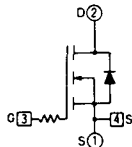


トランジスタ・モジュール (シリコンNチャネル MOS FET 1個/2個内蔵)

- MOS FETを1個/2個内蔵
- 絶縁形
- フリーホイール・ダイオード付
- UL認定品: No. E76102 (M)

■等価回路

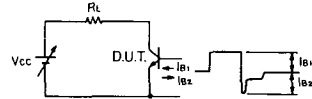
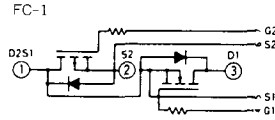
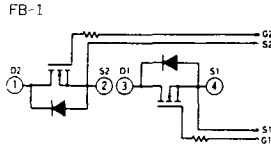
SF-1



注1. \$: duty=75%, #: duty=90%, \*: duty=80%. 注2.  $T_c = 25^\circ\text{C}$ . 注3. A.C. 1分間。

型名	最大定格							電 気 的 特 性																
	$(T_c = 25^\circ\text{C})$							$(T_c = 25^\circ\text{C})$																
	$V_{DS}$ (V)	$V_{GS}$ (V)	$I_D$ (注1) (A)	$I_{DP}$ (ms) (A)	$P_D$ (注2) (W)	$T_{cb}$ ( $^\circ\text{C}$ )	$T_{stg}$ ( $^\circ\text{C}$ )	$V_{GS}$ (注3) (V)	$I_{GSS}$ (nA) 最大	$V_{GS}$ (V) 最大	$I_{DSS}$ (mA) 最大	$V_{DS}$ (V) 最大	$V_{(DR)DSS}$ (V) 最小	$I_D$ (mA) 最小	$V_{GS(OFF)}$ (V) 最小	$V_{GS(OFF)}$ (V) 最大	$V_{DS}$ (V)	$I_D$ (mA)	$ Y_{fs} $ (S) * 標準値	$R_{DS(ON)}$ ( $\Omega$ ) 最大	$V_{GS}$ (V)	$I_D$ (A)		
SF100AA20	200	$\pm 20$	$\pm 100$	360	500	150	-40~125	2500	$\pm 500$	$\pm 20$	1.0	200	200	1.0	2.0	4.0	$V_{GS}$	15	45*	10	50	0.025	15	50
SF100AA50	500	$\pm 20$	$\pm 100$ \$	200	780	150	-40~125	2500	$\pm 1000$	$\pm 20$	2.0	500	500	1.0	1.5	4.0	$V_{GS}$	15	50*	10	50	0.050	15	50
SF150AA20	200	$\pm 20$	$\pm 150$ #	500	700	150	-40~125	2500	$\pm 750$	$\pm 20$	1.0	200	200	1.0	2.0	4.0	$V_{GS}$	15	65*	10	75	0.017	15	75
SF200AA10	100	$\pm 20$	$\pm 200$ *	700	500	150	-40~125	2500	$\pm 750$	$\pm 20$	1.0	100	100	1.0	2.0	4.0	$V_{GS}$	15	100*	10	100	0.008	15	100
FBA50AA45	450	$\pm 20$	$\pm 50$	100	400	150	-40~125	2500	$\pm 500$	$\pm 20$	1.0	450	450	1.0	1.5	4.0	$V_{GS}$	10	25*	10	25	0.1	15	25
FBA50AA50	500	$\pm 20$	$\pm 50$	100	400	150	-40~125	2500	$\pm 500$	$\pm 20$	1.0	500	500	1.0	1.5	4.0	$V_{GS}$	10	25*	10	25	0.1	15	25
FBA75AA45	450	$\pm 20$	$\pm 75$	150	690	150	-40~125	2500	$\pm 500$	$\pm 20$	1.0	450	450	1.0	1.5	4.0	$V_{GS}$	10	40*	10	40	0.1	15	40
FBA75AA50	500	$\pm 20$	$\pm 75$	150	690	150	-40~125	2500	$\pm 500$	$\pm 20$	1.0	500	500	1.0	1.5	4.0	$V_{GS}$	10	40*	10	40	0.1	15	40
FCA50AA45	450	$\pm 20$	$\pm 50$	100	300	150	-40~125	2500	$\pm 500$	$\pm 20$	1.0	450	450	1.0	1.5	4.0	$V_{GS}$	10	25*	10	25	0.1	15	25
FCA50AA50	500	$\pm 20$	$\pm 50$	100	300	150	-40~125	2500	$\pm 500$	$\pm 20$	1.0	500	500	1.0	1.5	4.0	$V_{GS}$	10	25*	10	25	0.1	15	25
FCA50AB45	450	$\pm 20$	$\pm 50$	100	300	150	-40~125	2500	$\pm 500$	$\pm 20$	1.0	450	450	1.0	1.5	4.0	$V_{GS}$	10	25*	10	25	0.1	15	25
FCA50AB50	500	$\pm 20$	$\pm 50$	100	300	150	-40~125	2500	$\pm 500$	$\pm 20$	1.0	500	500	1.0	1.5	4.0	$V_{GS}$	10	25*	10	25	0.1	15	25
FCA50AC45	450	$\pm 20$	$\pm 50$	100	400	150	-40~125	2500	$\pm 500$	$\pm 20$	1.0	450	450	1.0	1.5	4.0	$V_{GS}$	10	25*	10	25	0.1	15	25
FCA50AC50	500	$\pm 20$	$\pm 50$	100	400	150	-40~125	2500	$\pm 500$	$\pm 20$	1.0	500	500	1.0	1.5	4.0	$V_{GS}$	10	25*	10	25	0.1	15	25

