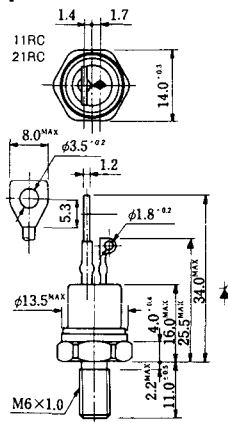


電極接続

1. カソード
2. アノード
3. ゲート

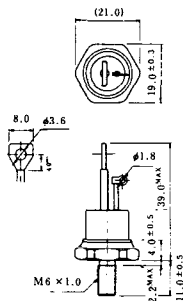
JEDEC: TO-202AA

NI-1



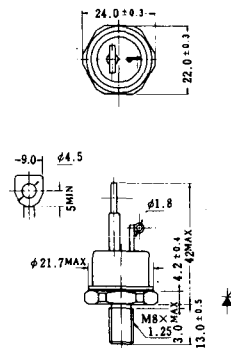
NI-2

29RD



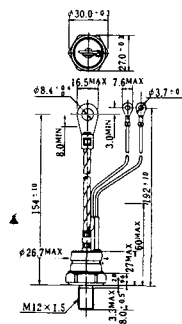
NI-3

39RC
59RC
39RF
59RF



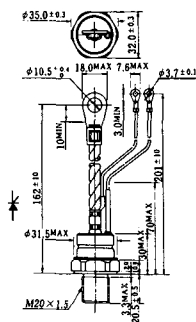
NI-4

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



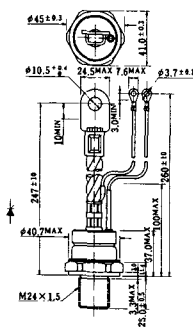
NI-5

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



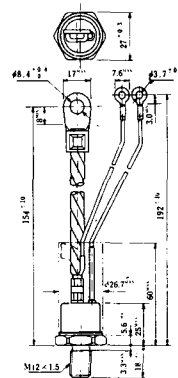
NI-6

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



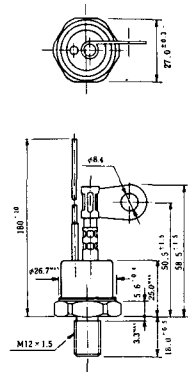
NI-7

89RW $\frac{1}{2}$ L
129RW $\frac{1}{2}$ L



NI-8

89RW
129RW



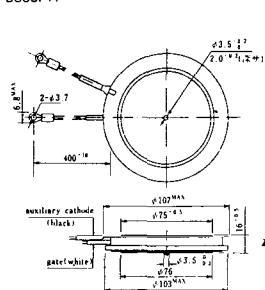
NI-16

503PLF
503PLH



NI-17

3003PA



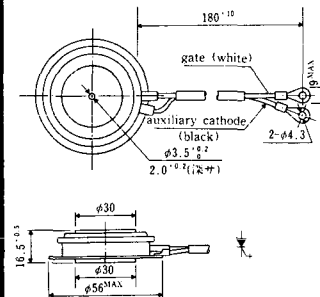
NI-18

353PGA「E



NI-19

603PGA, 603PGA「A, 803PGA



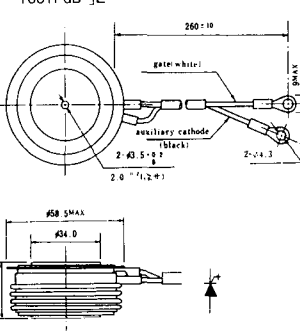
NI-20

603PGA「E



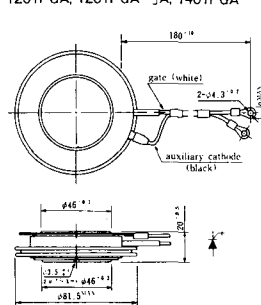
NI-21

1001PGB「E



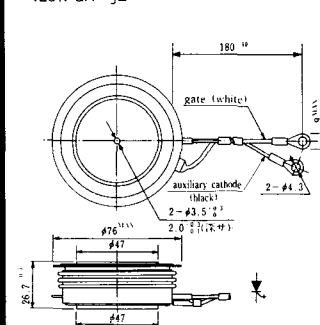
NI-22

1201PGA, 1201PGA「A, 1401PGA



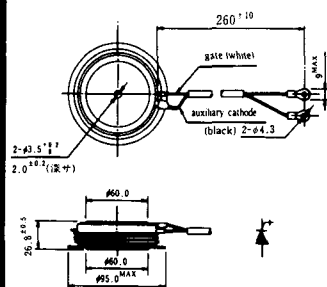
NI-23

1201PGA「E



NI-24

2001PGB⁺ J_E



NI-25

NI-26

NT-1



電極接続
①T₁
②ゲート
③T₂

NT-2



電極接続
①T₁
②ゲート
③T₂

NT-3



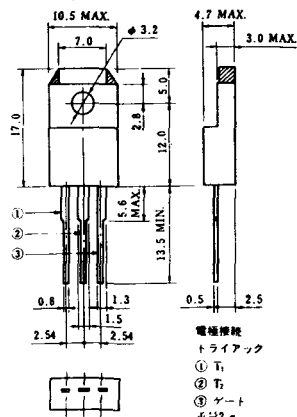
電極接続
①T₁
②T₂
③ゲート

NT-4



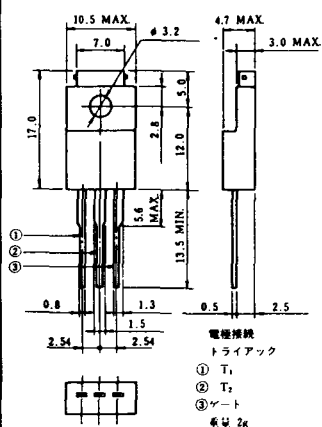
電極接続
①T₁
②T₂
③G

NT-5



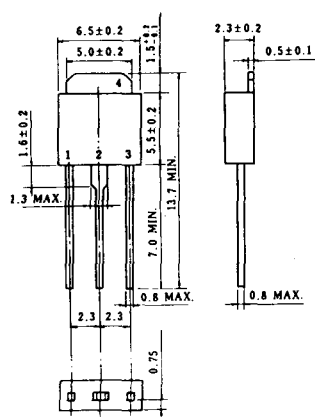
電極接続
トライアック
①T₁
②T₂
③ゲート
※2g

NT-6

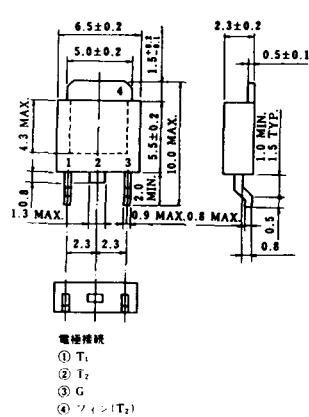


電極接続
トライアック
①T₁
②T₂
③ゲート
※2g

NT-7



NT-8

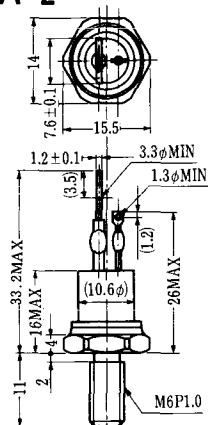


電極接続
①T₁
②T₂
③G
④フィイン(T₂)

