

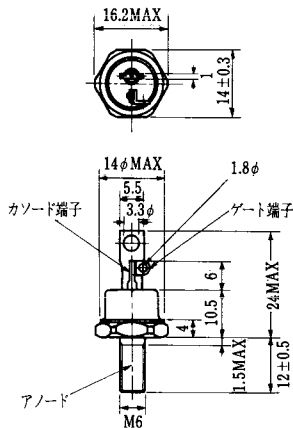
SG2000 <sup>†</sup> FXF, GXH <sub>2</sub> 1 (VRRM)				■外形図番号 T-36 (13-120E1A)					
■最大定格				■電気的特性					
記号	SG2000FXF21 (VRRM)	SG2000GXH21 (VRRM)	単位	記号	測定条件	Min	Typ	Max	単位
$V_{RRM}$	3000	4000	V	$I_{RRM}$	$T_j=115^{\circ}\text{C}$ , $V_D=V_{RRM}$			150	mA
$V_{DRM}$	3300	4500	V	$I_{DRM}$	$T_j=115^{\circ}\text{C}$ , $V_D=V_{DRM}$ , $R_{GK}=5\Omega$			150	mA
$I_{TQM}$	2000 ( $V_D=\frac{1}{2}V_{DRM}$ , $V_{DM}=\frac{2}{3}V_{DRM}$ , $C_i=6\mu\text{F}$ , $R_s=20\Omega$ , $T_j=115^{\circ}\text{C}$ )		A	$V_{TM}$	$T_c=25^{\circ}\text{C}$ , $I_{TM}=2000\text{A}$			3	V
$I_{TRMS}$	800 ( $T_j=70^{\circ}\text{C}$ )		A	$V_{GT}$	$T_c=25^{\circ}\text{C}$ , $V_D=24\text{V}$			1.5	V
$I^2 \cdot t$	18000/20000 (50Hz/60Hz, 正弦半波1サイクル)		A <sup>2</sup> S	$I_{GT}$	$R_L=0.2\Omega$			1500	mA
$di/dt$	300 ( $I_{GP}=20\text{A}$ , $t_r=1\mu\text{s}$ , $V_D=\frac{1}{2}V_{DRM}$ , $I_{TM}=2000\text{A}$ , $f=50\text{Hz}$ , $T_j=115^{\circ}\text{C}$ )		A/ $\mu\text{s}$	$V_{GD}$	$T_c=115^{\circ}\text{C}$ , $V_D=\frac{1}{2}V_{DRM}$	0.3			V
$I_{GFM}$	40 (パルス幅: max. 20 $\mu\text{s}$ , duty: max. 20%)		A	$I_{GD}$	$T_c=115^{\circ}\text{C}$ , $V_D=\frac{1}{2}V_{DRM}$	10			mA
$P_{CF(AV)}$	14		W	$t_d$	$T_c=25^{\circ}\text{C}$ , $V_D=\frac{1}{2}V_{DRM}$ , $I_{GP}=20\text{A}$			8	$\mu\text{s}$
$I_{GRMS}$			A	$t_{tr}$	$I_{TM}=2000\text{A}$ , $di/dt=300\text{A}/\mu\text{s}$			15	$\mu\text{s}$
$P_{GRM}$	10000 (パルス幅: max. 20 $\mu\text{s}$ , duty: max. 2%)		W	$dv/dt$	$T_j=115^{\circ}\text{C}$ , $V_D=\frac{2}{3}V_{DRM}$ , $V_{GK}=-4\text{V}$	900			V/ $\mu\text{s}$
$V_{GRM}$	15		V	$I_H$	$T_c=25^{\circ}\text{C}$ , $R_L=0.2\Omega$			80	A
$T_j$	115		$^{\circ}\text{C}$	$t_b$	$T_c=110^{\circ}\text{C}$ , $I_{TM}=2000\text{A}$			21	$\mu\text{s}$
$T_{stg}$	-40~115		$^{\circ}\text{C}$	$t_{qs}$	$V_D=\frac{1}{2}V_{DRM}$ , $V_{DM}=\frac{2}{3}V_{DRM}$			23	$\mu\text{s}$
				$t_{rail}$	$C_i=6\mu\text{F}$ , $R_s=20\Omega$			250	$\mu\text{s}$
				$I_{GR}$	$dig/dt=-40\text{A}/\mu\text{s}$		400	450	A
				$R_{th}$	接合~フィン間, DC			0.02	$^{\circ}\text{C}/\text{W}$

SG2000 <sup>†</sup> R, U, W, EX <sub>2</sub> 2				■外形図番号 T-48 (13-93C1A)							
○チョップパ, インバータ用				■電気的特性							
○700A, 1300~2500V											
■最大定格				■電気的特性							
記号	SG2000R22	SG2000U22	SG2000W22	SG2000EX22	単位	記号	測定条件	Min	Typ	Max	単位
$V_{RRM}$	15				V	$I_{RRM}$	$T_j=125^{\circ}\text{C}$ , $V_D=V_{RRM}$			100	mA
$V_{DRM}$	1300	1600	1800	2500	V	$I_{DRM}$	$T_j=125^{\circ}\text{C}$ , $V_D=V_{DRM}$ , $R_{GK}=10\Omega$			50	mA
$I_{TQM}$	2000 ( $V_{DM}=\frac{2}{3}V_{DRM}$ , $C_i=4\mu\text{F}$ , $R_s=5\Omega$ , $T_j=125^{\circ}\text{C}$ )				A	$V_{TM}$	$T_c=25^{\circ}\text{C}$ , $I_{TM}=2000\text{A}$			2.8	V
$I_{TRMS}$	700 ( $T_j=70^{\circ}\text{C}$ )				A	$V_{GT}$	$T_c=25^{\circ}\text{C}$ , $V_D=24\text{V}$			1.2	V
$I_{TSM}$	14000/15400 (50Hz/60Hz, 正弦半波1サイクル)				A <sup>2</sup> S	$I_{GT}$	$R_L=0.1\Omega$			2.5	A
$I^2 \cdot t$					A/ $\mu\text{s}$	$V_{GD}$	$T_c=125^{\circ}\text{C}$ , $V_D=\frac{1}{2}V_{DRM}$	0.3			V
$di/dt$	300 ( $I_{GP}=30\text{A}$ , $t_r=1\mu\text{s}$ , $V_D=\frac{1}{2}V_{DRM}$ , $I_{TM}=2000\text{A}$ , $f=50\text{Hz}$ , $T_j=125^{\circ}\text{C}$ )				A/ $\mu\text{s}$	$I_{GD}$	$T_c=125^{\circ}\text{C}$ , $V_D=\frac{1}{2}V_{DRM}$	10			mA
$I_{GFM}$	70 (パルス幅: max. 30 $\mu\text{s}$ , duty: max. 20%)				A	$t_d$	$T_c=25^{\circ}\text{C}$ , $V_D=\frac{1}{2}V_{DRM}$ , $I_{GP}=30\text{A}$			4	$\mu\text{s}$
$P_{CF(AV)}$	14				W	$t_{tr}$	$I_{TM}=2000\text{A}$ , $di/dt=300\text{A}/\mu\text{s}$			15	$\mu\text{s}$
$I_{GRMS}$	60				A	$dv/dt$	$T_j=125^{\circ}\text{C}$ , $V_D=\frac{2}{3}V_{DRM}$ , $V_{GK}=-4\text{V}$	500			V/ $\mu\text{s}$
$P_{GRM}$	15000 (パルス幅: max. 50 $\mu\text{s}$ , duty: max. 2%)				W	$I_H$	$T_c=25^{\circ}\text{C}$ , $R_L=0.1\Omega$		40		A
$V_{GRM}$	15				V	$t_b$	$T_c=120^{\circ}\text{C}$ , $I_{TM}=2000\text{A}$			20	$\mu\text{s}$
$T_j$	125				$^{\circ}\text{C}$	$t_{qs}$	$V_D=\frac{1}{2}V_{DRM}$ , $V_{DM}=\frac{2}{3}V_{DRM}$			23	$\mu\text{s}$
$T_{stg}$	-40~125				$^{\circ}\text{C}$	$t_{rail}$	$C_i=4\mu\text{F}$ , $R_s=5\Omega$			60	$\mu\text{s}$
						$I_{GR}$	$dig/dt=-40\text{A}/\mu\text{s}$		400	480	A
						$R_{th}$	接合~フィン間, DC			0.025	$^{\circ}\text{C}/\text{W}$

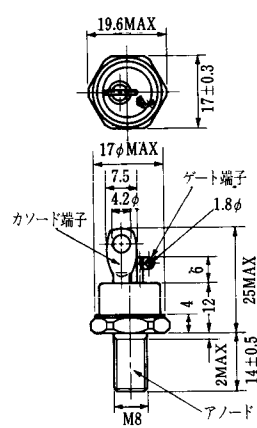
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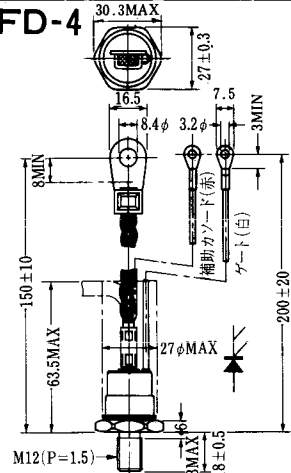
FD-2



FD-3



FD-4



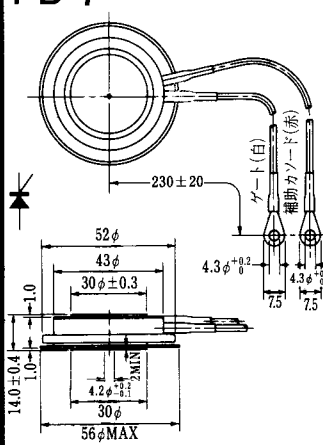
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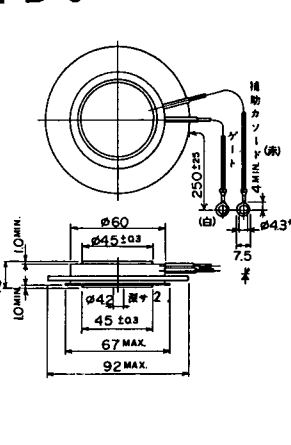
FD-6



FD-7



FD-8



FD-9



FD-10

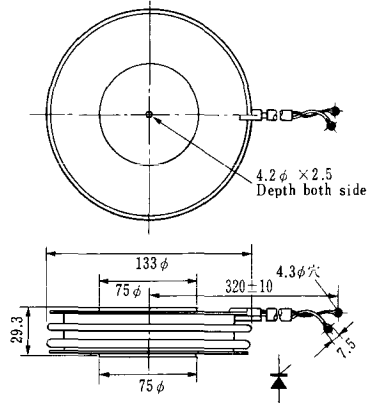


FD-12

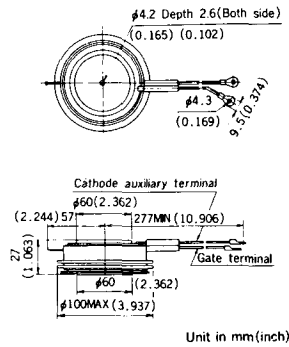




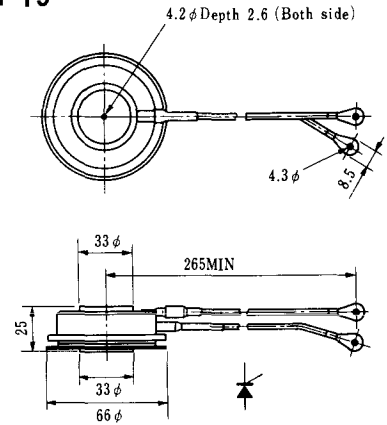
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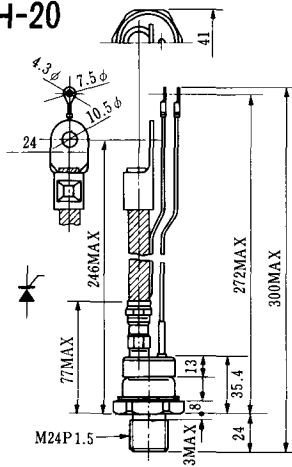
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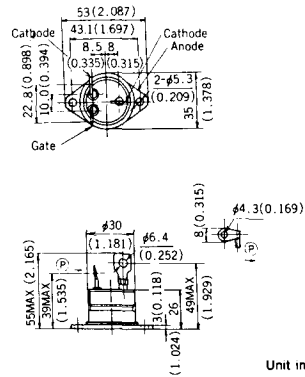
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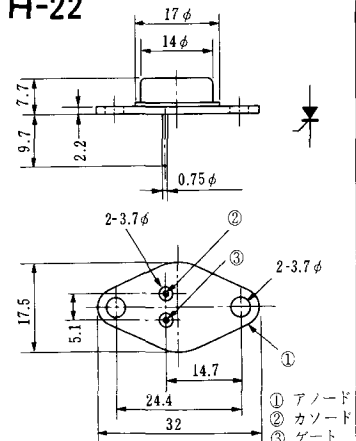
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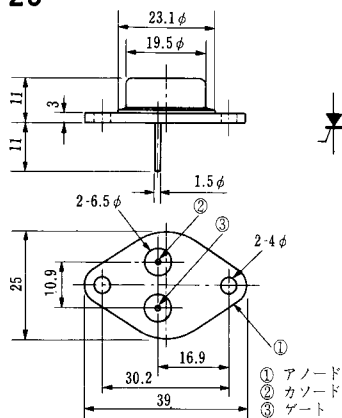
### H-21



### H-22

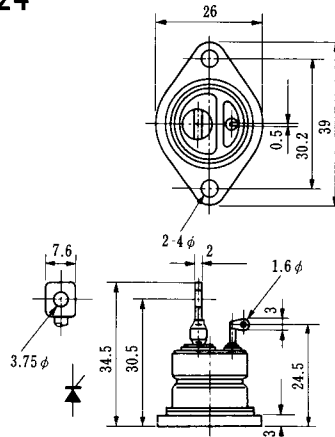


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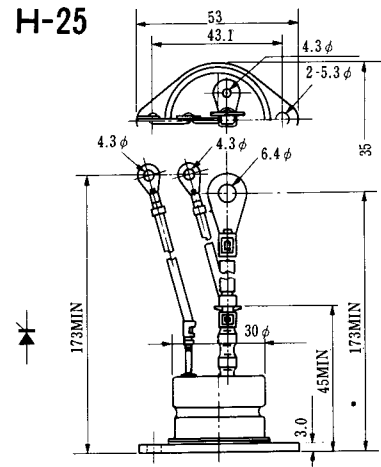


① アノード  
② カソード  
③ ゲート

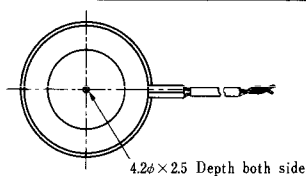
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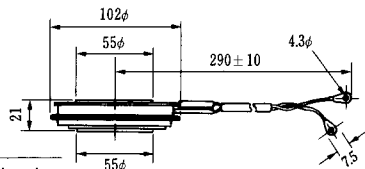
### H-25



### H-26



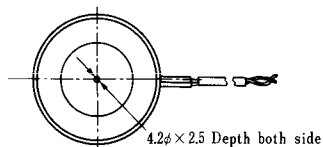
4.2φ × 2.5 Depth both side



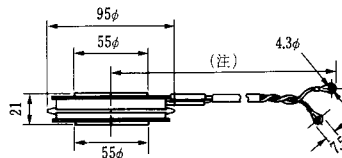
Type	Direction of polarity
------	-----------------------