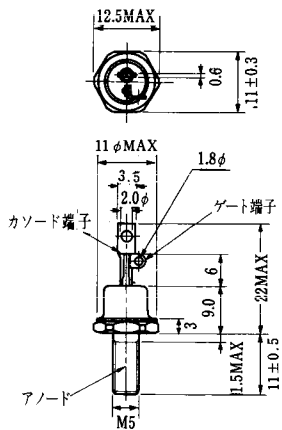
■スイッチング時間測定回路



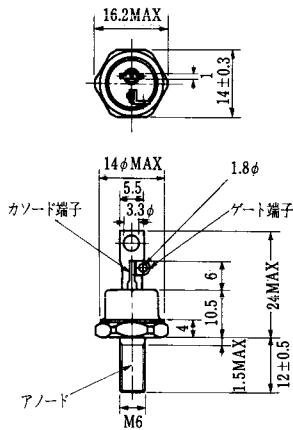
注4. スwitchング時間の \* 印はtyp. 値。

C <sub>iss</sub> (pF)	f (MHz)	スイッチング時間 (ns)						R <sub>G</sub> (Ω)	R <sub>L</sub> (Ω)	I <sub>D</sub> (A)	V <sub>DSF</sub> (V)				熱抵抗		等価回路	外形図	記	事	型名	
		t <sub>r</sub>		t <sub>on</sub>		t <sub>off</sub>					I <sub>D</sub> (A)	標準	I <sub>D</sub> (A)	V <sub>DS</sub> (V)	di/dt (A/μs)	R <sub>th(j-c)</sub> (°C/W)						最大
		最大	最大	最大	最大	最大	最大															
10700	25	0	130 *	80 *	120 *	650 *	10	2.0	50	1.5	-50				0.25	SF-1	S-80A1A	1個内蔵, 専用コネクタ有り	SF100AA20			
24000	25	0	110 *	90 *	250 *	1100 *	10	6.0	50	1.5	-50	300	-50	100	0.16	SF-1	S-80A1A	1個内蔵, 専用コネクタ有り	SF100AA50			
16000	25	0	240 *	80 *	330 *	1300 *	10	1.3	75	1.5	-75				0.18	SF-1	S-80A1A	1個内蔵, 専用コネクタ有り	SF150AA20			
18000	25	0								1.8	-100				0.25	SF-1	S-80A1A	1個内蔵, 専用コネクタ有り	SP200AA10			
12000	25	0	100 *	70 *	250 *	1000 *	10	12	25	1.5	-25	300	-25	100	0.31	FB-1	S-108B1C	2個内蔵 (分離形), U.L.認定品	FBA50AA45			
12000	25	0	100 *	70 *	250 *	1000 *	10	12	25	1.5	-25	300	-25	100	0.31	FB-1	S-108B1C	2個内蔵 (分離形), U.L.認定品	FBA50AA50			
12000	25	0	110 *	70 *	200 *	800 *	10	7.5	40	1.5	-40	320	-40	100	0.18	FB-1	S-108B1C	2個内蔵 (分離形)	FBA75AA45			
12000	25	0	110 *	70 *	200 *	800 *	10	7.5	40	1.5	-40	320	-40	100	0.18	FB-1	S-108B1C	2個内蔵 (分離形)	FBA75AA50			
12000	25	0	100 *	70 *	250 *	1000 *	10	12	25	1.5	-25	300	-25	100	0.41	FC-1	S-94B2A	2個直列接続, U.L.認定品	FCA50AA45			
12000	25	0	100 *	70 *	250 *	1000 *	10	12	25	1.5	-25	300	-25	100	0.41	FC-1	S-94B2A	2個直列接続, U.L.認定品	FCA50AA50			
12000	25	0	100 *	70 *	250 *	1000 *	10	12	25	1.5	-25	300	-25	100	0.41	FC-1	S-94B2A	2個直列接続, U.L.認定品	FCA50AB45			
12000	25	0	100 *	70 *	250 *	1000 *	10	12	25	1.5	-25	300	-25	100	0.41	FC-1	S-94B2A	2個直列接続, U.L.認定品	FCA50AB50			
12000	25	0	100 *	70 *	250 *	1000 *	10	12	25	1.5	-25	300	-25	100	0.31	FC-1	S-108B1A	2個直列接続, U.L.認定品	FCA50AC45			
12000	25	0	100 *	70 *	250 *	1000 *	10	12	25	1.5	-25	300	-25	100	0.31	FC-1	S-108B1A	2個直列接続, U.L.認定品	FCA50AC50			