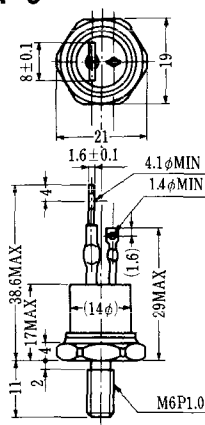
SA-1



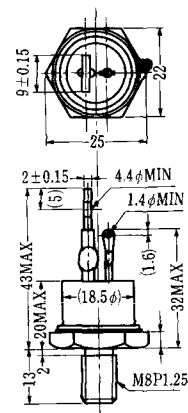
SA-2



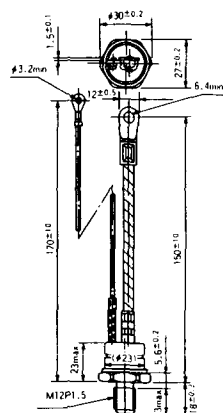
SA-3



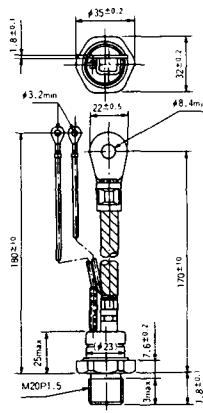
SA-4



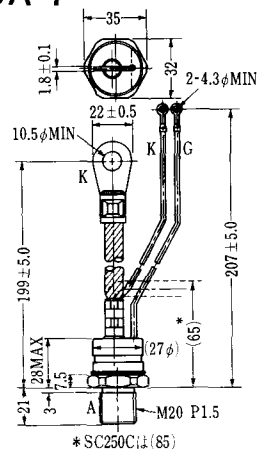
SA-5



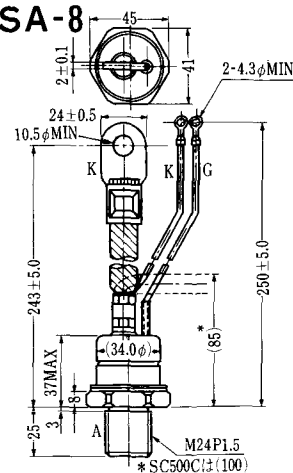
SA-6



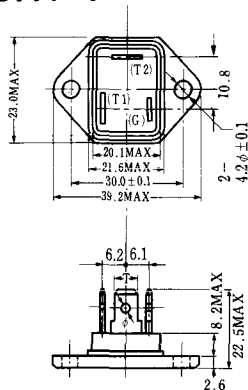
SA-7



SA-8



SAT-1

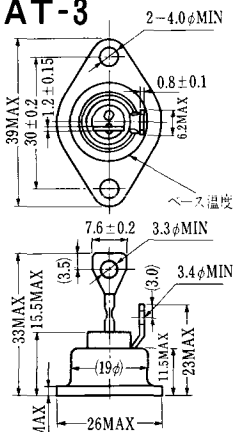


T1端子:ファストン250($T=6.35$, $t=0.8$, $\phi=1.65$)
T2端子:ファストン250($T=6.35$, $t=0.8$, $\phi=1.65$)
G端子:ファストン187($T=4.75$, $t=0.5$, $\phi=1.3$)

SAT-2



SAT-3



SAT-4



SAT-5



SAT-6



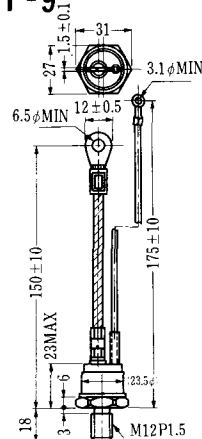
SAT-7



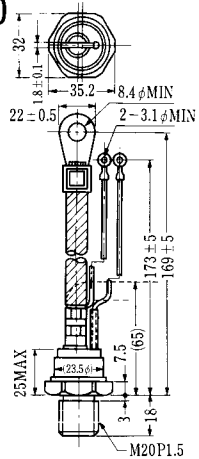
SAT-8



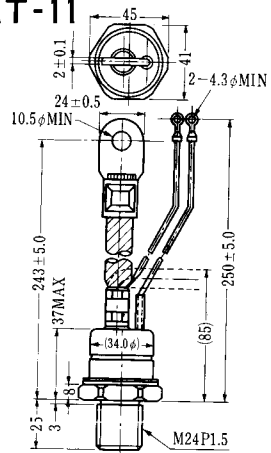
SAT-9.



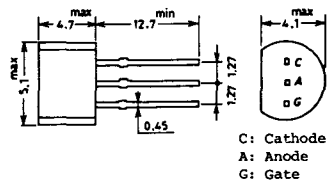
SAT-10



SAT-11



SY-1(1096A)



SY-2(1151)



SY-3(1104)



SY-4(1150)



1097A



G: Gate

1102



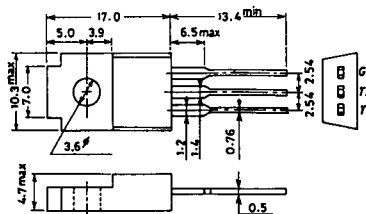
1141



1142



1144



1155

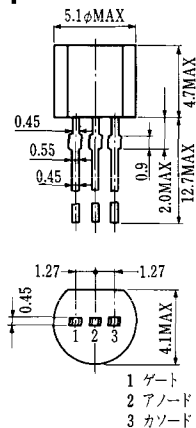


1192A

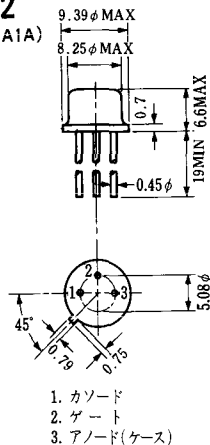


G: Gate

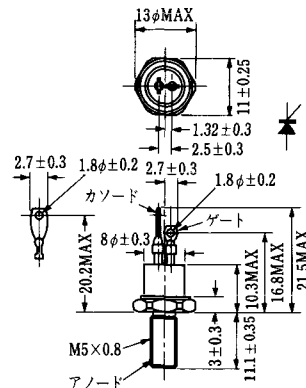
T-1 (13-5A1A)



T-2 (13-8A1A)



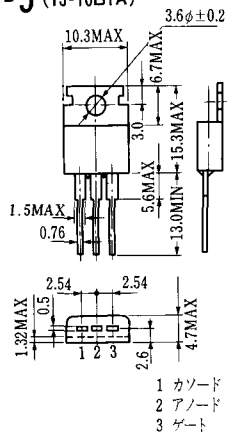
T-3 (13-8C1A)



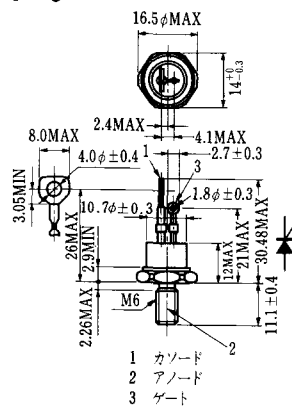
T-4 (13-10A1A)