CA12	
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### H-27



4.2φ × 2.5 Depth both side

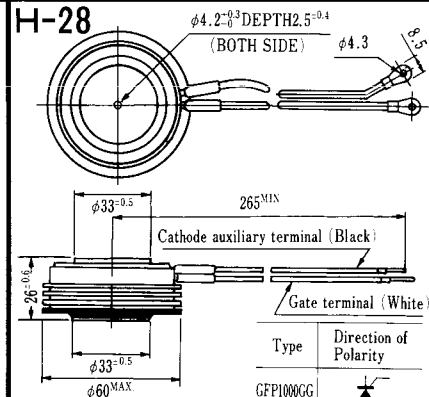


(注) CC11V : 400 ± 10  
CF11V : 250 ± 10

Type	Direction of polarity
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CF11V	
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### H-28



Cathode auxiliary terminal (Black)

Gate terminal (White)

Type	Direction of Polarity
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GFP100GG	
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Weight: 360(g)

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



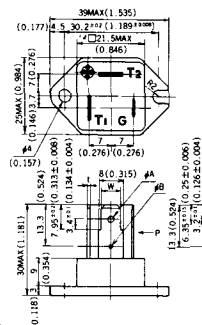
Note: The thickness is a dimension in press at the rated mounting force. Weight: 870(g)



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



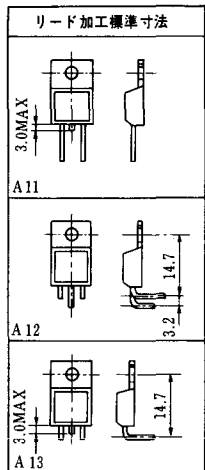
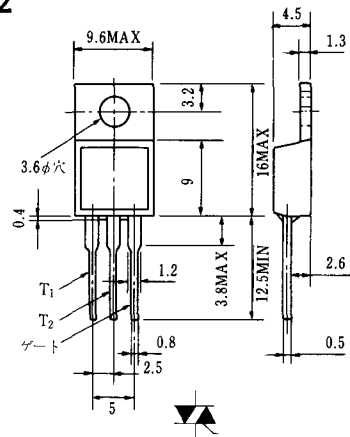
# HT-1



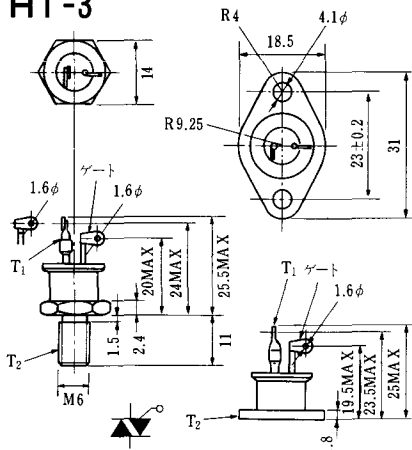
TERMINAL	t	W	φA	φB
T <sub>1</sub>	0.8±0.025 (0.031±0.001)	6.35±0.1 (0.250±0.004)	2.00 <sup>+0.1</sup> <sub>0</sub> (0.079±0.004)	1.3 (0.051)
T <sub>2</sub>	0.8±0.025 (0.031±0.001)	6.35±0.1 (0.250±0.004)	2.00 <sup>+0.1</sup> <sub>0</sub> (0.079±0.004)	1.3 (0.051)
G	0.5±0.025 (0.020±0.001)	4.75±0.1 (0.187±0.004)	1.55 <sup>+0.1</sup> <sub>0</sub> (0.061±0.004)	1.3 (0.051)

Unit in mm (inch)

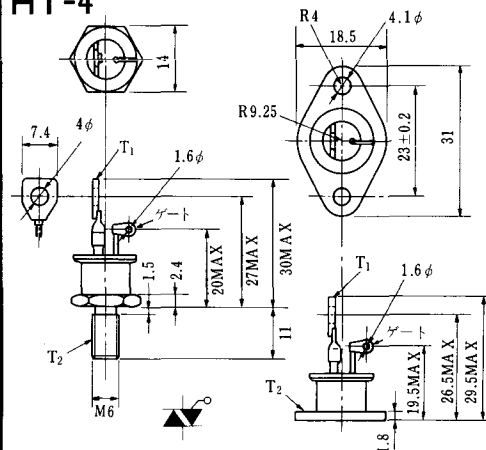
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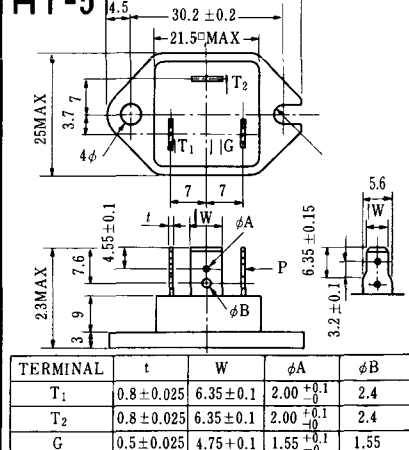
# HT-3



# HT-4



# HT-5



TERMINAL	t	W	φA	φB
T <sub>1</sub>	0.8±0.025	6.35±0.1	2.00 <sup>+0.1</sup> <sub>0</sub>	2.4
T <sub>2</sub>	0.8±0.025	6.35±0.1	2.00 <sup>+0.1</sup> <sub>0</sub>	2.4
G	0.5±0.025	4.75±0.1	1.55 <sup>+0.1</sup> <sub>0</sub>	1.55

《寸法図単位：mm》

### M-1



### M-2



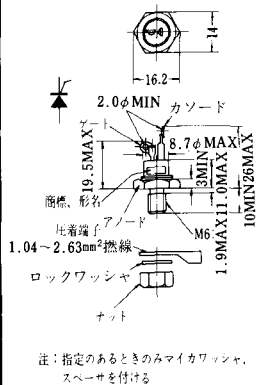
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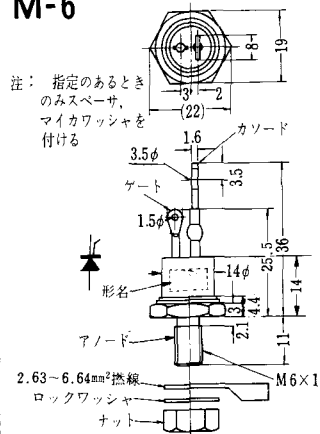
### M-4



### M-5



### M-6



### M-7



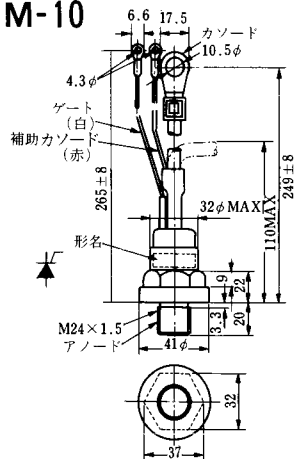
### M-8



M-9



M-10



M-11



M-12



M-13



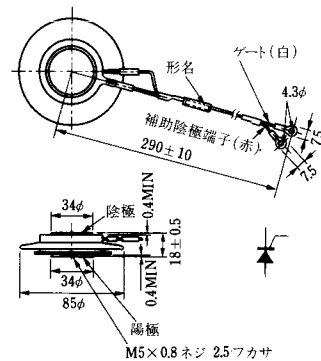
M-14



M-15



M-16





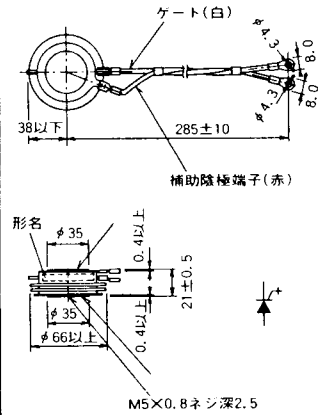
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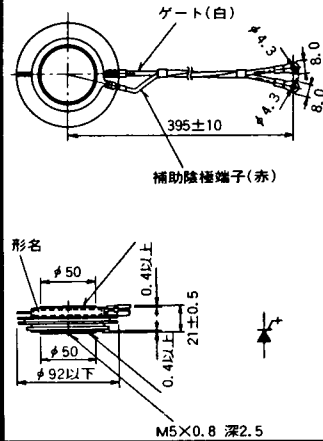
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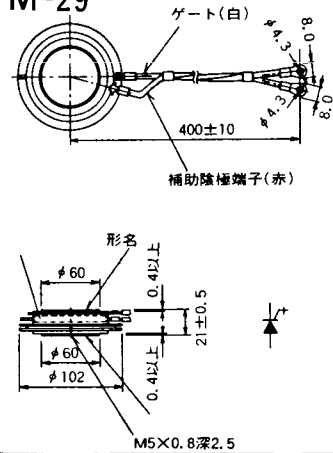
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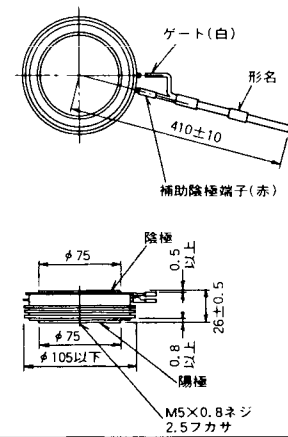
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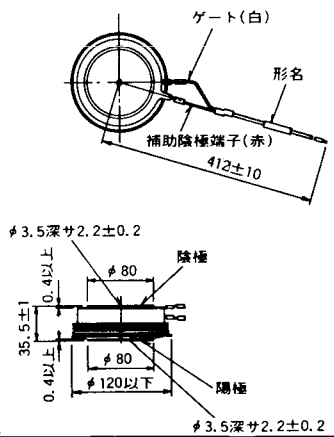
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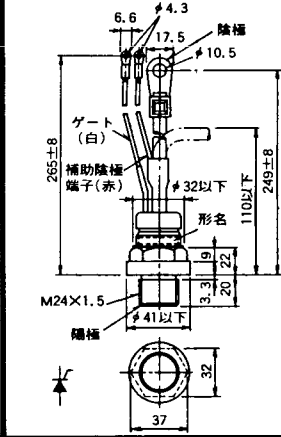
M-30



M-31



M-32



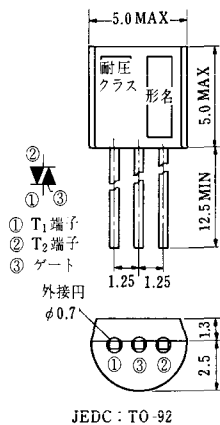
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### M-34



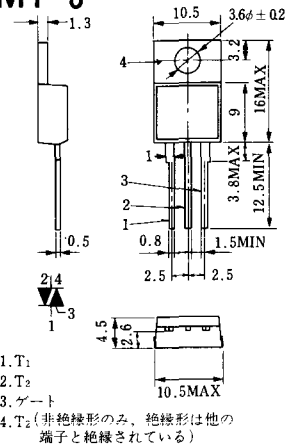
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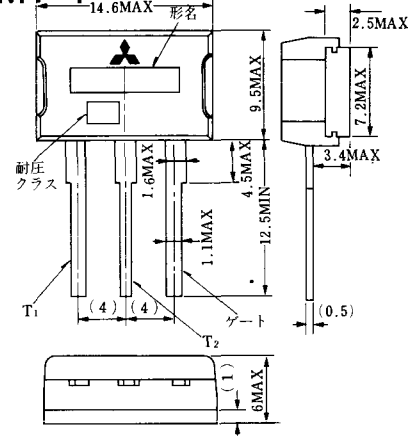
### MT-2



### MT-3



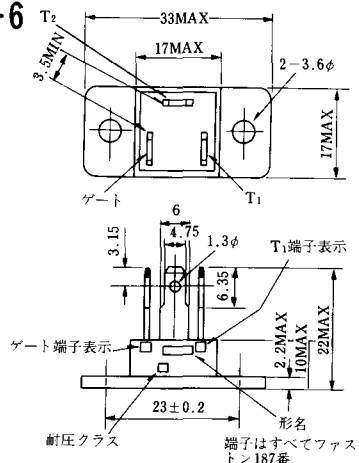
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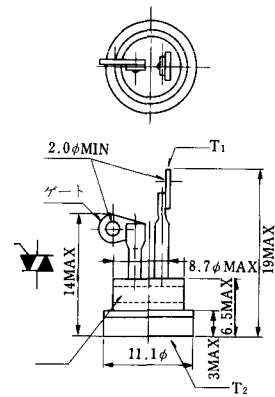
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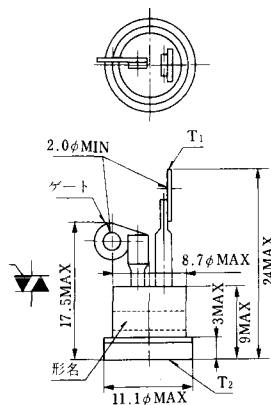
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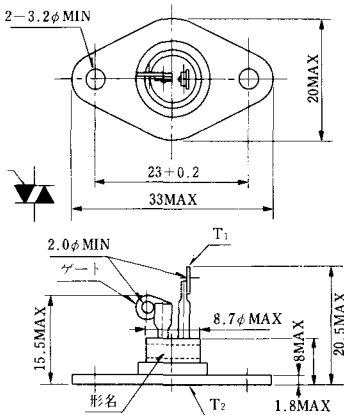
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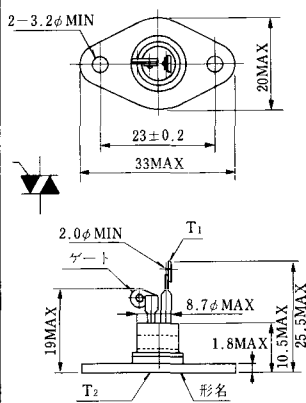
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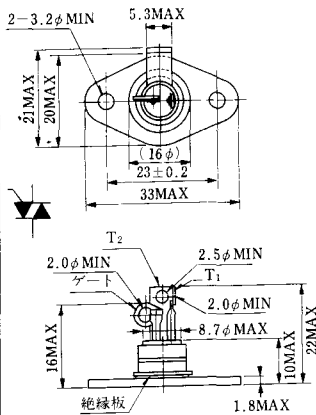
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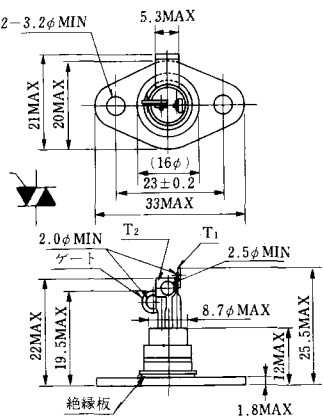
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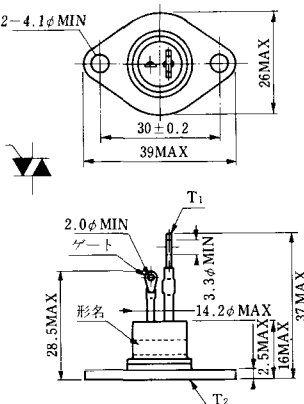
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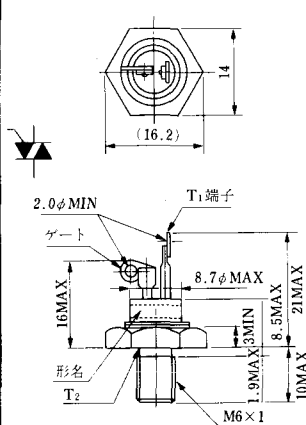
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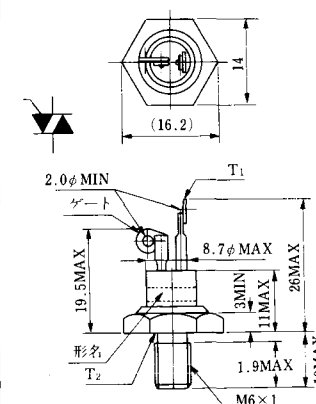
MT-13