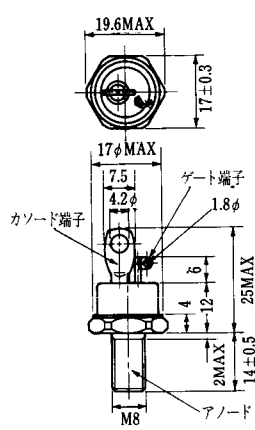
FD-1



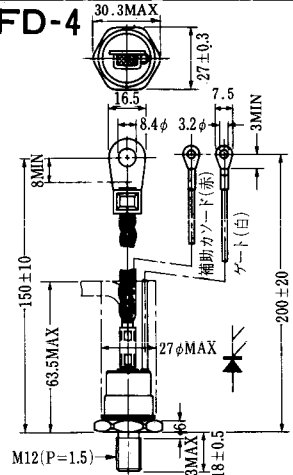
FD-2



FD-3



FD-4



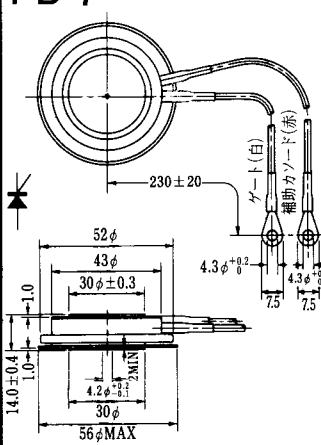
FD-5



FD-6



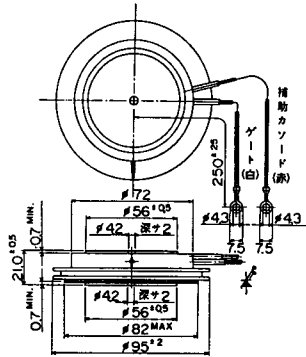
FD-7



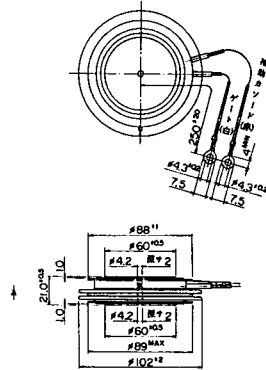
FD-8



FD-9



FD-10



FD-11

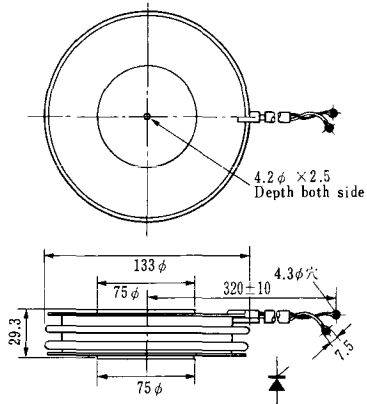
FD-12



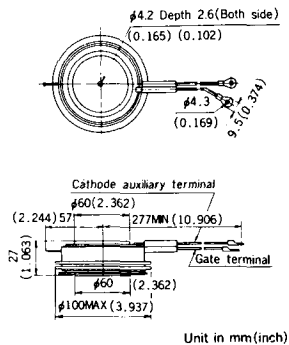


《寸法図単位：mm》

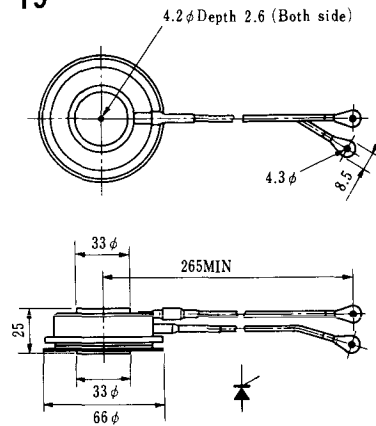
### H-17



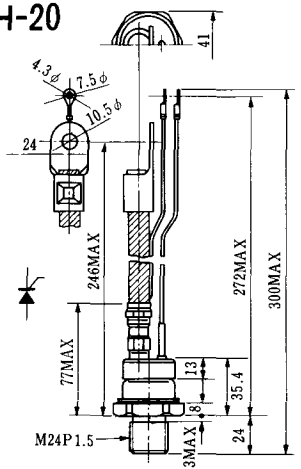