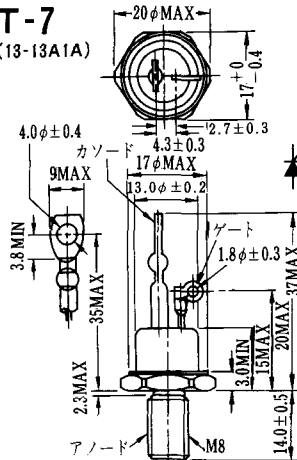
T-5 (13-10B1A)



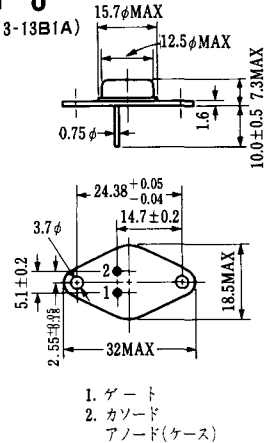
T-6 (13-11D1A)



T-7 (13-13A1A)



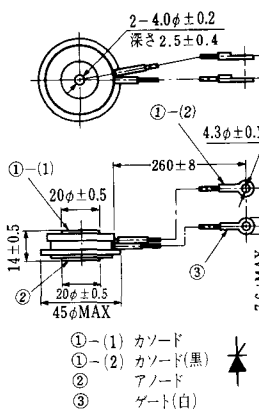
T-8 (13-13B1A)



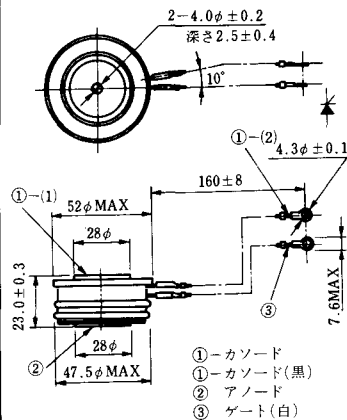
T-17 (13-42A1A)



T-18 (13-45D1A)



T-19 (13-52B1A)



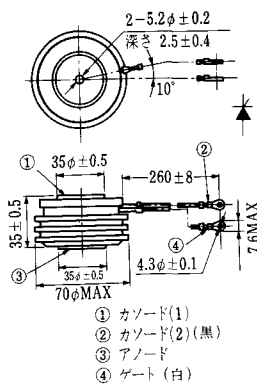
T-20 (13-52C1A)



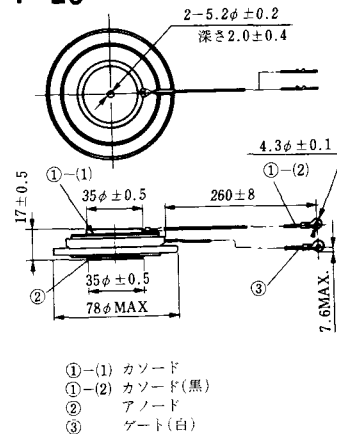
T-21 (13-60A1A)



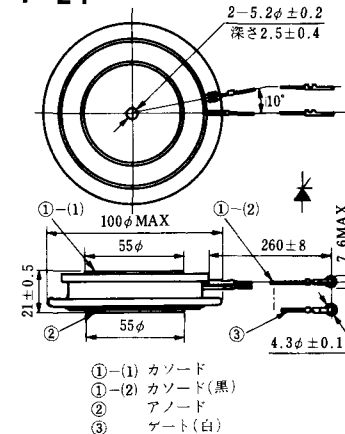
T-22 (13-70C1A)



T-23 (13-78A1A)



T-24 (13-100C1A)



T-25 (13-120A2A)



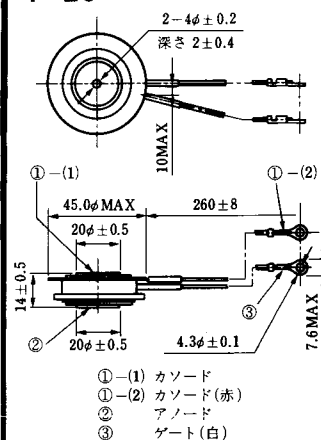
T-26 (13-150A1A)



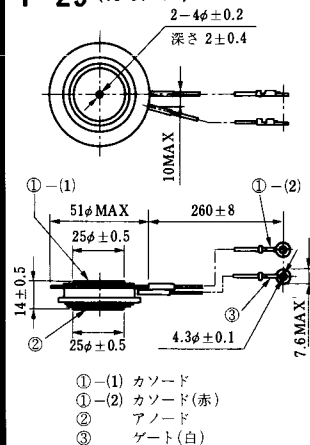
T-27 (13-37A1A)



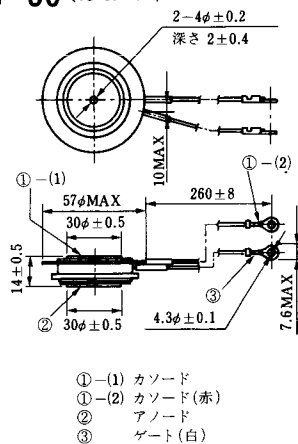
T-28 (13-45E1A)



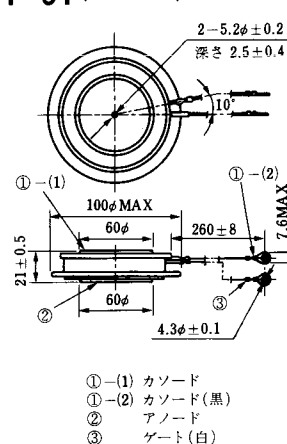
T-29 (13-51A1A)



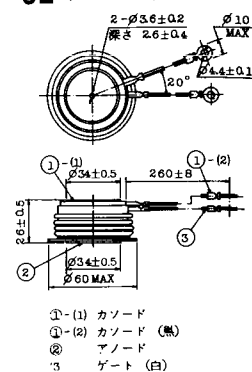
T-30 (13-57A1A)



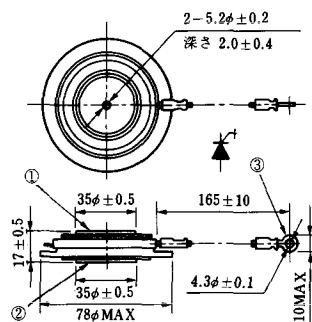
T-31 (13-100E1A)



T-32 (13-60E3A)

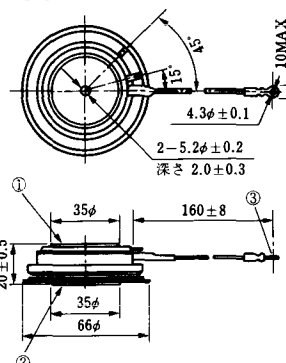


T-33 (13-78B1A)



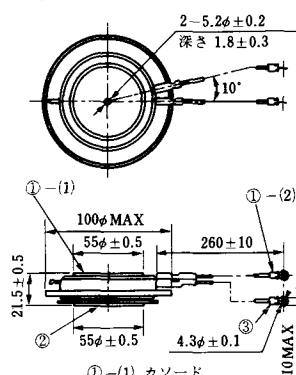
- ① カソード
② アノード
③ ゲート

T-34 (13-66A1A)