MT-14



MT-15

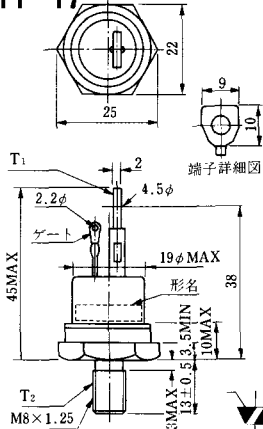




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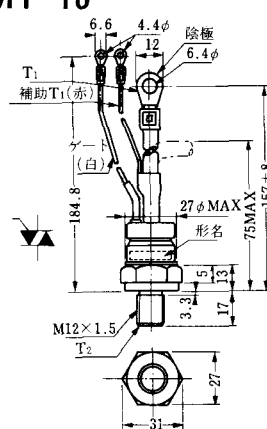


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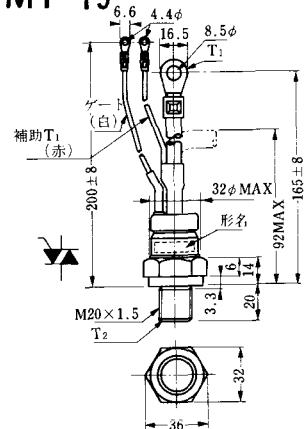


端子詳細図

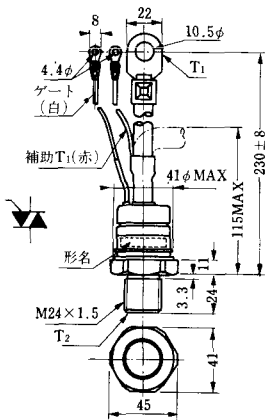
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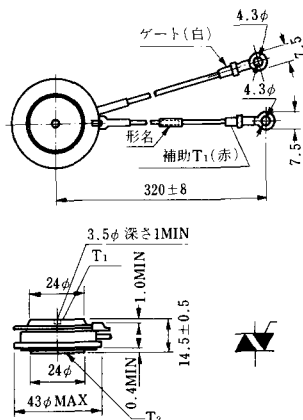
MT-19



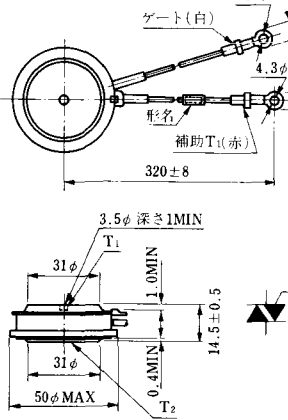
MT-20



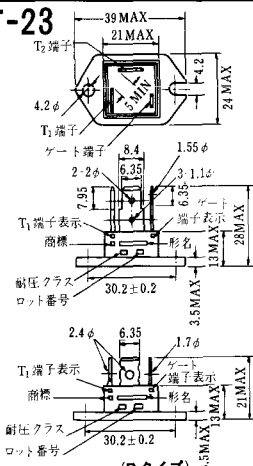
MT-21



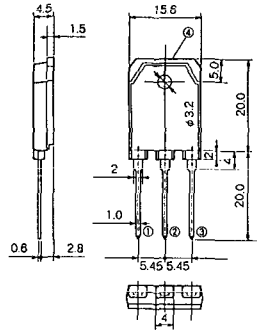
MT-22



MT-23

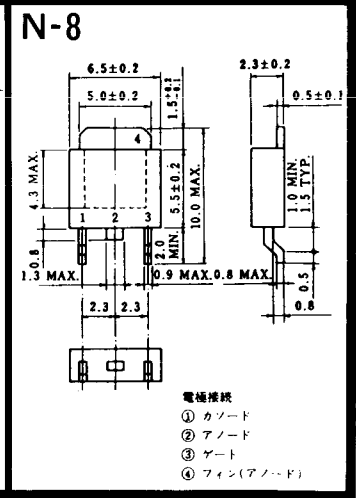
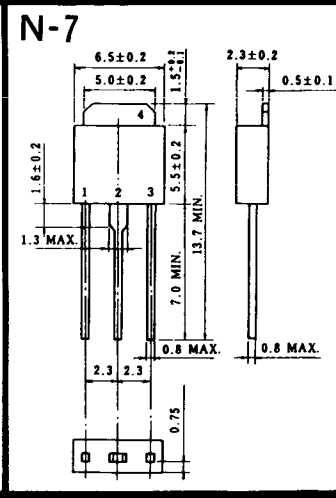
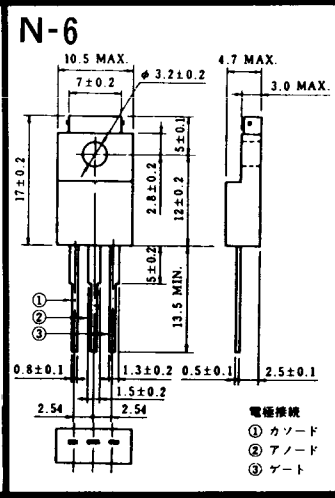
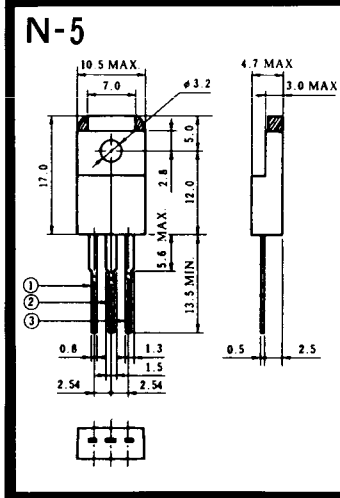
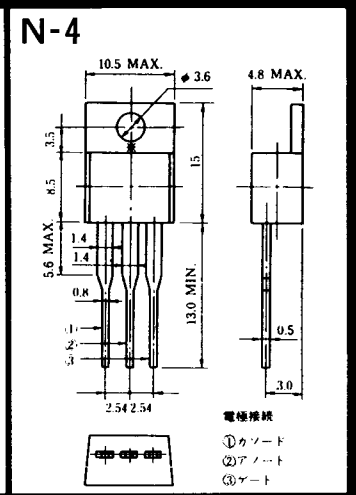
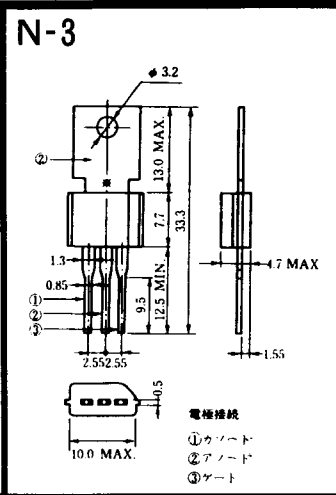
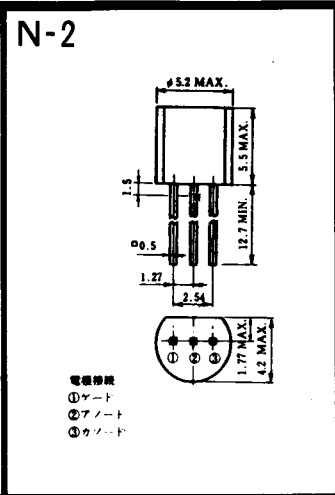
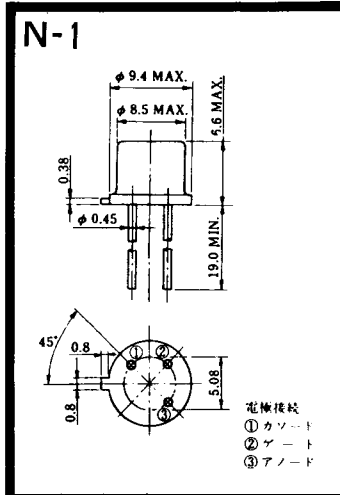


# MT-24

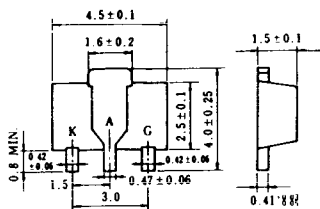


TO - 3P

- ① T1端子
- ② T2端子
- ③ ゲート端子
- ④ T2端子



N-9



電極接続

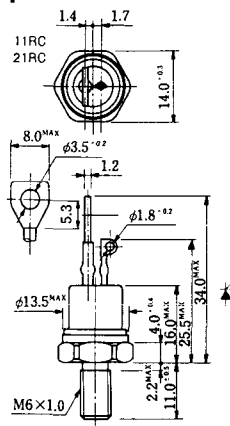
K : カソード

A : アノード

G : ゲート

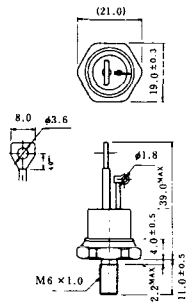


### NI-1



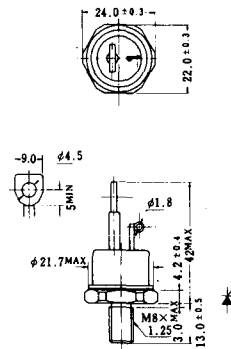
### NI-2

29RD



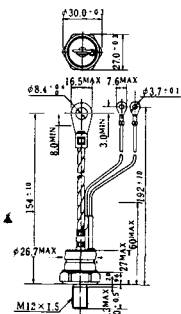
### NI-3

39RC  
59RC  
39RF  
59RF



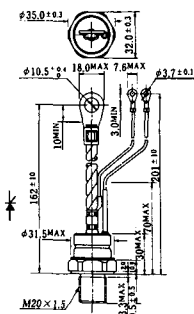
### NI-4

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



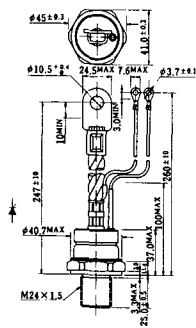
### NI-5

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



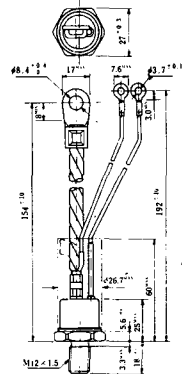
### NI-6

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



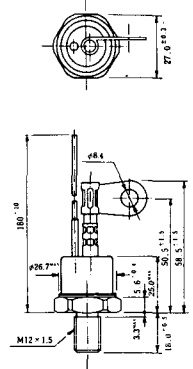
### NI-7

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



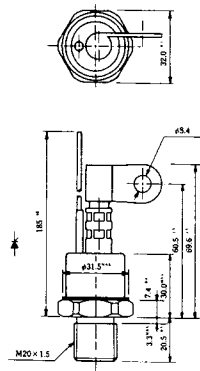
### NI-8

89RW  
129RW



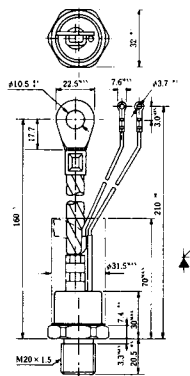
### NI-9

259RW  
309RW



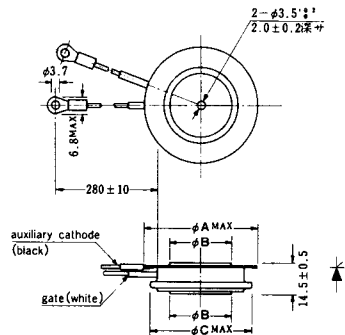
### NI-10

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



### NI-11

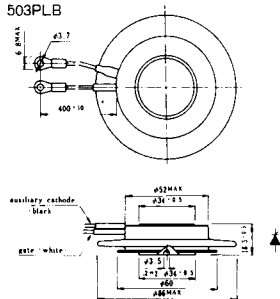
103PA  
253PA  
503PA  
553PA  
803PA  
103PLE  
103PLG  
103PLH  
203PLG  
253PLE  
253PLH  
353PLG  
403PLE  
403PLH



型名	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

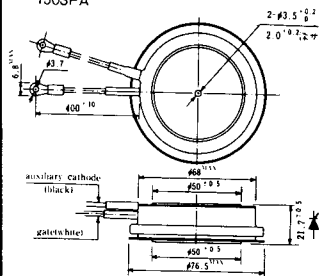
### NI-12

403PAB  
503PAB  
503PLB



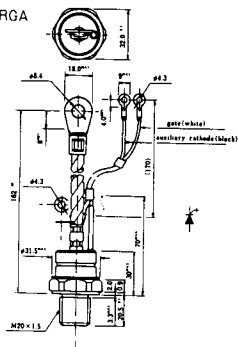
### NI-13

1003PA  
1003PAB  
1003PLF  
1003PLH  
1503PA



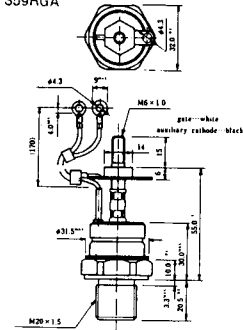
### NI-14

358RGA



### NI-15

359RGA







NI-24

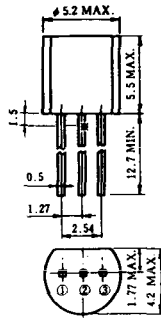
2001PGB<sup>r</sup> JE



NI-25

NI-26

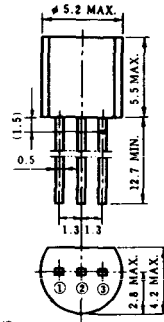
### NT-1



電極接続

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

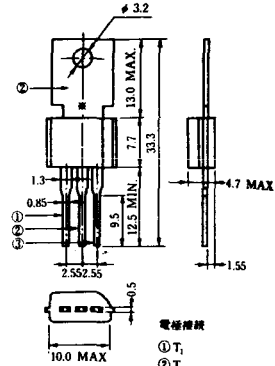
### NT-2



電極接続

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

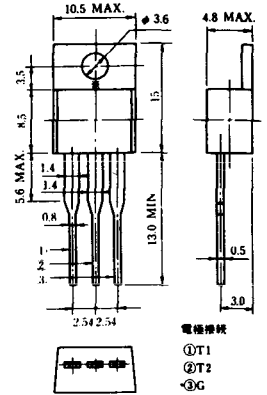
### NT-3



電極接続

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

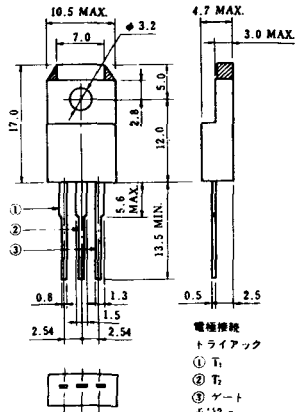
### NT-4



電極接続

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

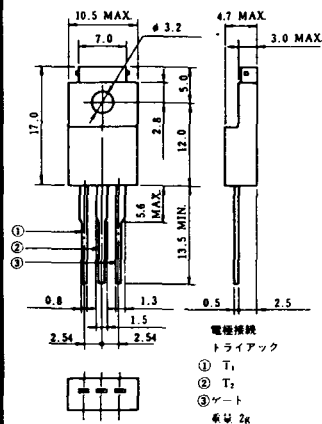
### NT-5



電極接続  
トライアック

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

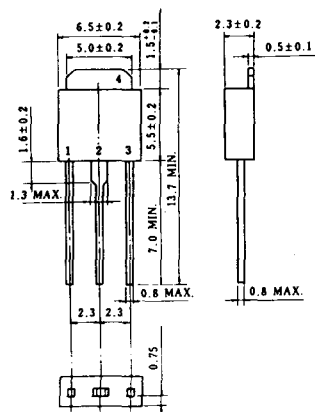
### NT-6



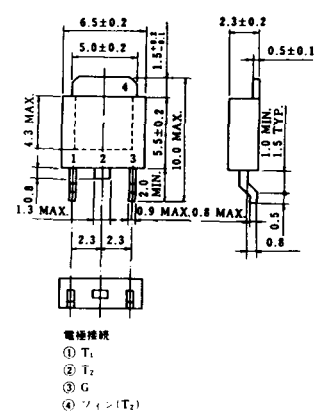
電極接続  
トライアック

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

### NT-7



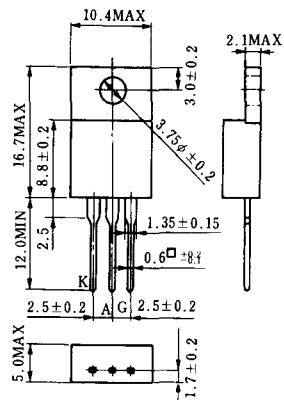
### NT-8



電極接続

- ① T<sub>1</sub>
- ② T<sub>2</sub>
- ③ G
- ④ シフト(T<sub>2</sub>)