### H-18



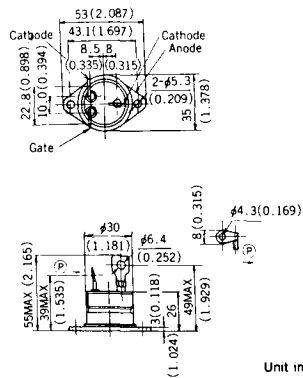
### H-19



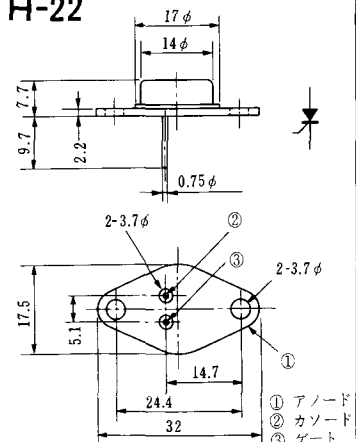
### H-20



### H-21



### H-22

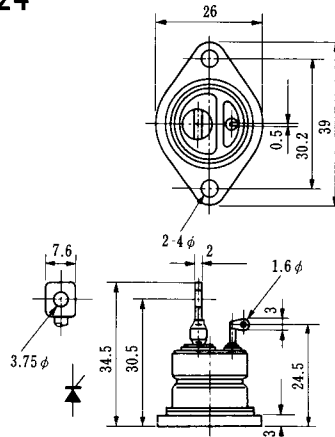


### H-23

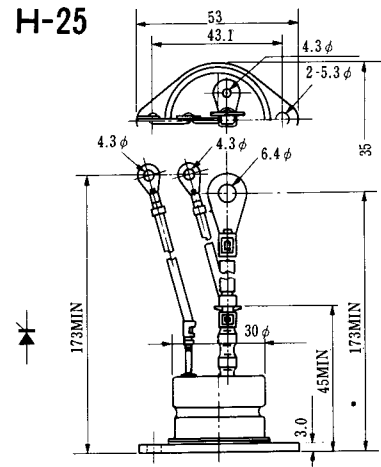


① アノード  
② カソード  
③ ゲート

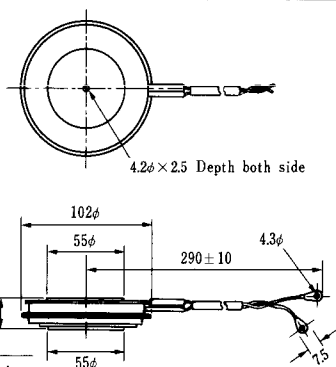
### H-24



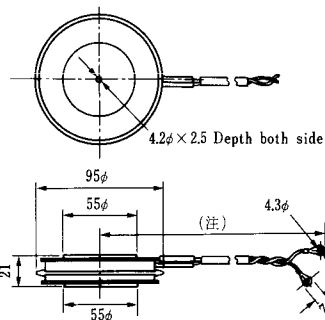
### H-25



### H-26

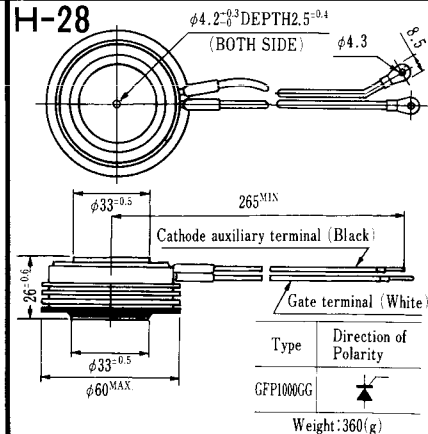


### H-27



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

### H-28



Weight: 360(g)