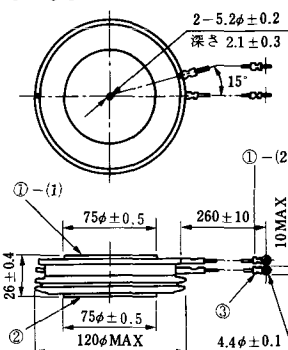
- ① カソード
② アノード
③ ゲート

T-35 (13-100D1A)



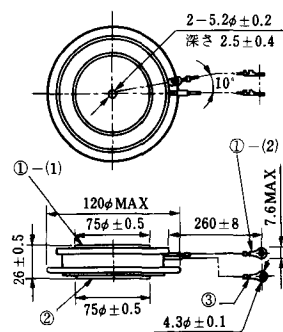
- ①-(1) カソード
①-(2) カソード(黒)
② アノード
③ ゲート(白)

T-36 (13-120E1A)



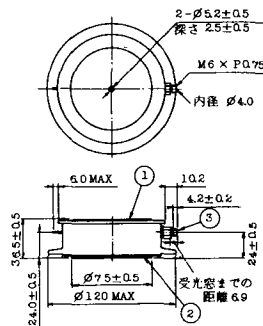
- ①-(1) カソード
①-(2) カソード(黒)
② アノード
③ ゲート(白)

T-37 (13-120A1A)



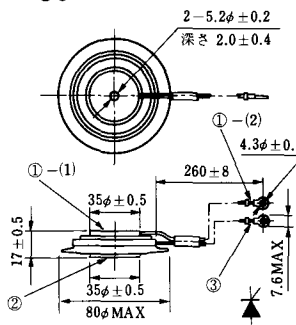
- ①-(1) カソード
①-(2) カソード(黒)
② アノード
③ ゲート(白)

T-38 (13-120C1A)



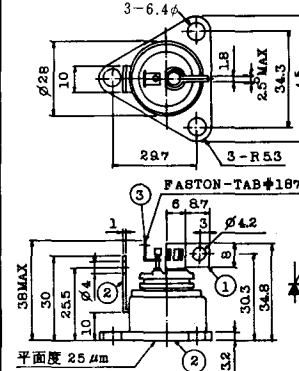
- ① カソード
② アノード
③ ゲート

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

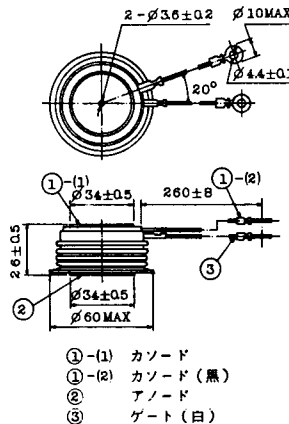
T-41 (13-28A2A)



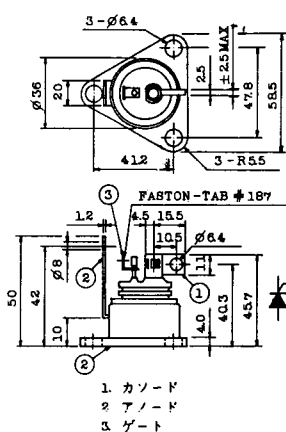
T-42 (13-45F1A)



T-43 (13-60E2A)



T-44 (13-36A1A)



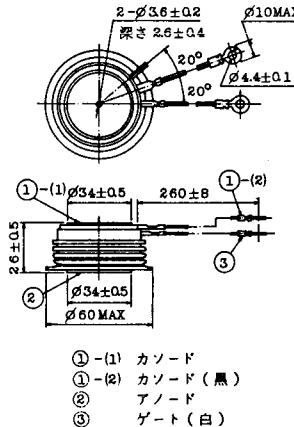
T-45 (13-51B1A)



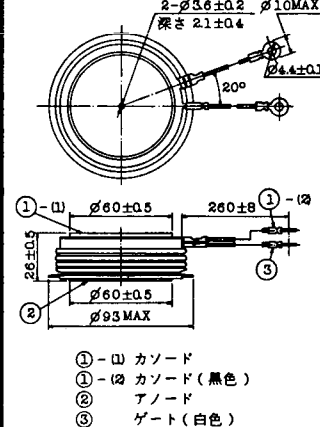
T-46 (13-36B1A)



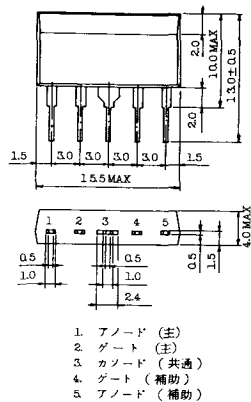
T-47 (13-60E1A)



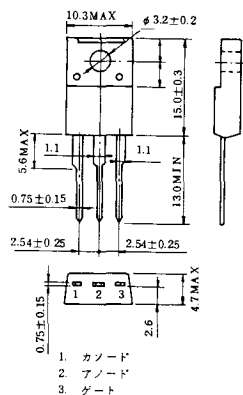
T-48 (13-93C1A)



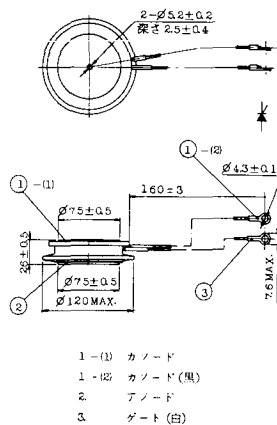
T-57 (12-16C1A)



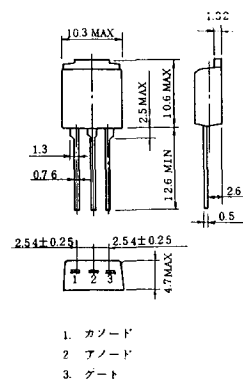
T-58 (13-10H1B)



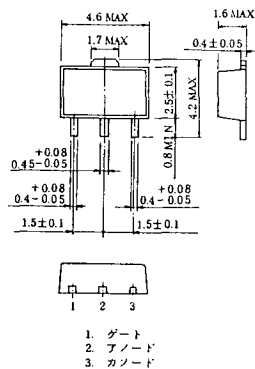
T-59 (13-120A1A)



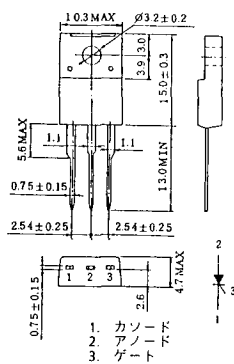
T-60



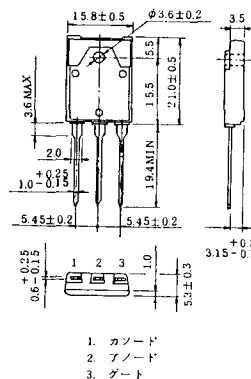
T-61 (13-5B1A)



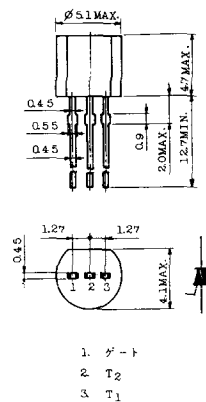
T-62 (13-10H1A)