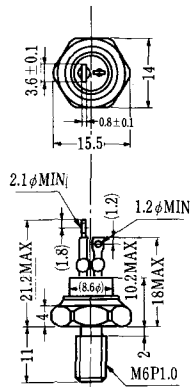
### S-1



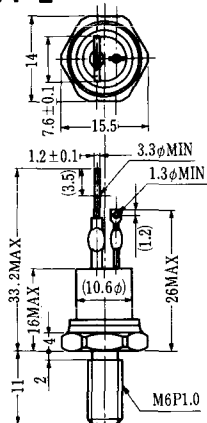
### ST-1



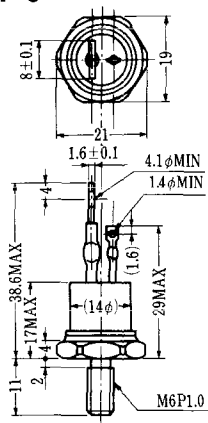
SA-1



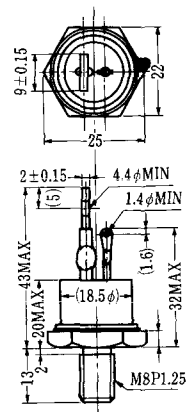
SA-2



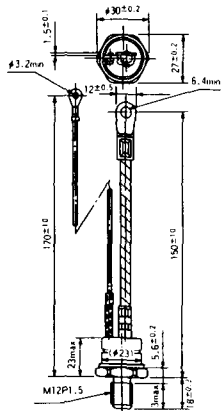
SA-3



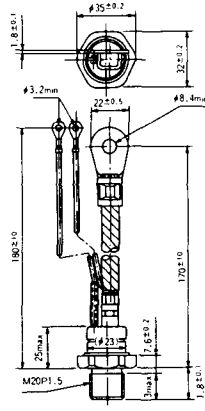
SA-4



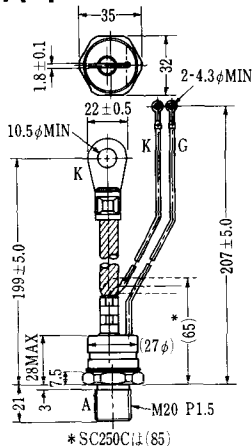
SA-5



SA-6

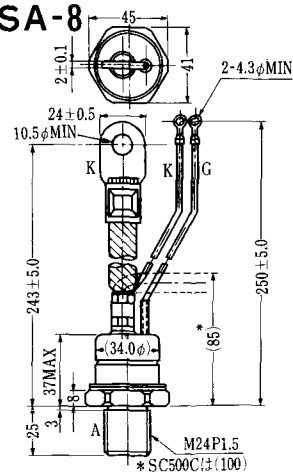


SA-7



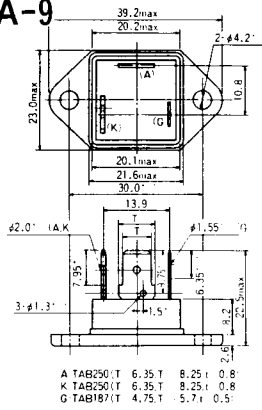
\* SC250C(1)(85)

SA-8

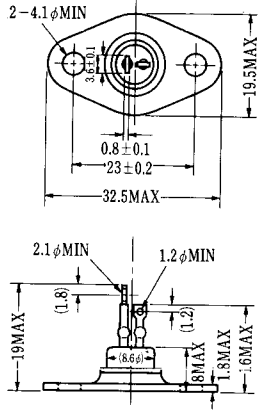


\* SC500C(1)(100)

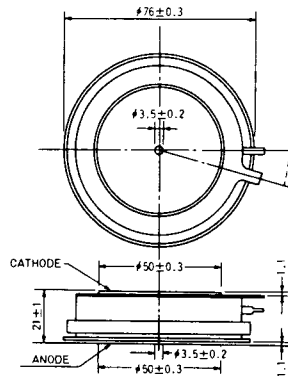
**SA-9**



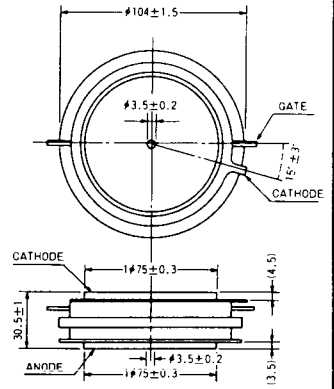
**SA-10**



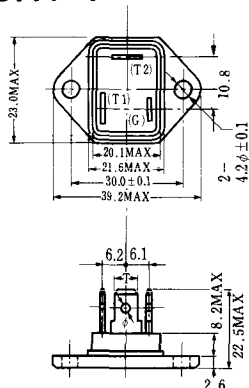
**SA-11**



**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)

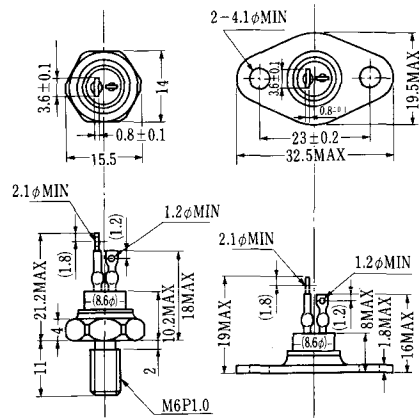
SAT-2



SAT-3



SAT-4



SAT-5



SAT-6



SAT-7



SAT-8



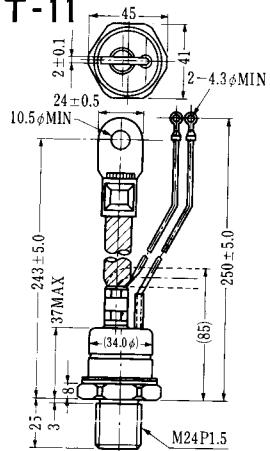
SAT-9



SAT-10



SAT-11

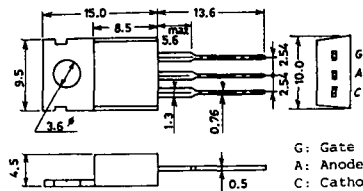


### SY-1 (1096A)



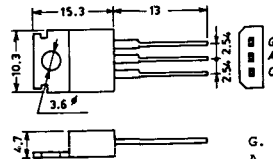
C: Cathode  
A: Anode  
G: Gate

### SY-2 (1151)



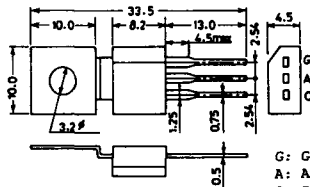
G: Gate  
A: Anode  
C: Cathode

### SY-3 (1104)



G: Gate  
A: Anode  
C: Cathode

### SY-4 (1150)



G: Gate  
A: Anode  
C: Cathode



1097A



G: Gate

1102



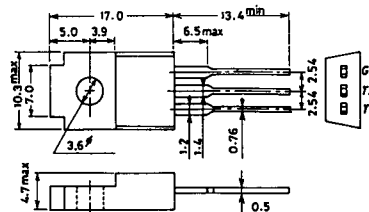
1141



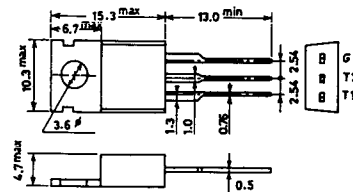
1142



1144



1155

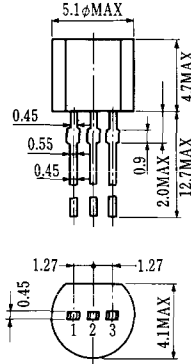


1192A



G: Gate

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



- 1 ゲート
- 2 アノード
- 3 カソード

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



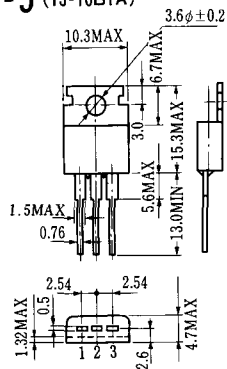
1. カソード
2. ゲート
3. アノード(ケース)

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



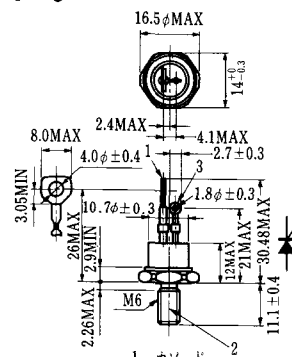
- 1 カソード
- 2 アノード
- 3 ゲート

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



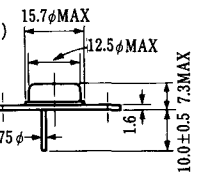
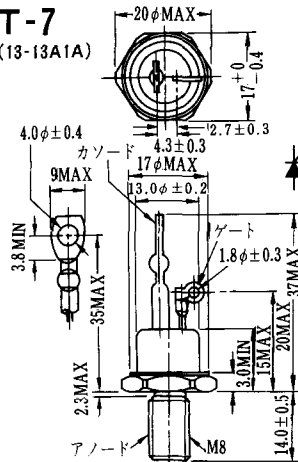
- 1 カソード
- 2 アノード
- 3 ゲート

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



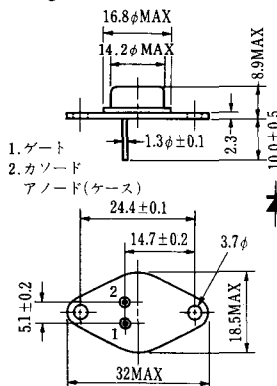
- 1 カソード
- 2 アノード
- 3 ゲート

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



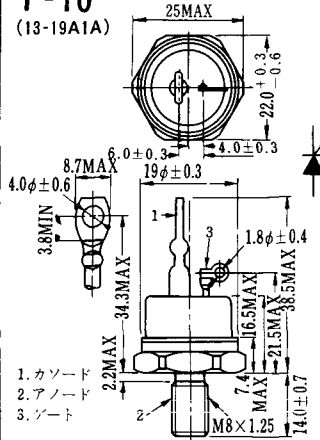
1. ゲート
2. カソード
3. アノード(ケース)

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



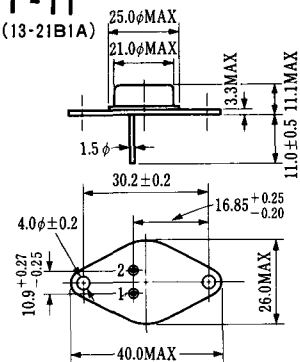
1. ゲート  
2. カソード  
3. アノード(ケース)

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



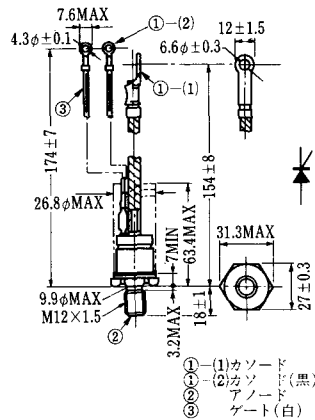
1. カソード  
2. アノード  
3. ゲート

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



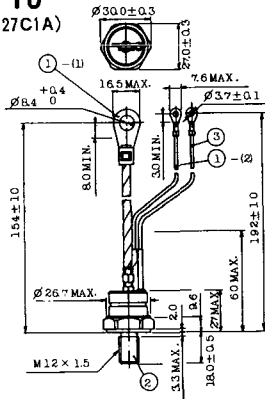
1. ゲート  
2. カソード  
3. アノード(ケース)

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



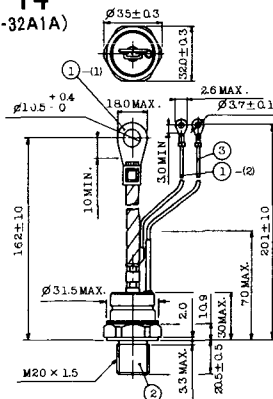
- ①(1) カソード  
①(2) カソード(黒)  
② アノード  
③ ゲート(白)

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



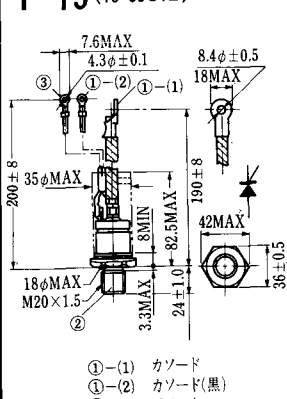
- 1-① カソード      P アノード  
1-② カソード(黒)      B ゲート(白)

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



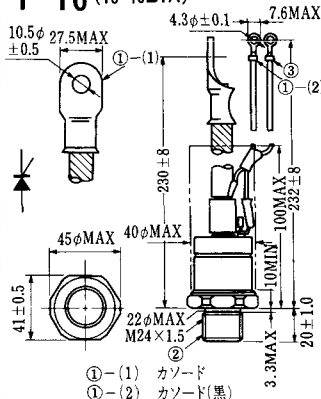
- 1-① カソード      P アノード  
1-② カソード(黒)      B ゲート(白)

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



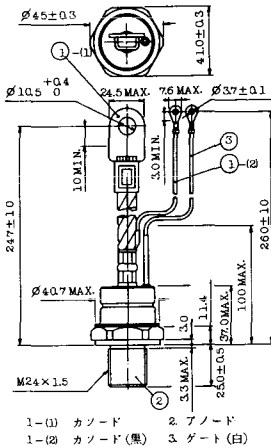
- ①(1) カソード  
①(2) カソード(黒)  
② アノード  
③ ゲート(白)

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

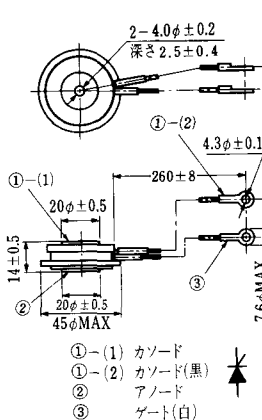


- ①(1) カソード  
①(2) カソード(黒)  
② アノード  
③ ゲート(白)