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

Type	Direction of polarity
CA12	

Type	Direction of polarity
CF11V	

Type	Direction of Polarity
GFP100GG	



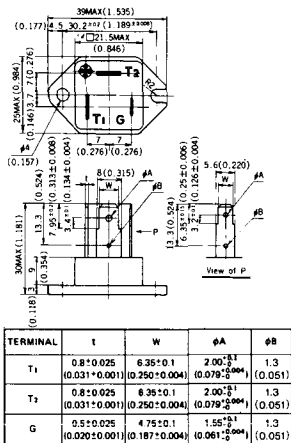


Note : The thickness is a dimension in press at the rated mounting force. Weight: 870(g)



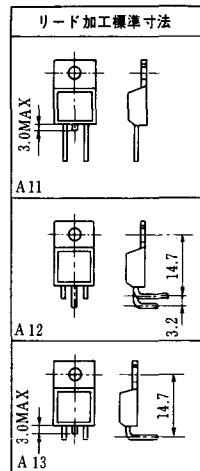
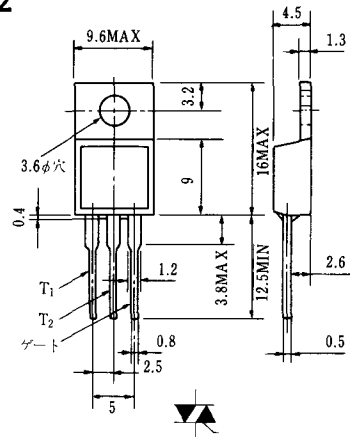
Note : The thickness is a dimension in press at the rated mounting force. Weight: 1,460(g)

# HT-1

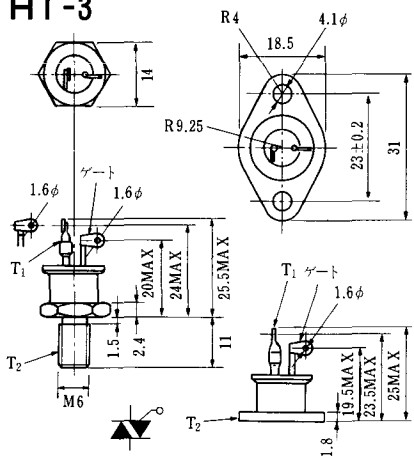


Unit in mm (inch)