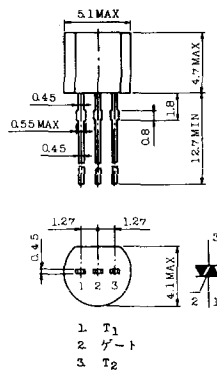
T-63 (13-16A1B)



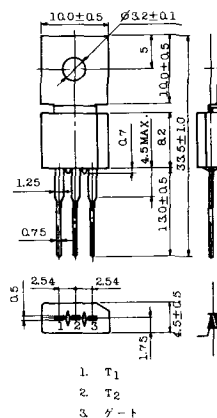
TT-1



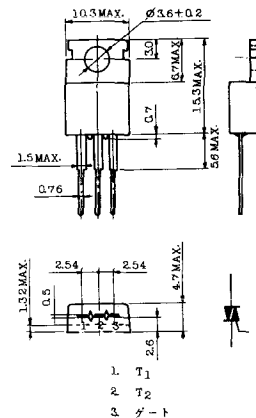
TT-2



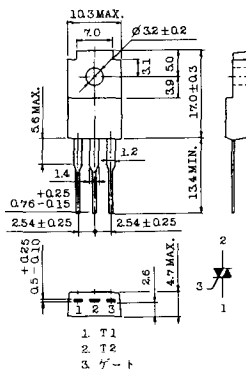
TT-3



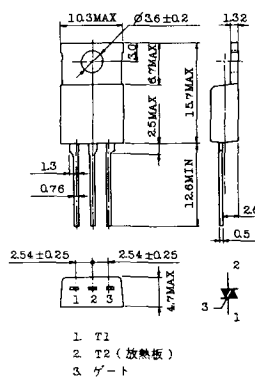
TT-4



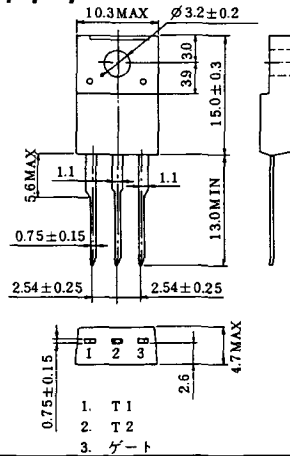
TT-5



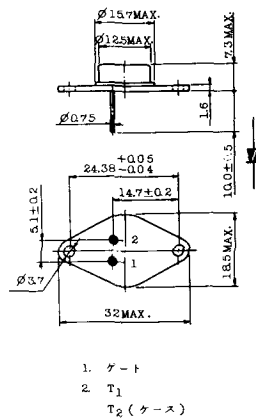
TT-6



TT-7



TT-8



TT-9



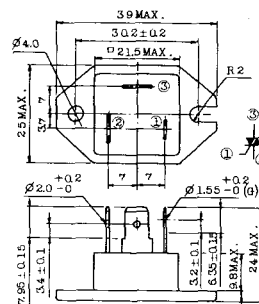
1. ゲート
2. T₁
3. T₂ (ケース)

TT-10



1. ゲート
2. T₁
3. T₂ (ケース)

TT-11



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

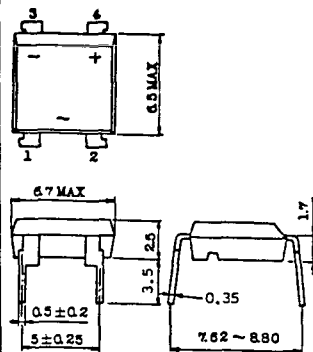
TT-12



ゲート端子詳細

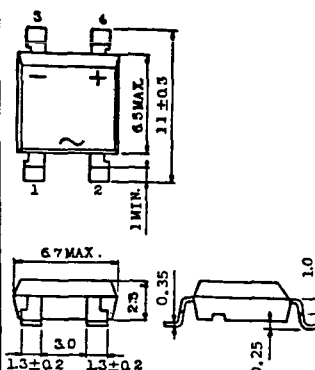
- ① ゲート (ファストン端子 #187)
- ② T₁ (" #250)
- ③ T₂ (" #250)

TT-13



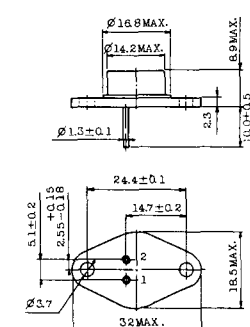
- 1, 2: T₂
- 3: GATE
- 4: T₁

TT-14



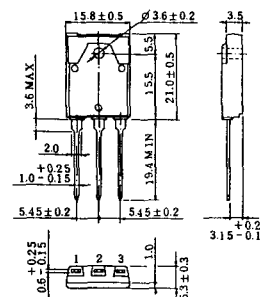
- 1, 2: T₂
- 3: GATE
- 4: T₁

TT-15 (13-14A1B)



1. ゲート
2. T₁
- T₂ (ケース)

TT-16 (13-16A1A)

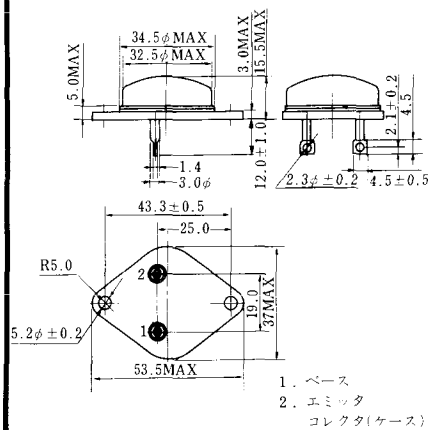


1. T₁
2. T₂
3. ゲート

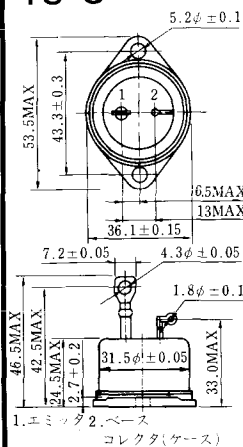
TS-1



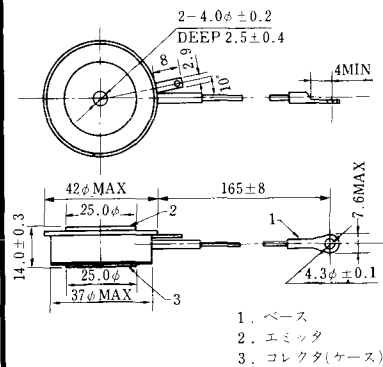
TS-2



TS-3



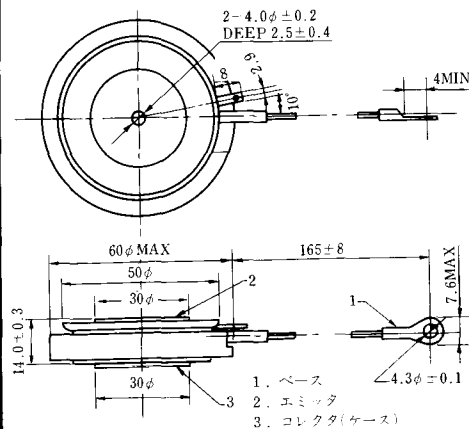
TS-4



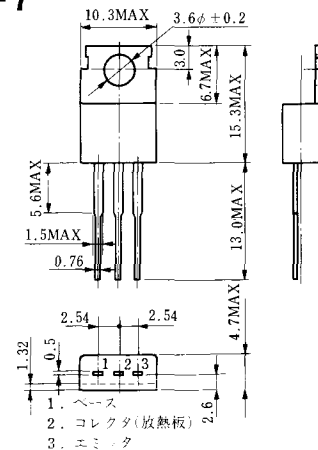
TS-5

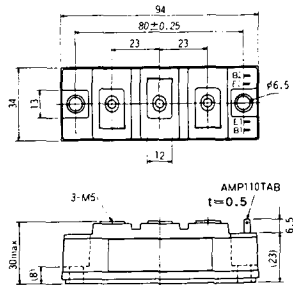
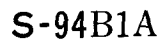