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



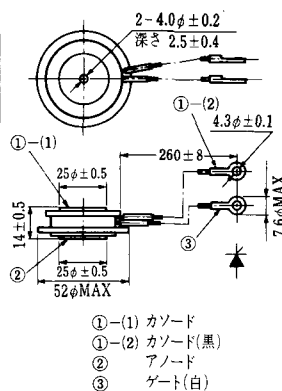
**T-18 (13-45D1A)**



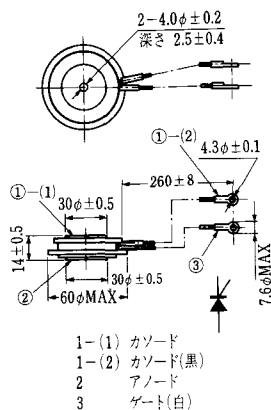
**T-19 (13-52B1A)**



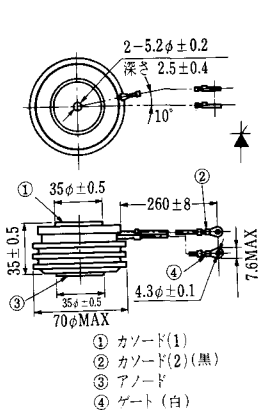
**T-20 (13-52C1A)**



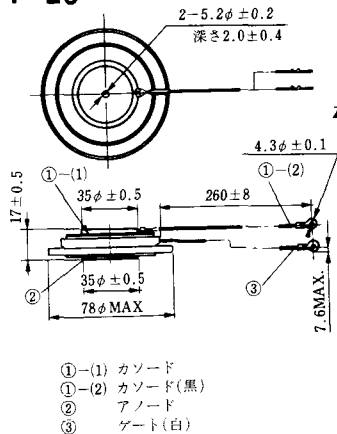
**T-21 (13-60A1A)**



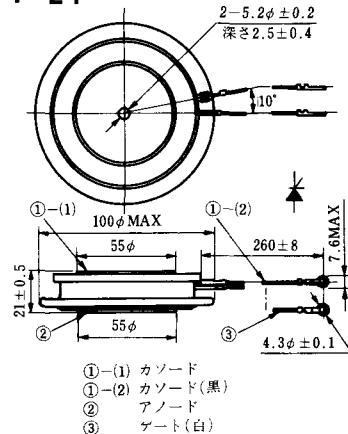
**T-22 (13-70C1A)**



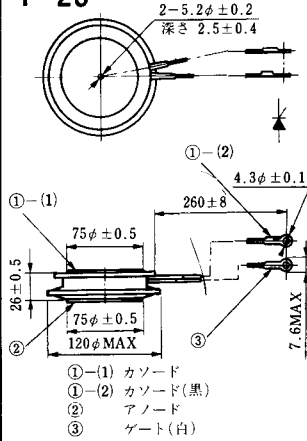
**T-23 (13-78A1A)**



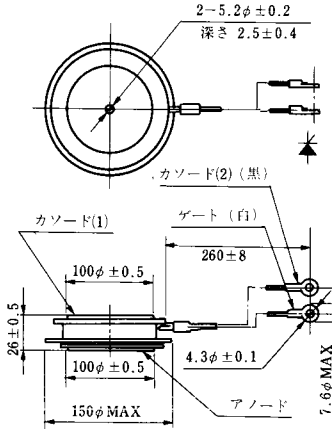
**T-24 (13-100C1A)**



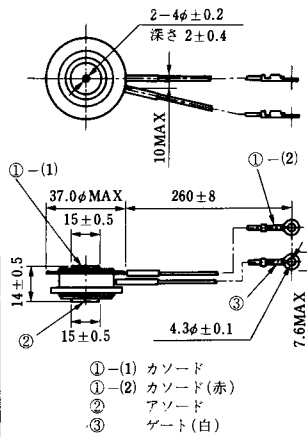
**T-25** (13-120A2A)



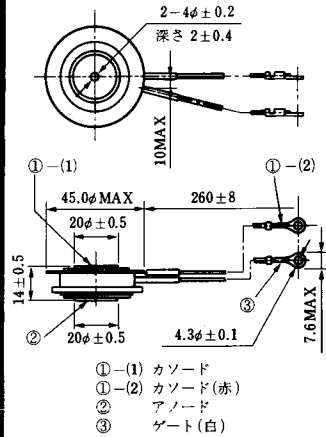
**T-26** (13-150A1A)



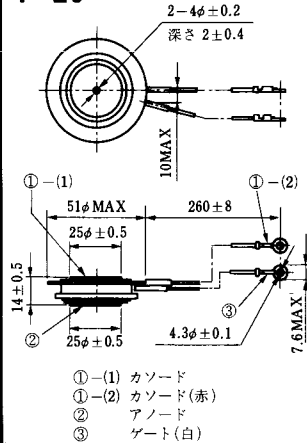
**T-27** (13-37A1A)



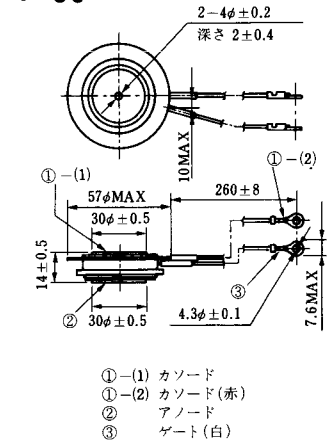
**T-28** (13-45E1A)



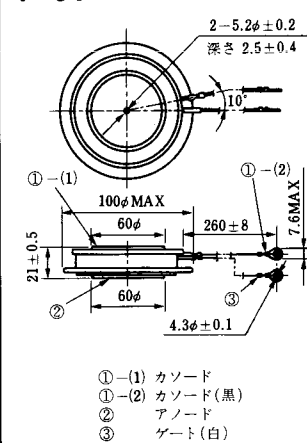
**T-29** (13-51A1A)



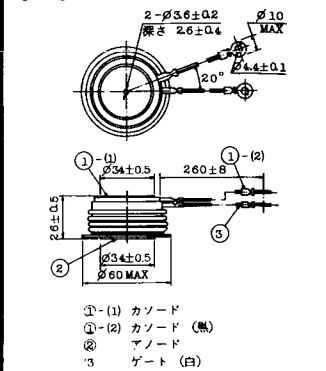
**T-30** (13-57A1A)



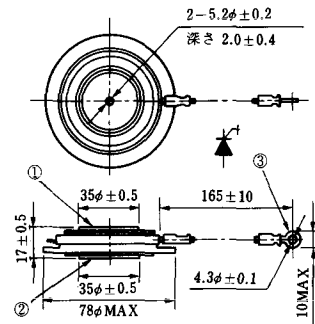
**T-31** (13-100E1A)



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

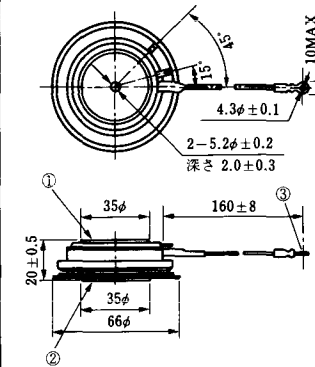


**T-33 (13-78B1A)**



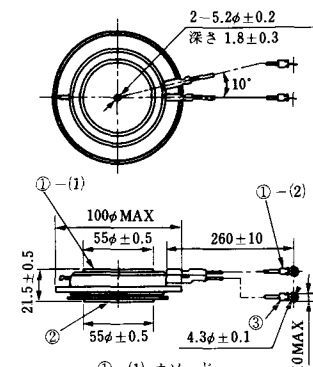
- ① カソード
- ② アノード
- ③ ゲート

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



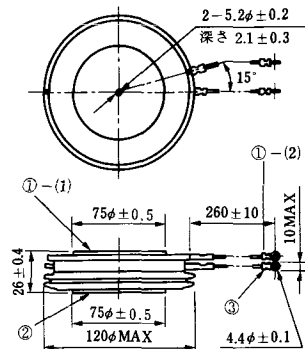
- ① カソード
- ② アノード
- ③ ゲート

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



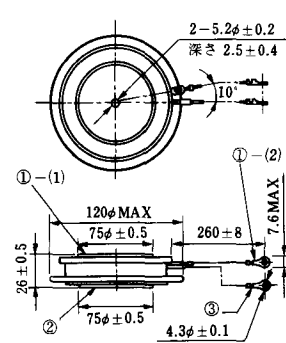
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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



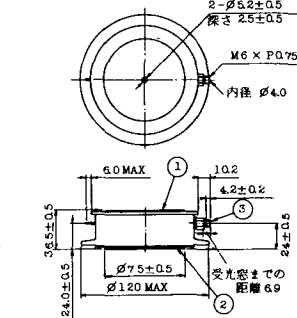
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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



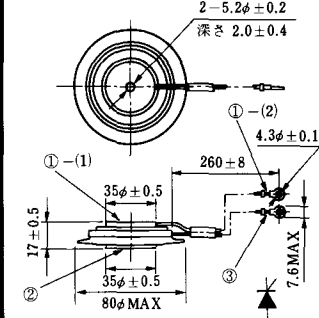
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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



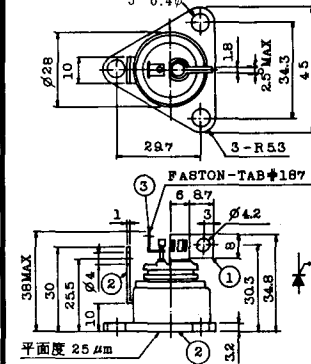
- ① カソード
- ② アノード
- ③ ゲート

**T-39 (13-80B1A)**



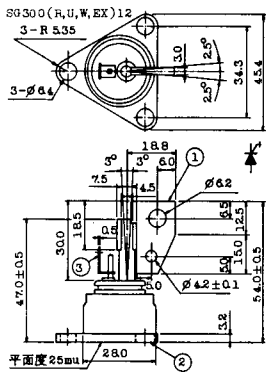
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

**T-40 (13-28A1A)**



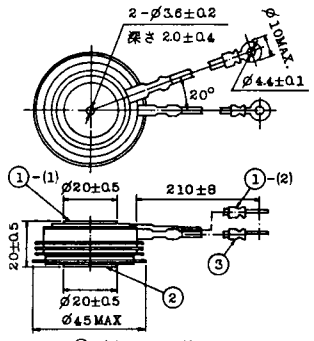
- 1. カソード
- 2. アノード
- 3. ゲート

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



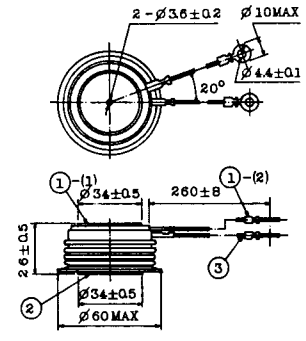
- 1 カソード
- 2 アノード
- 3 ゲート

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



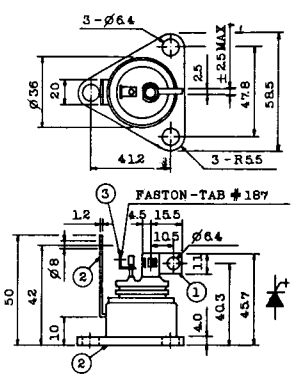
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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



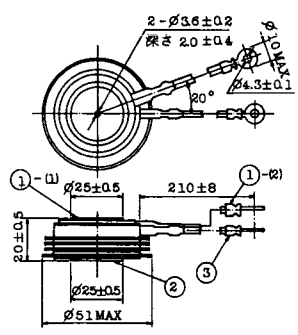
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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



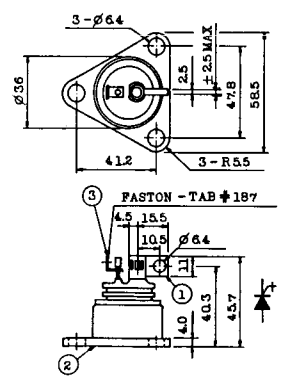
- 1 カソード
- 2 アノード
- 3 ゲート

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



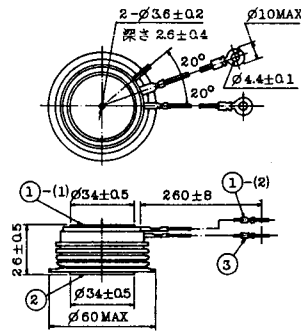
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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



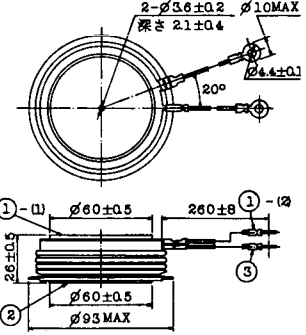
- 1 カソード
- 2 アノード
- 3 ゲート

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



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

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



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

**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)



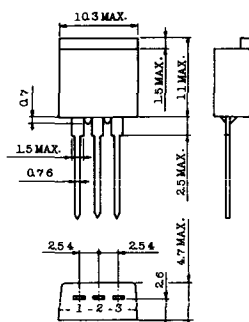
- 1 カソード
- 2 アノード
- 3 ゲート

**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)



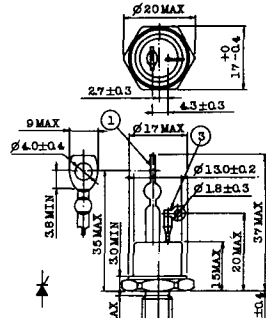
- 1 カソード
- 2 アノード
- 3 ゲート

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



- 1 カソード
- 2 アノード
- 3 ゲート

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



- 1 カソード
- 2 アノード
- 3 ゲート

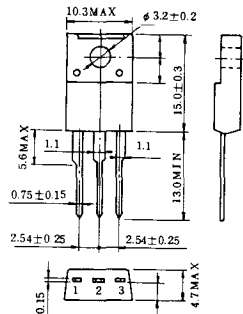


T-57 (12-16C1A)



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)



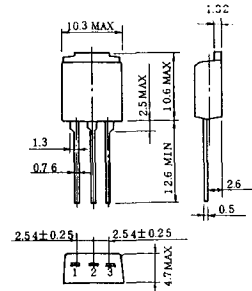
1. カソード
2. アノード
3. ゲート

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)



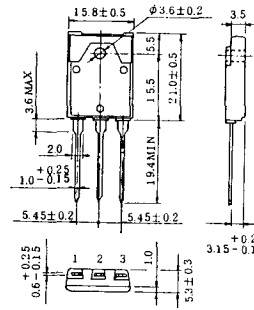
1. ゲート
2. アノード
3. カソード

T-62 (13-10H1A)



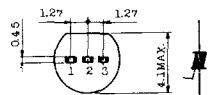
1. カソード
2. アノード
3. ゲート

T-63 (13-16A1B)



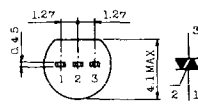
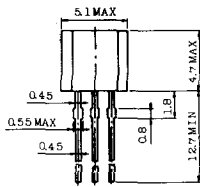
1. カソード
2. アノード
3. ゲート

TT-1



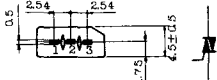
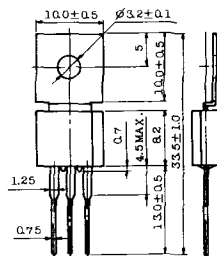
- 1 ゲート
- 2 T<sub>2</sub>
- 3 T<sub>1</sub>

TT-2



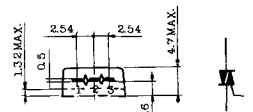
- 1 T<sub>1</sub>
- 2 ゲート
- 3 T<sub>2</sub>