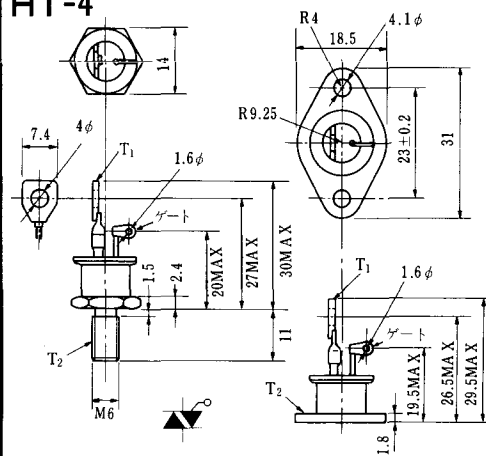
# HT-2



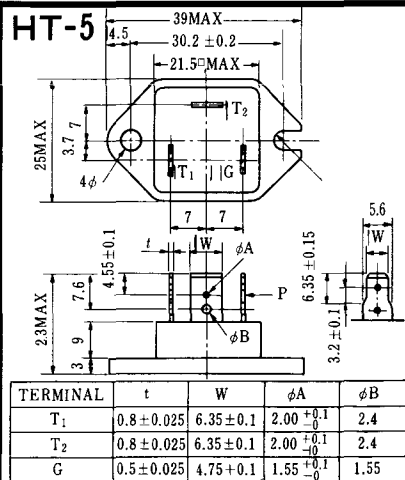
# HT-3



# HT-4



# HT-5



### M-1



### M-2



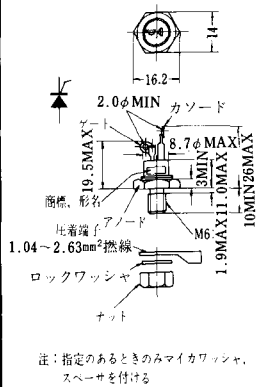
### M-3



### M-4



### M-5



### M-6



### M-7



### M-8



M-9



M-10



M-11



M-12



M-13



M-14



M-15



M-16





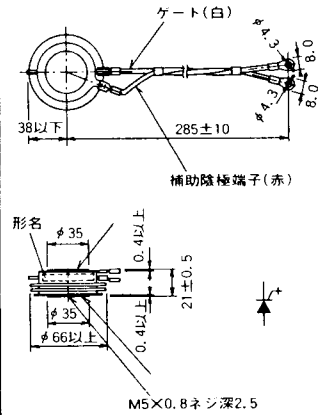
M-25



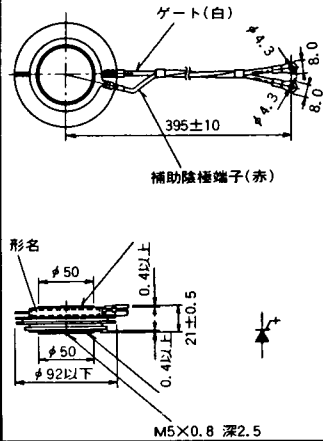
M-26



M-27



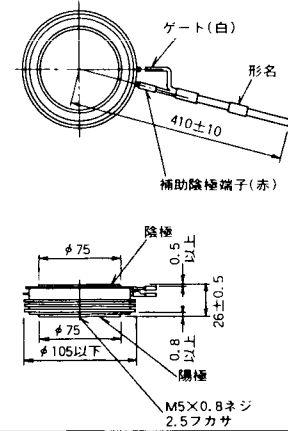
M-28



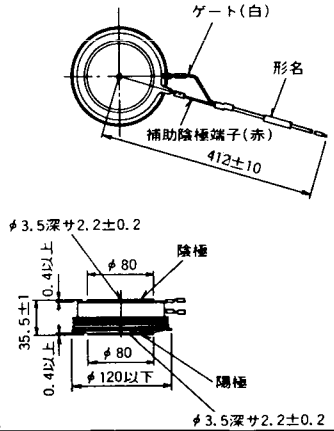
M-29



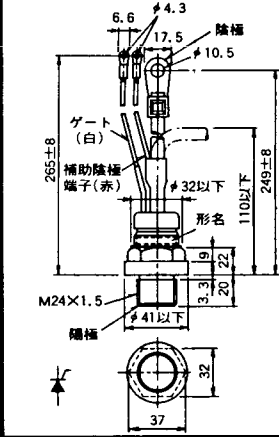