TS-6

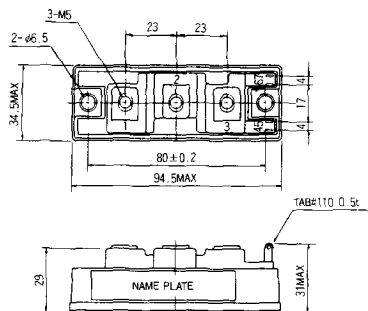


TS-7

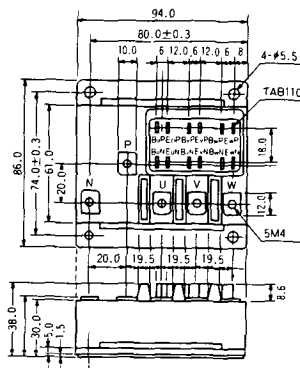




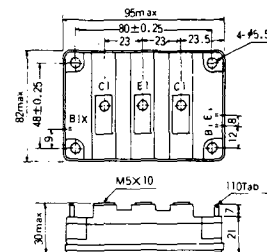
S-94B2A



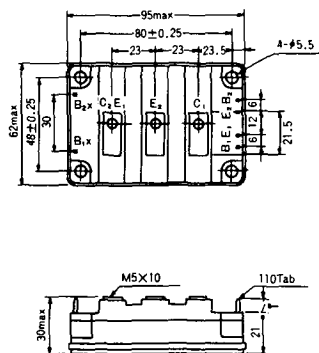
S-94D1A



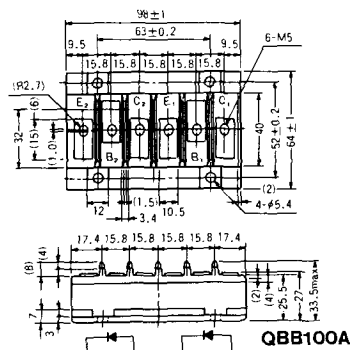
S-95A1A



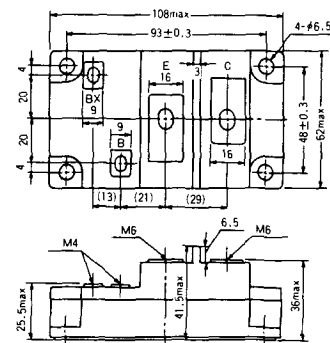
S-95B1A



S-98B1B



S-108A2A



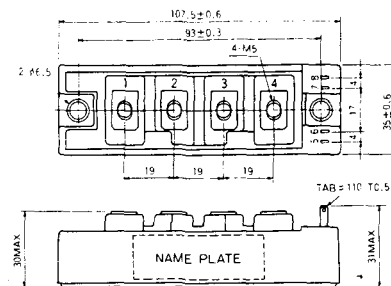
S-108B1A



S-108B1B



S-108B1C



S-108B2A



S-108B2B



2-22B1A



2-27A4A



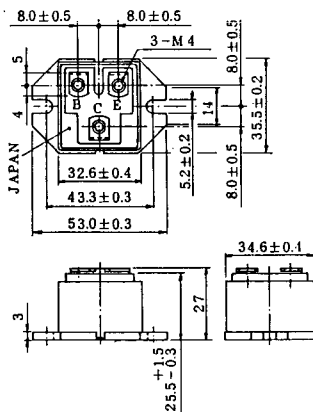
2-33C1A



2-33D1A



2-33F1A



2-37A1A



2-48A3A



2-48A3B



2-48A4A



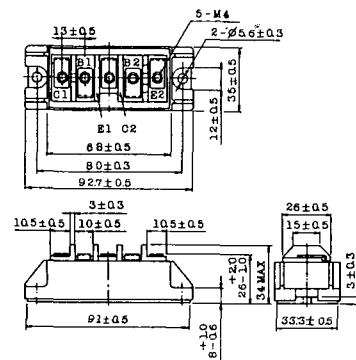
2-64A2A

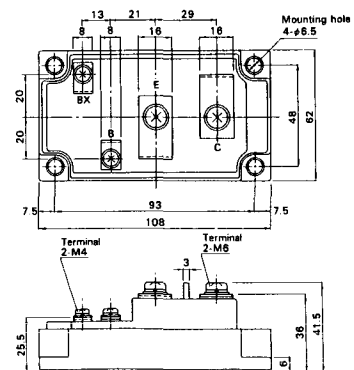
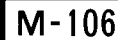
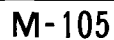
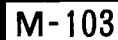
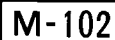