TT-3



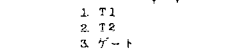
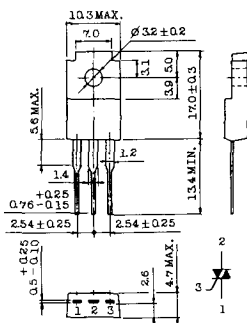
- 1 T<sub>1</sub>
- 2 T<sub>2</sub>
- 3 ゲート

TT-4



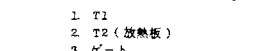
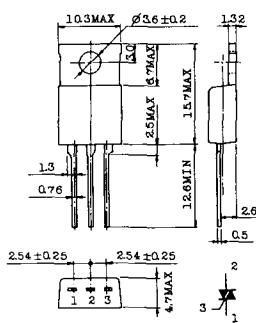
- 1 T<sub>1</sub>
- 2 T<sub>2</sub>
- 3 ゲート

TT-5



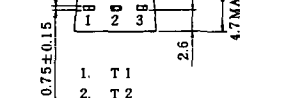
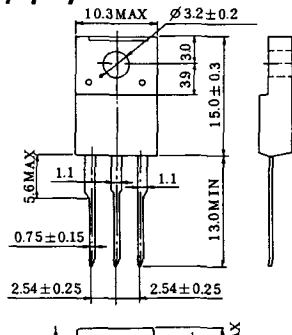
- 1 T<sub>1</sub>
- 2 T<sub>2</sub>
- 3 ゲート

TT-6



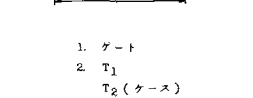
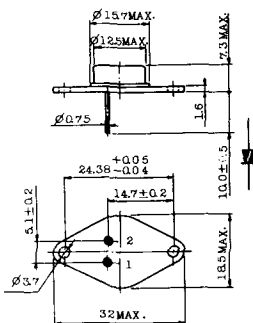
- 1 T<sub>1</sub>
- 2 T<sub>2</sub> (放熱板)
- 3 ゲート

TT-7



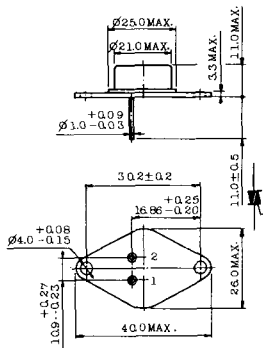
- 1 T<sub>1</sub>
- 2 T<sub>2</sub>
- 3 ゲート

TT-8



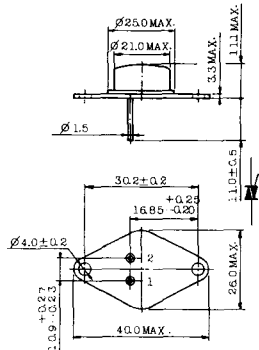
- 1 ゲート
- 2 T<sub>1</sub>
- T<sub>2</sub> (ケース)

TT-9



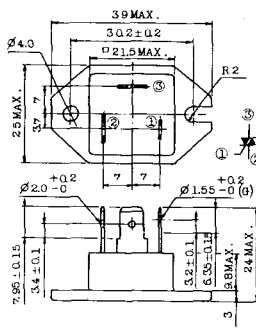
1. ゲート
2. T<sub>1</sub>
3. T<sub>2</sub> (ケース)

TT-10



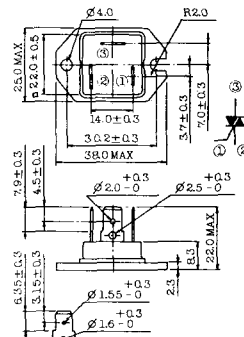
1. ゲート
2. T<sub>1</sub>
3. T<sub>2</sub> (ケース)

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)

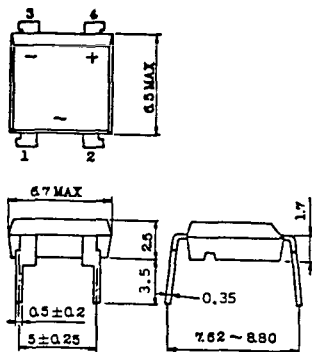
TT-12



ゲート端子詳細

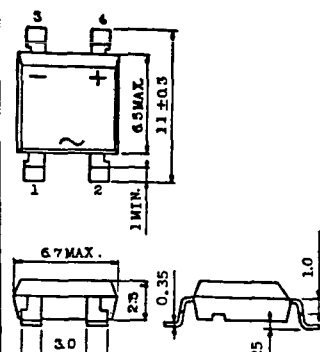
- ① ゲート (フーストン端子 #187)
- ② T<sub>1</sub> ( " #250)
- ③ T<sub>2</sub> ( " #250)

TT-13



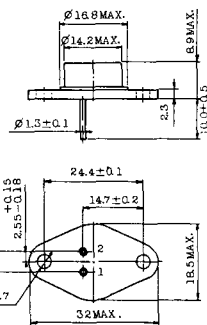
- 1, 2: T<sub>2</sub>
- 3: GATE
- 4: T<sub>1</sub>

TT-14



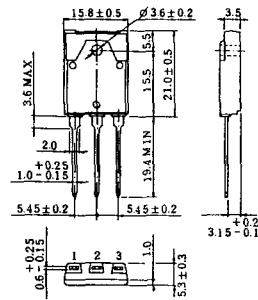
- 1, 2: T<sub>2</sub>
- 3: GATE
- 4: T<sub>1</sub>

TT-15 (13-14A1B)



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

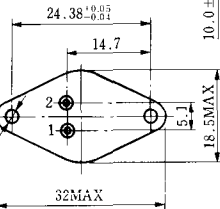
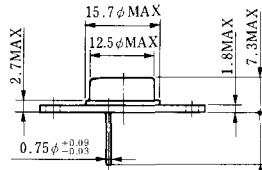
TT-16 (13-16A1A)



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

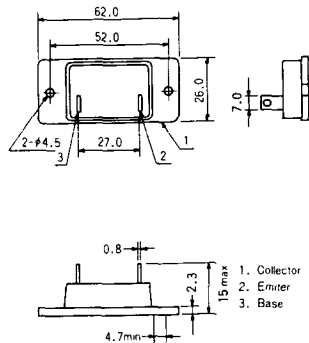


# TS-8

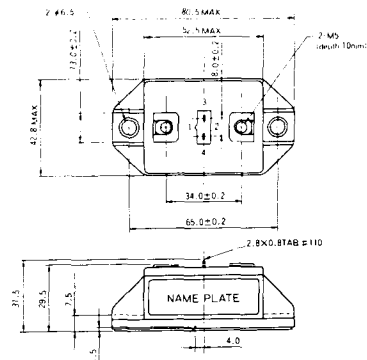


- 1. ベース
- 2. エミッタ  
コレクタ  
(ケース)