M-30



M-31



M-32



### M-33



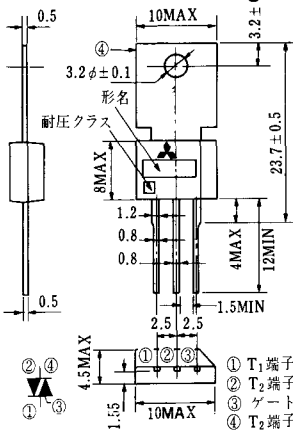
### M-34



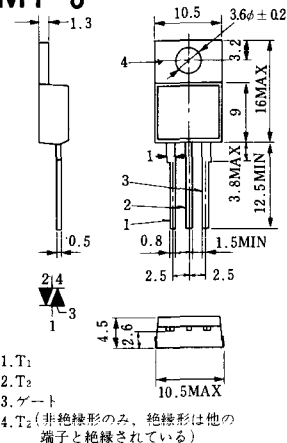
### MT-1



### MT-2



### MT-3



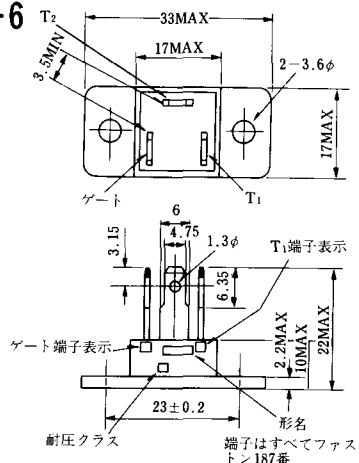
### MT-4



### MT-5



### MT-6

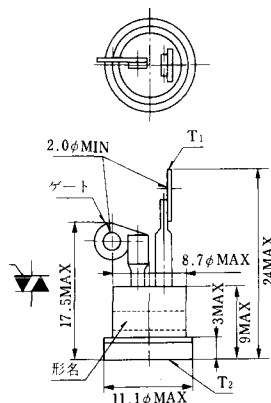


### MT-7

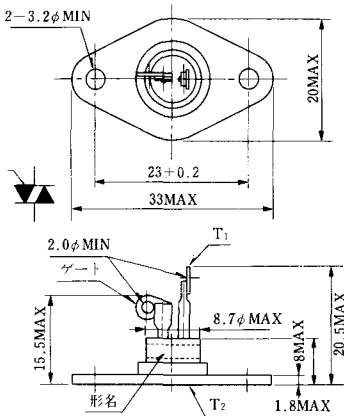




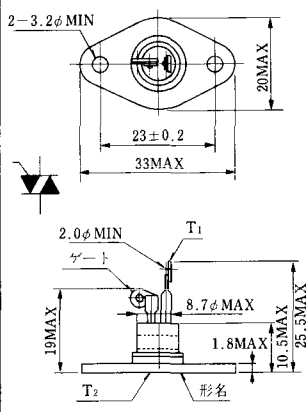
MT-8



MT-9



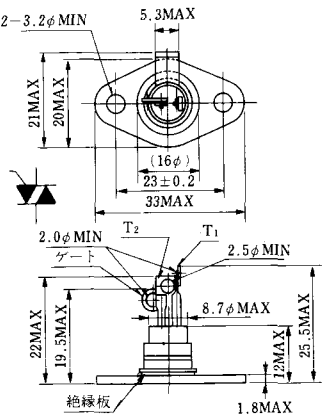
MT-10



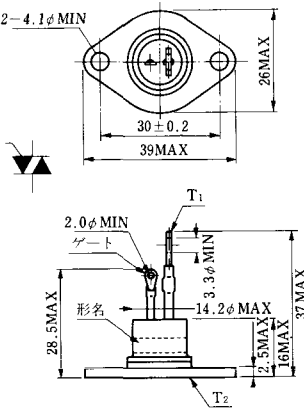
MT-11



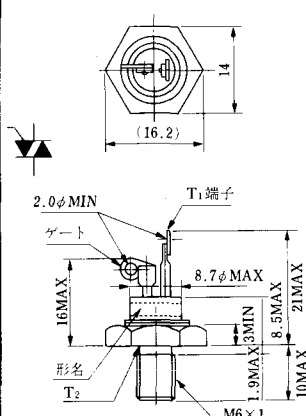
MT-12