2-64A2B



2-68A2A





M-107



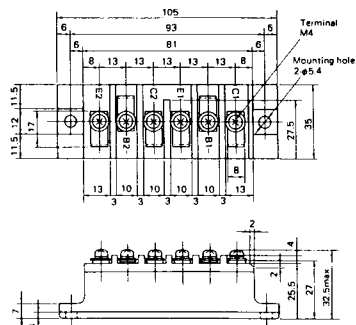
M-116



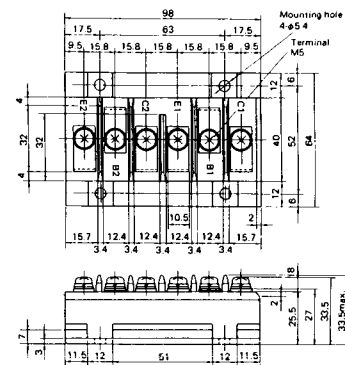
M-201



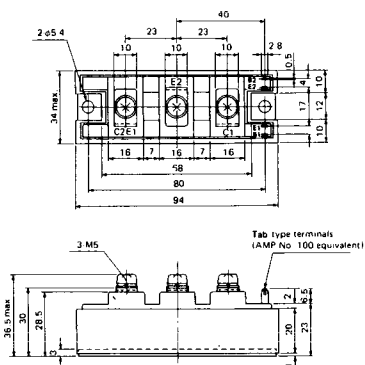
M-202



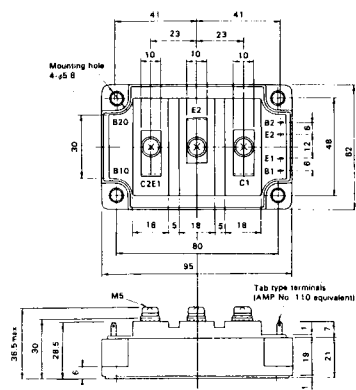
M-203



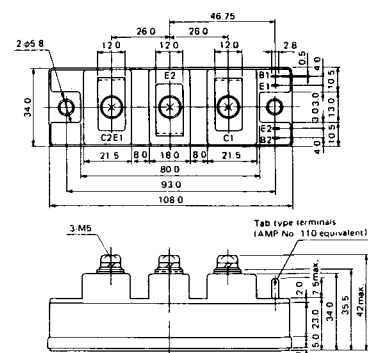
M-204



M-205



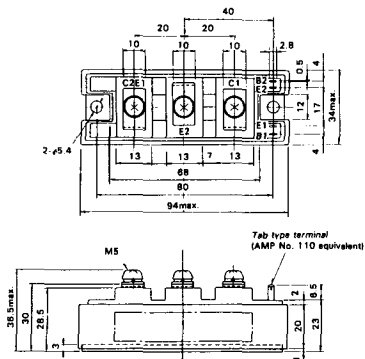
M-206



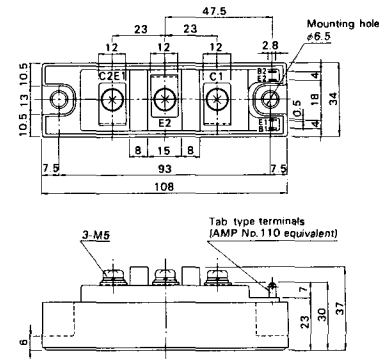
M-207



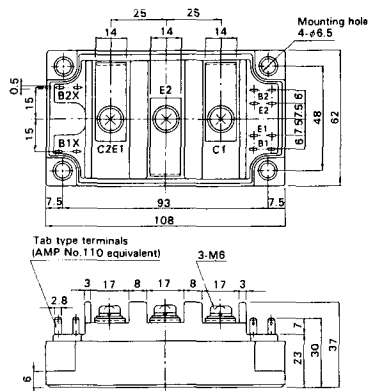
M-208



M-209



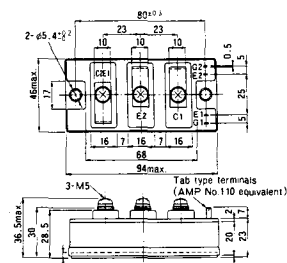
M-210



M-211



M-212



M-213



M-214

M-215



M-216



M-217



M-218



M-601



M-602



M-603



M-604



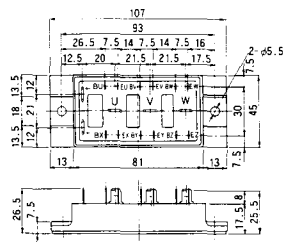
M-605



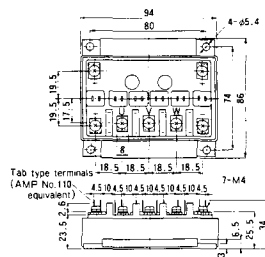
M-606



M-607



M-608



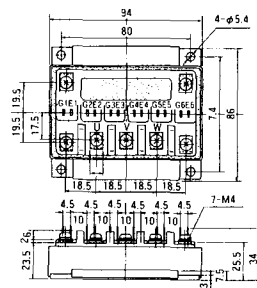
M-609



M-610



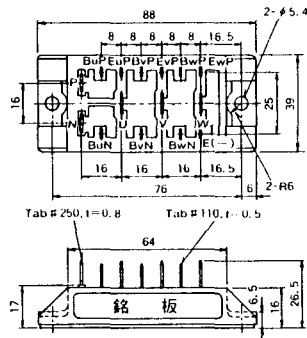
M-616



M-2E6A



M-2F6A



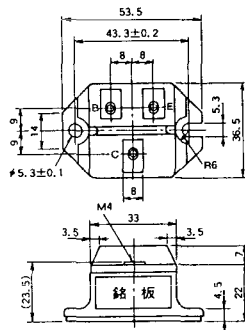
M-2G6A



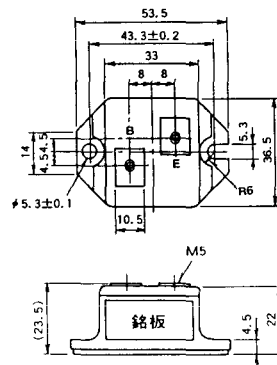
M-3A1A



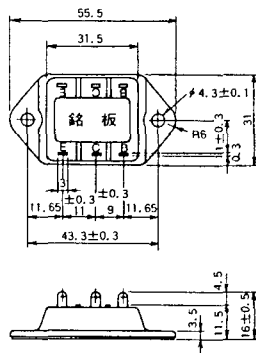
M-3B1A



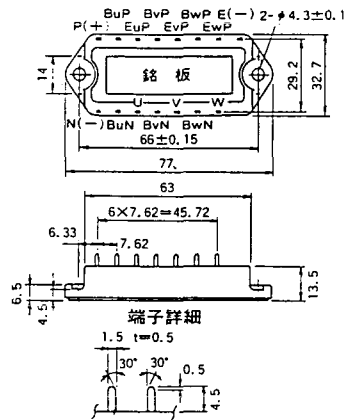
M-3B1B



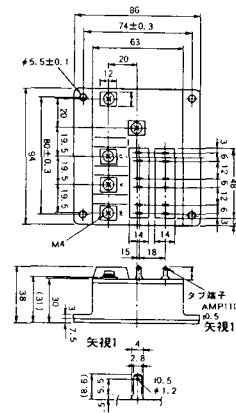
M-3C1A



M-3D6A



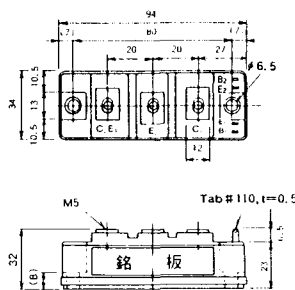
M-3E6A



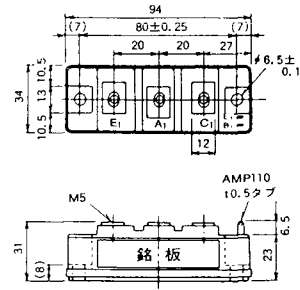
M-4A1A



M-4A2A



M-4A1B



M-4A2B



M-4B2A



M-5A1A



M-5A1B



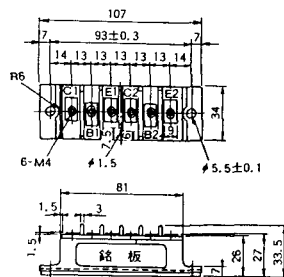