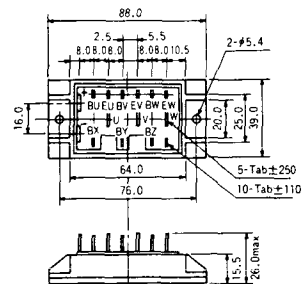
### S-62A1A



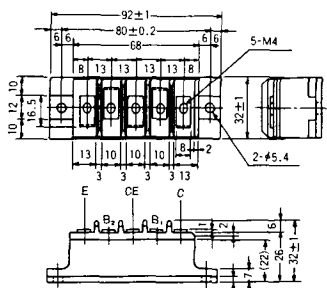
### S-80A1A



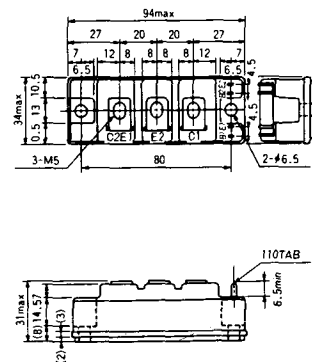
### S-88D1A



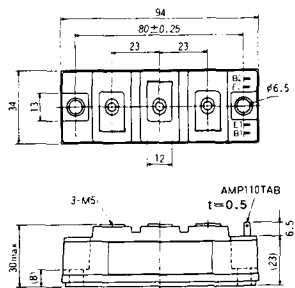
### S-92B1A



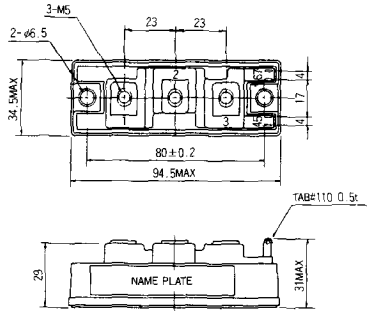
### S-94B1A



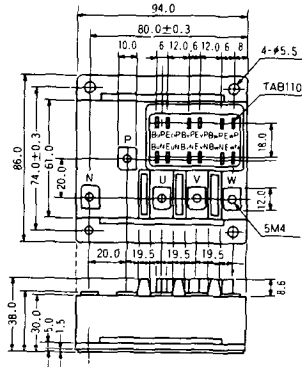
### S-94B1B



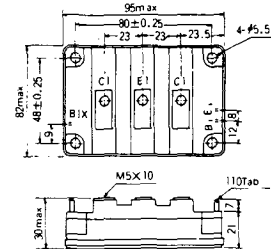
S-94B2A



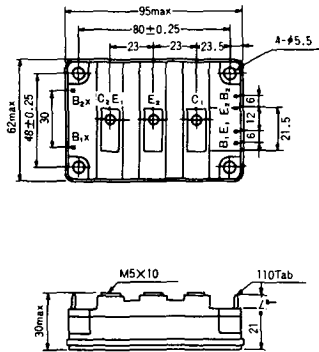
S-94D1A



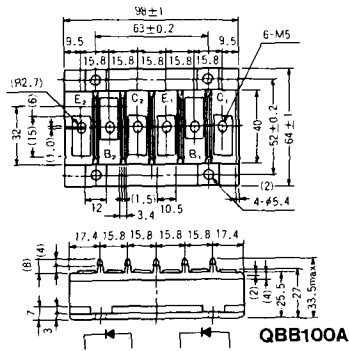
S-95A1A



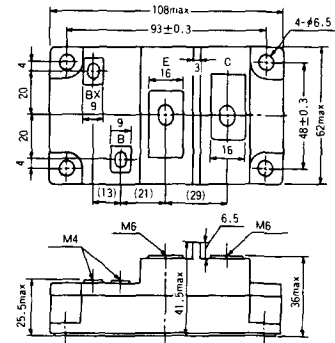
S-95B1A



S-98B1B



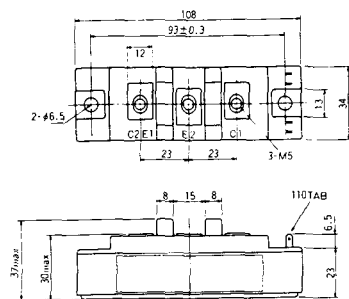
S-108A2A



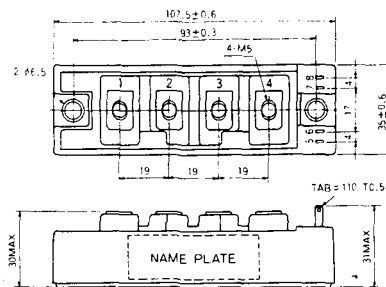
S-108B1A



S-108B1B



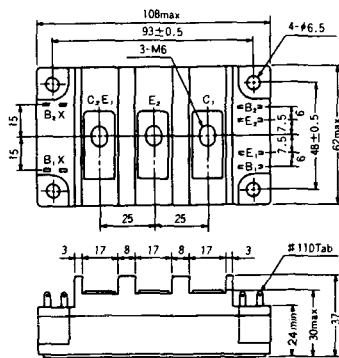
S-108B1C



S-108B2A

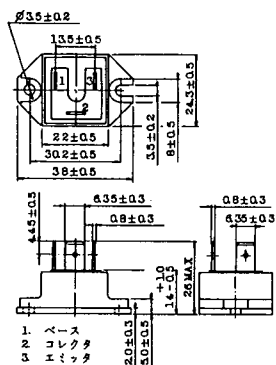


S-108B2B

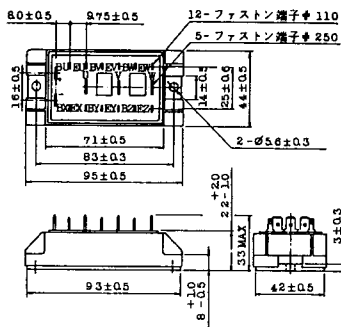




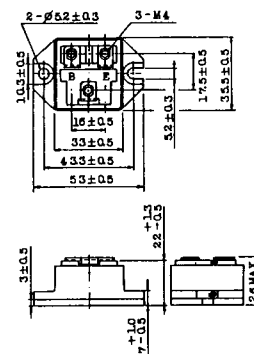
### 2-22B1A



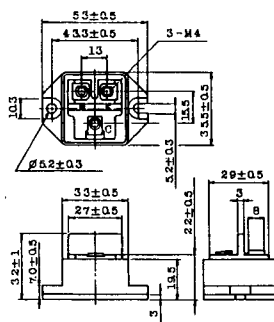
### 2-27A4A



### 2-33C1A



### 2-33D1A



### 2-33F1A



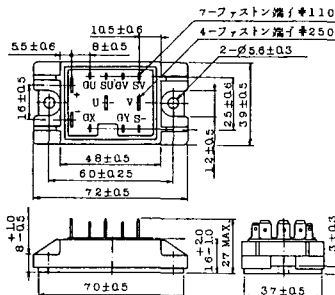
### 2-37A1A



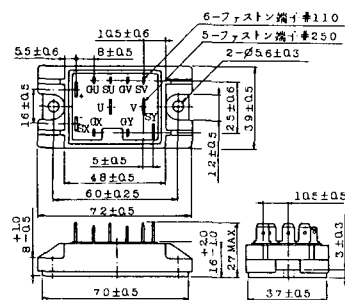
2-48A3A



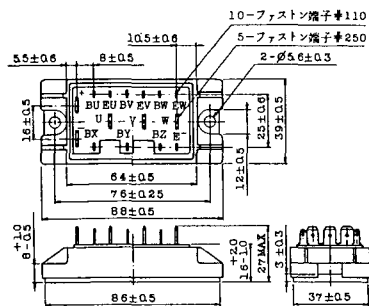
2-48A3B



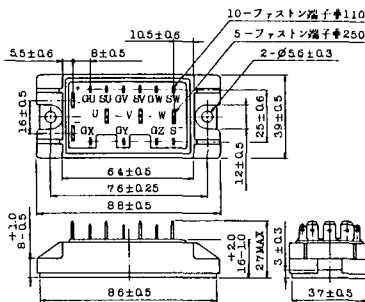
2-48A4A



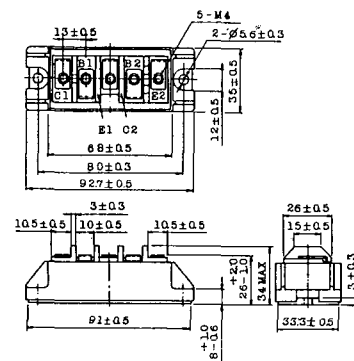
2-64A2A



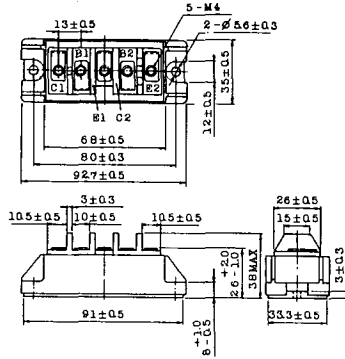
2-64A2B



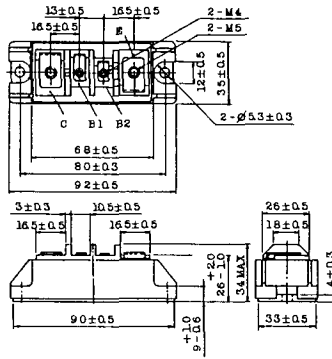
2-68A2A



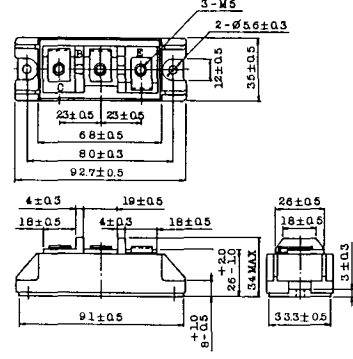
2-68B2A



2-68C1A



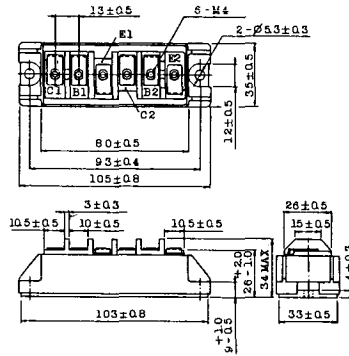
2-68D2A



2-72A3A



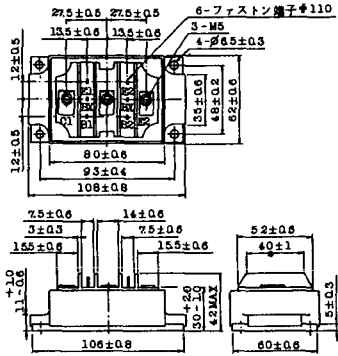
2-80A1A



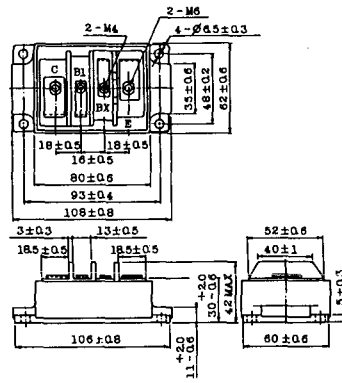
2-80B1A



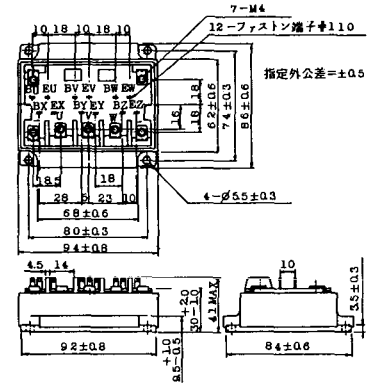
### 2-80C1A



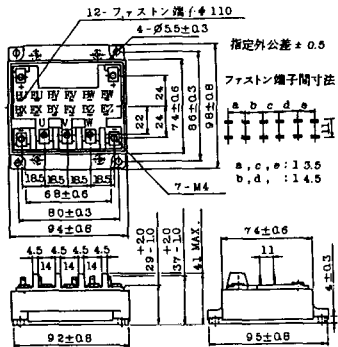
### 2-80D2A



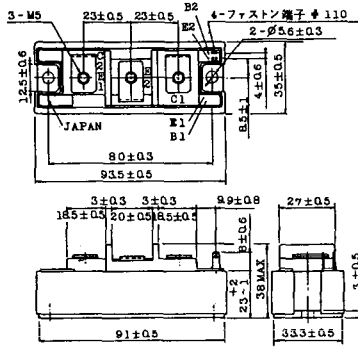
### 2-94A2A



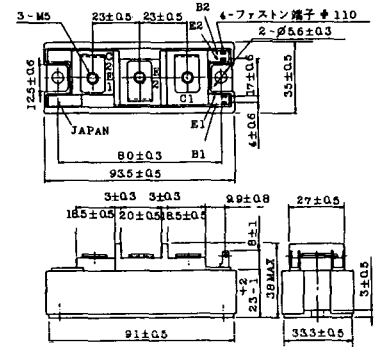
### 2-94B1A



### 2-94C2A



### 2-94C3A



2-94D1A



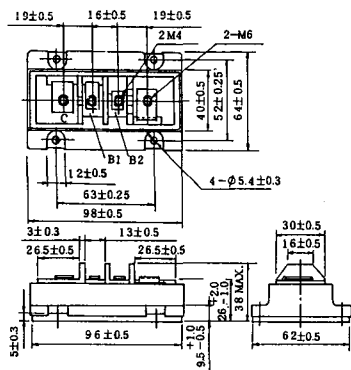
2-96A3A



2-96A4A



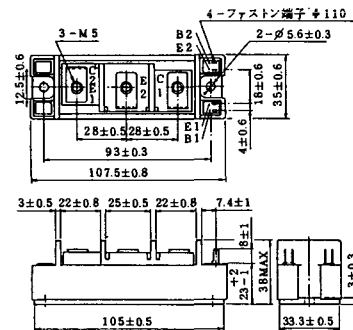
2-98B1A



2-98C2A



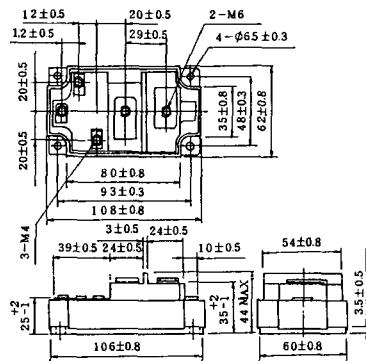
2-108A2A



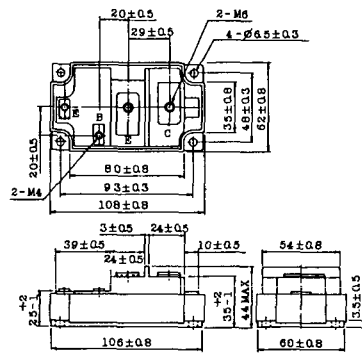
### 2-108B1A



### 2-109A3A



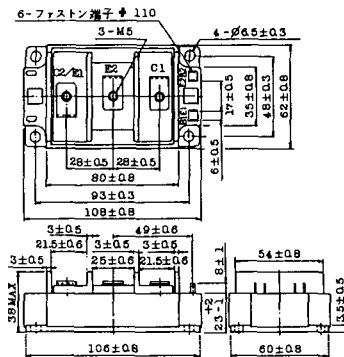
### 2-109A4A



### 2-109B3A

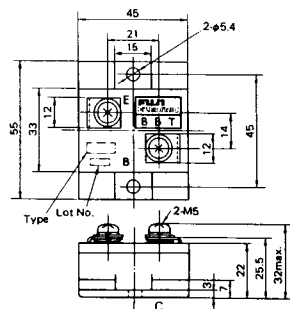


### 2-109B4A



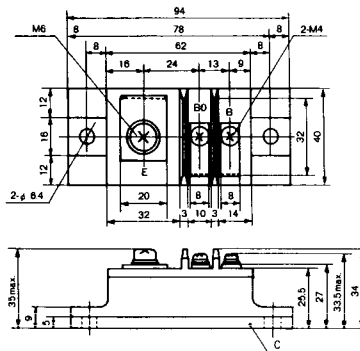
### BBT-II

BBTII  
1D200A-020



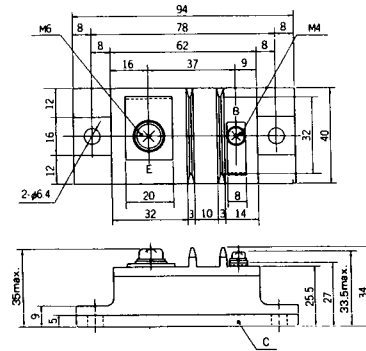
### BBT-III

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



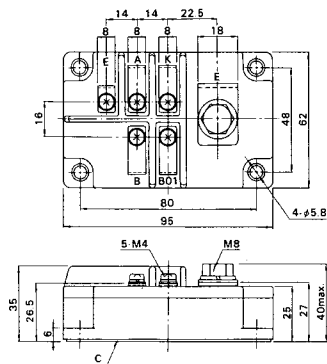
### BBT-III

BBTIII  
ETN01-055  
ET1257

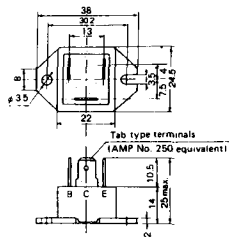


### BBT-IV

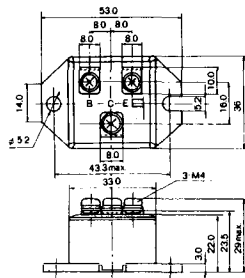
BBTIV  
1D500A-030



M-101



M-102



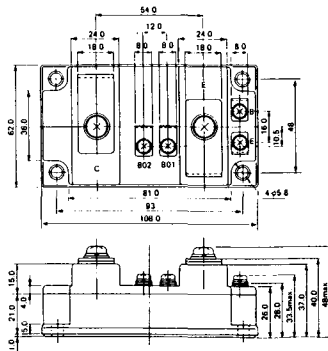
M-103



M-104



M-105



M-106

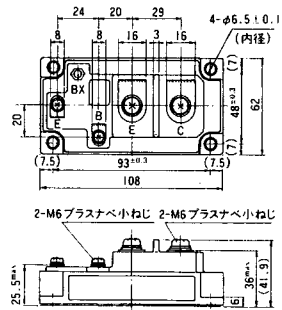




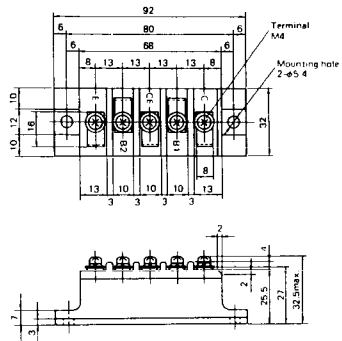
### M-107



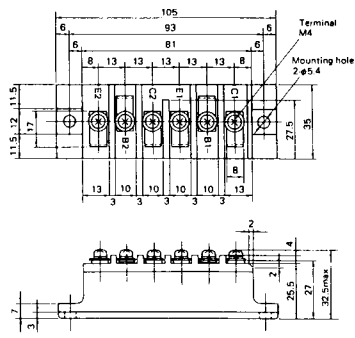
### M-116



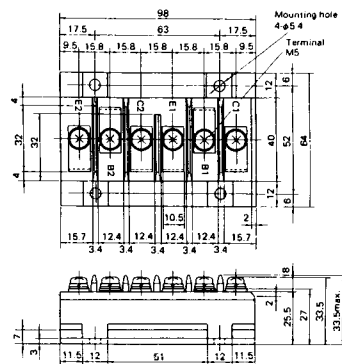
### M-201



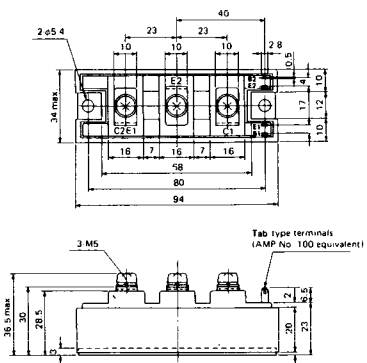
### M-202



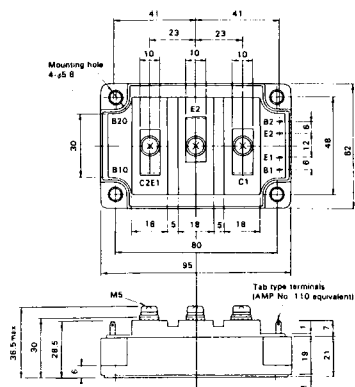
### M-203



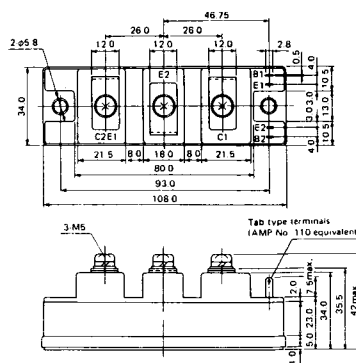
### M-204



### M-205



### M-206



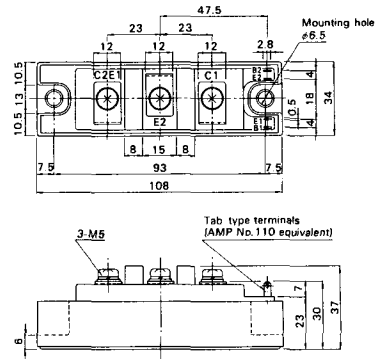
M-207



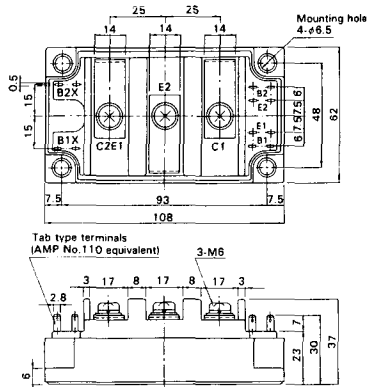
M-208



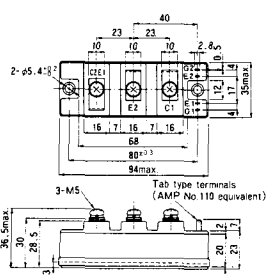
M-209



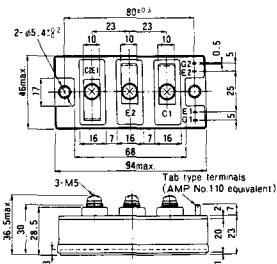
M-210



M-211



M-212



M-213

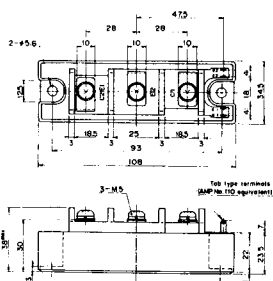


M-214

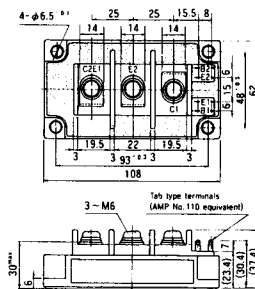
M-215



M-216



M-217



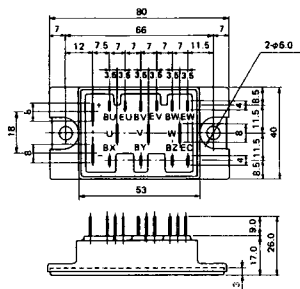
M-218



M-219



### M-601



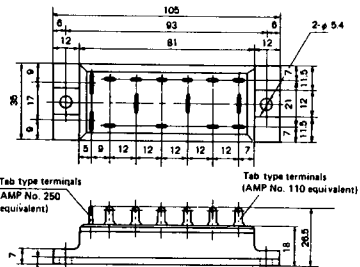
Tab type terminals  
(AMP No. 110 equivalent)



Tab type terminals  
(AMP No. 250 equivalent)



### M-602

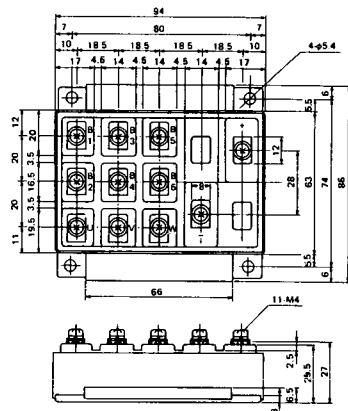


Tab type terminals  
(AMP No. 250 equivalent)

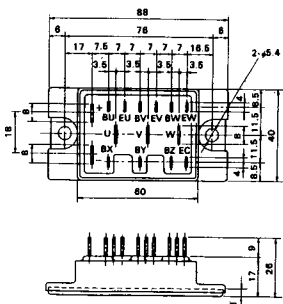
Tab type terminals  
(AMP No. 110 equivalent)



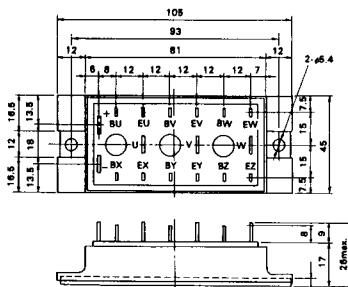
### M-603



### M-604

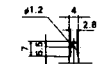


### M-605

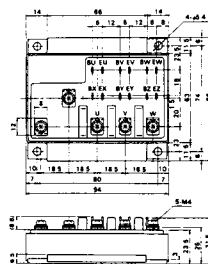


Tab type terminals  
(AMP No. 110 equivalent)

Tab type terminals  
(AMP No. 250 equivalent)



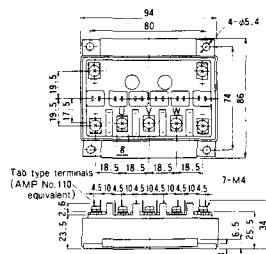
### M-606



M-607



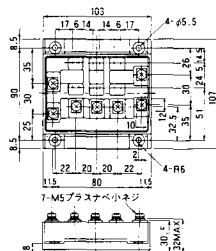
M-608



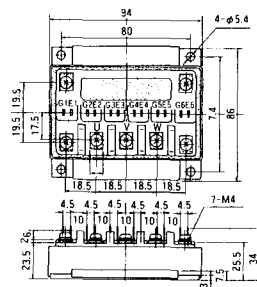
M-609



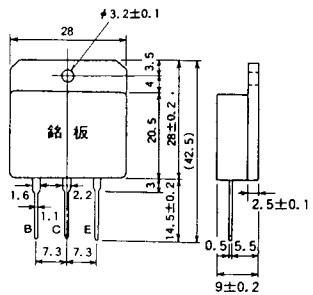
M-610



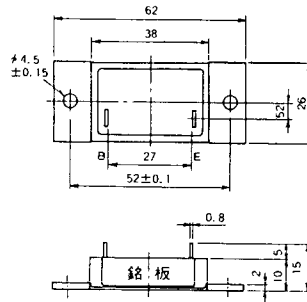
M-616



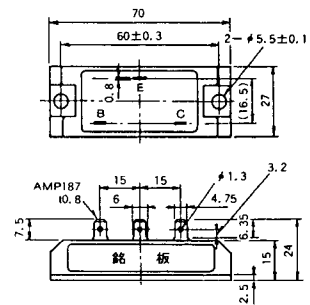
### M-1A1A



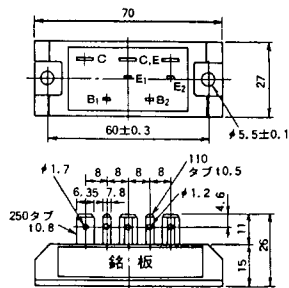
### M-2A1A



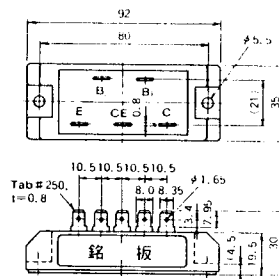
### M-2B1A



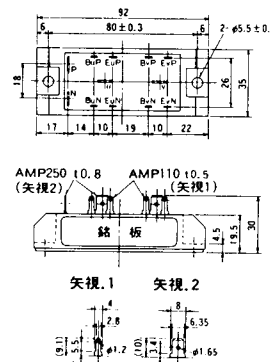
### M-2B2A



### M-2C2A



### M-2D4A







M-3C1A



M-3D6A



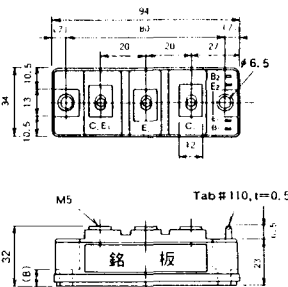
M-3E6A



M-4A1A



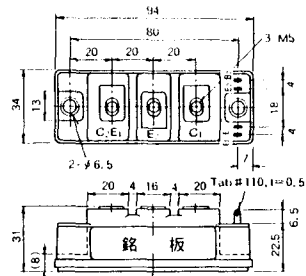
M-4A2A



M-4A1B



M-4A2B



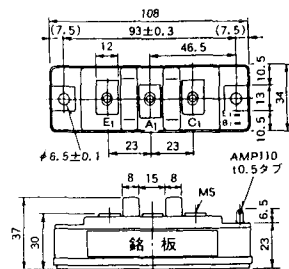
M-4B2A



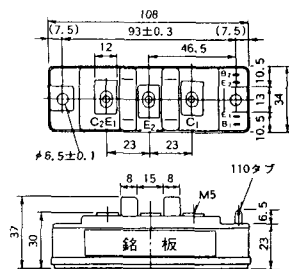
M-5A1A



M-5A1B



M-5A2A



M-5B2A



M-5C2A



M-5D2A



M-6A1A



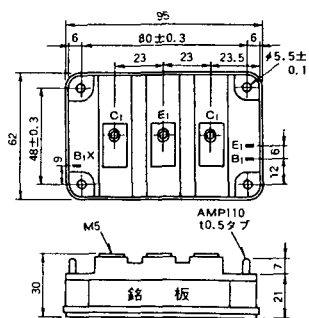
M-7A1A



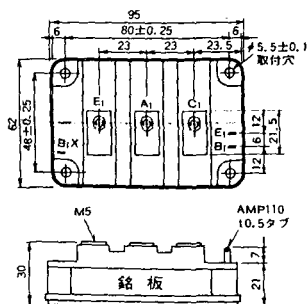
M-7B1A



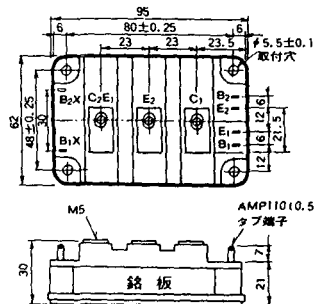
M-8A1A



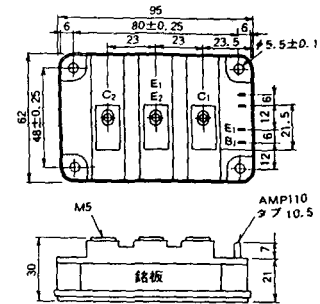
### M-8A1B



### M-8A2A



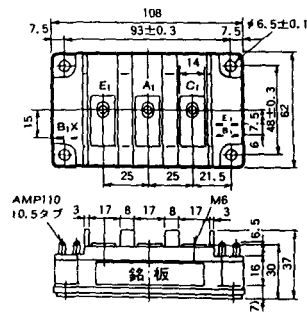
### M-8A2B



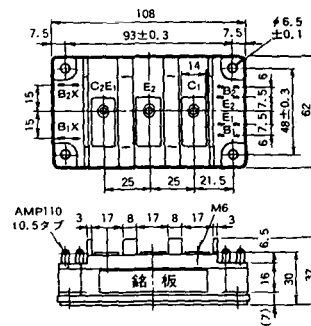
### M-8B2A



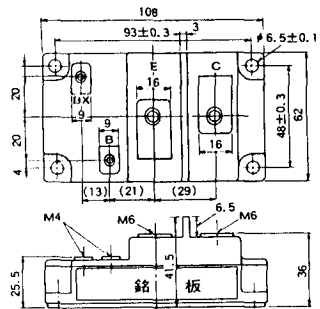
### M-9A1A



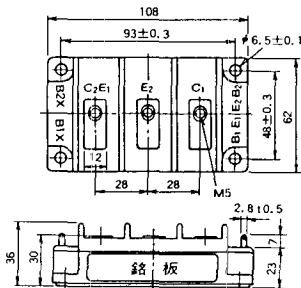
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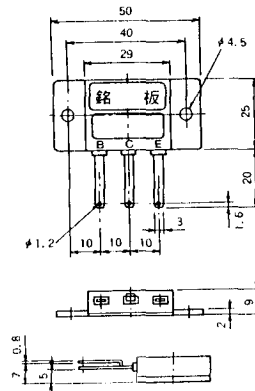
M-9B1A



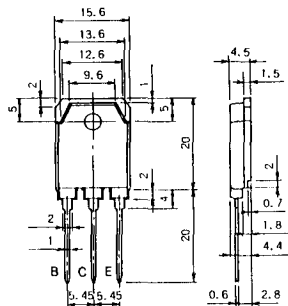
M-9C2A



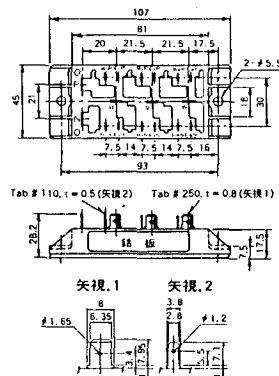
M-1A1B



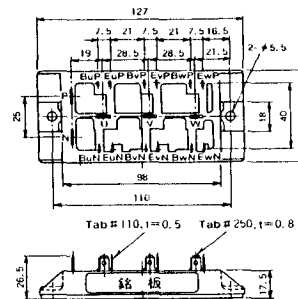
M-1A1C



M-2E6B



M-2E6C

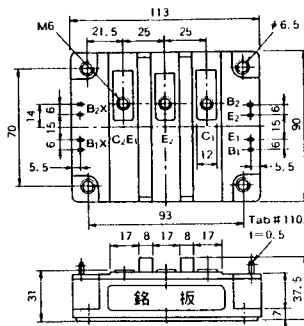




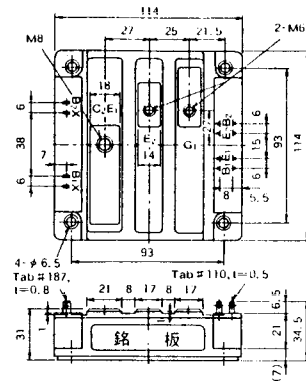
M-10A2A



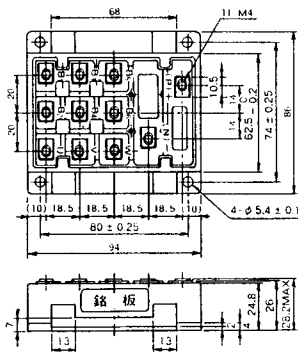
M-10A2B



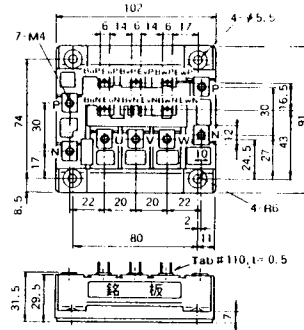
M-11A2A



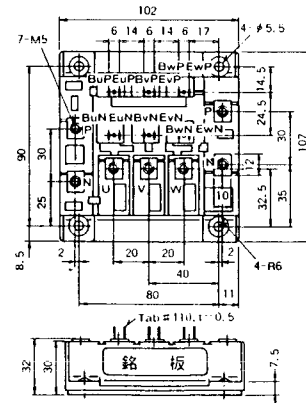
M-12A6A



M-12B6A

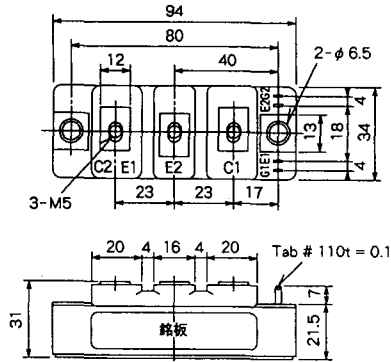


M-12B6B

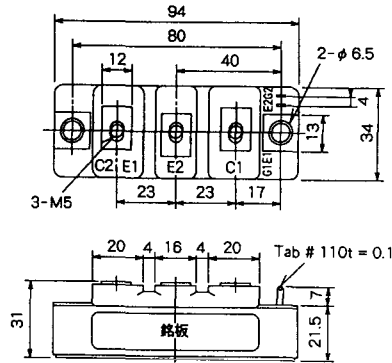




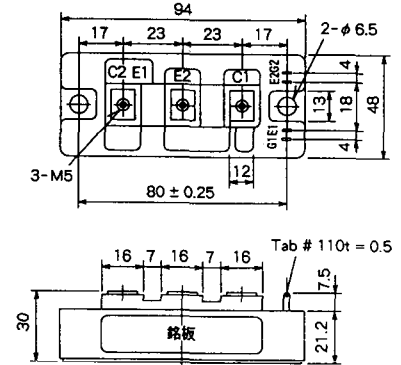
M-4A2D



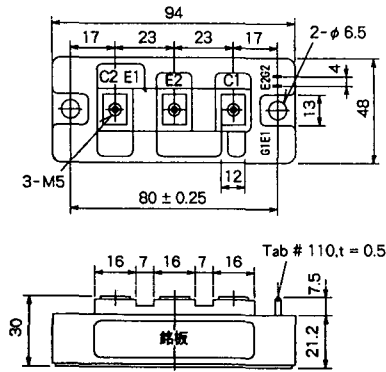
M-4A2E



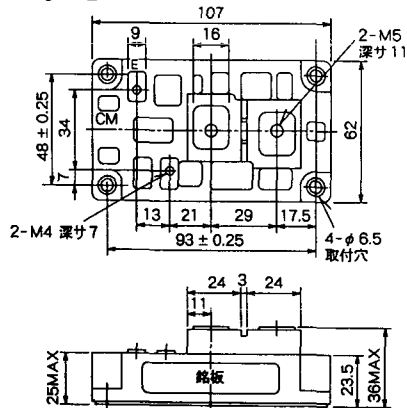
M-4C2A



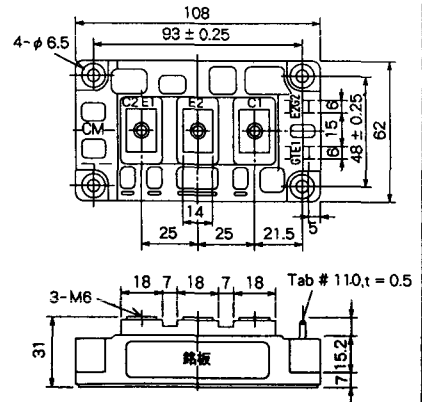
M-4C2B



M-9B1C



M-9D2A



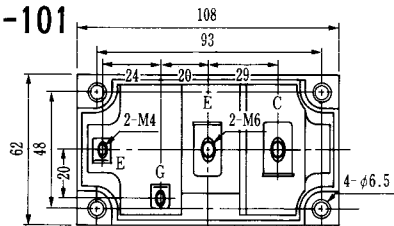
M-9D2B



M-10A2C

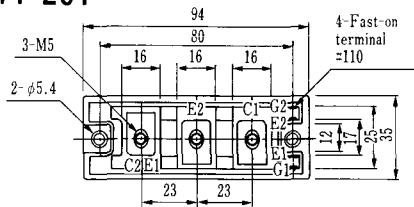


H-101



Weight :480g

### H-201



Weight: 200g

### H-202



Weight: 360g

### LF-J



### LF-K