M-5A2A



M-5B2A



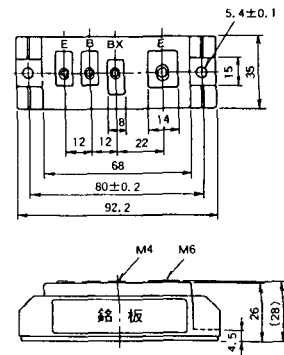
M-5C2A



M-5D2A



M-6A1A



M-7A1A



M-7B1A



M-8A1A



M-8A1B



M-8A2A



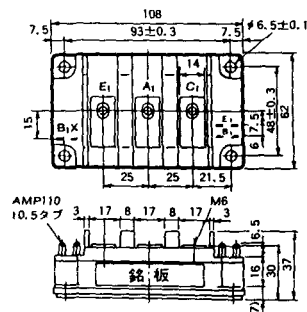
M-8A2B



M-8B2A



M-9A1A



M-9A2A



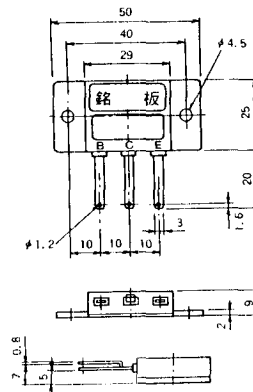
M-9B1A



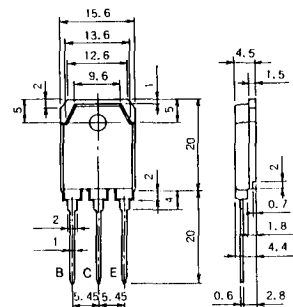
M-9C2A



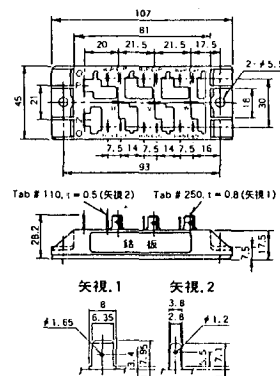
M-1A1B



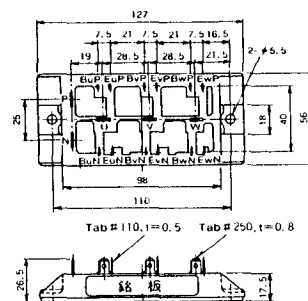
M-1A1C



M-2E6B



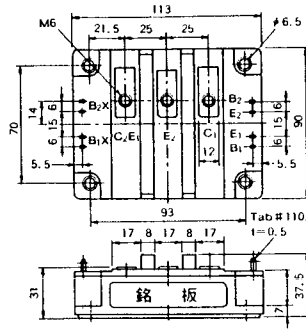
M-2E6C



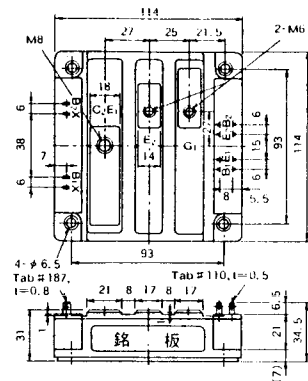
M-10A2A



M-10A2B



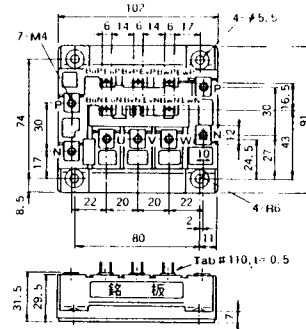
M-11A2A



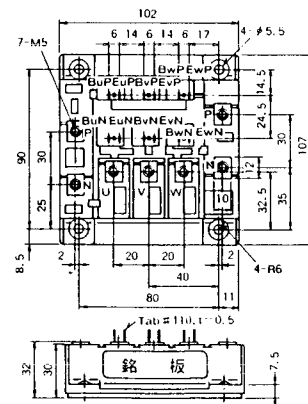
M-12A6A



M-12B6A



M-12B6B



M-4A2D



M-4A2E



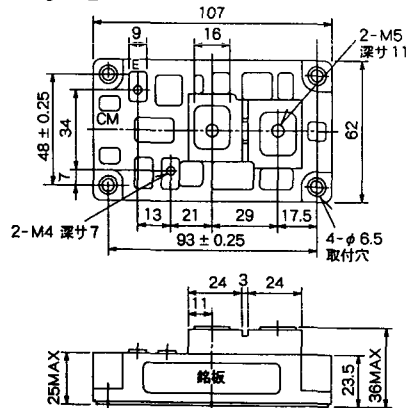
M-4C2A



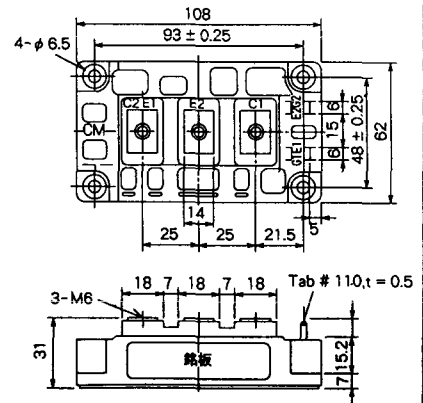
M-4C2B



M-9B1C



M-9D2A



M-9D2B



M-10A2C



H-101



Weight :480g

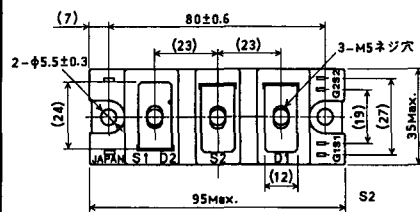
H-201



H-202



LF-J



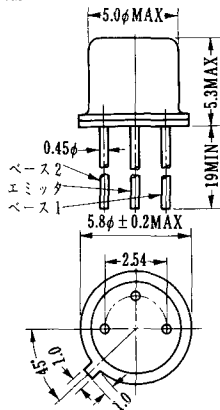
LF-K



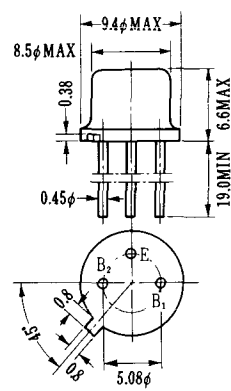
U-1



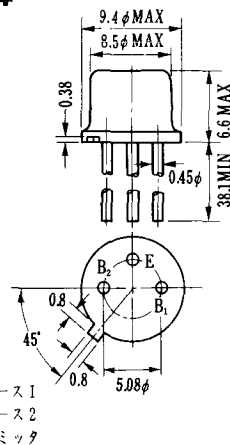
U-2



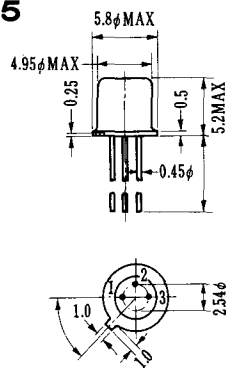
U-3



U-4

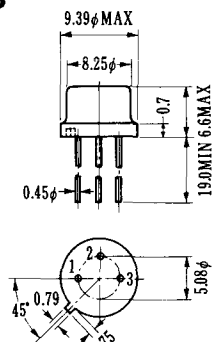


U-5



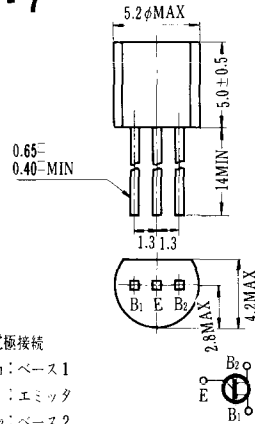
1. BASE 1
2. EMITTER
3. BASE 2 (CASE)

U-6



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

U-7



U-8