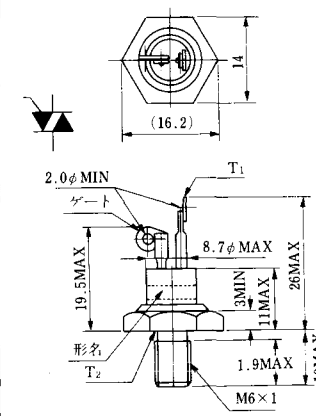
MT-13



MT-14

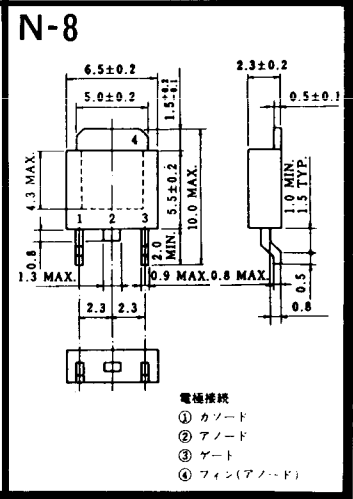
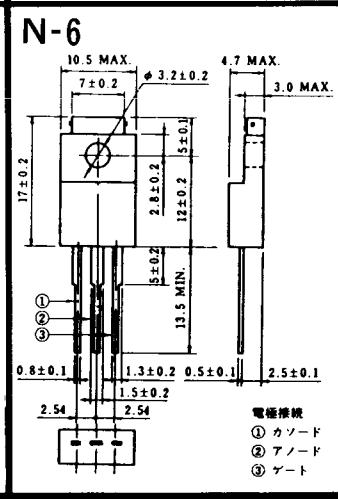
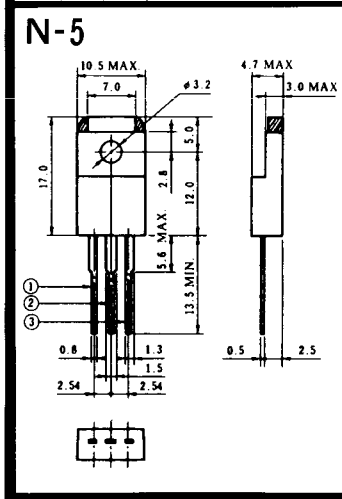
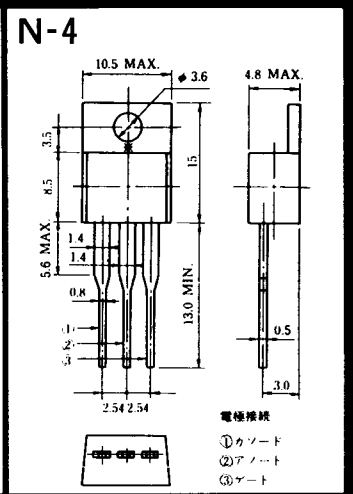
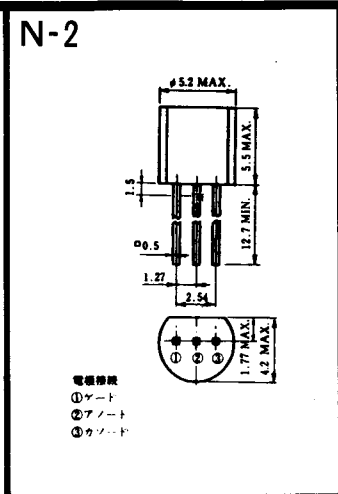
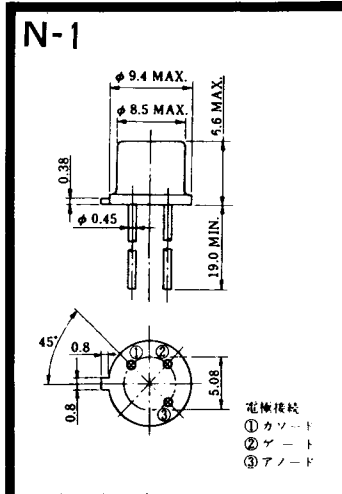


MT-15









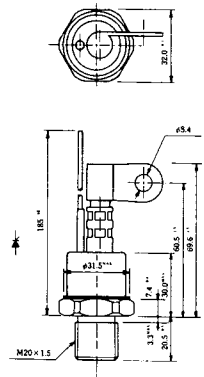






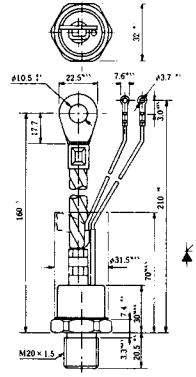
### NI-9

259RW  
309RW



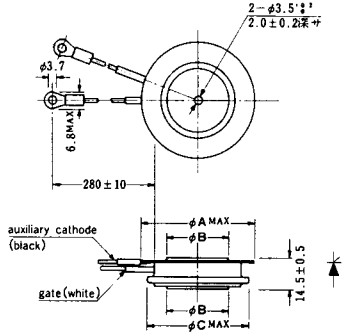
### NI-10

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



### NI-11

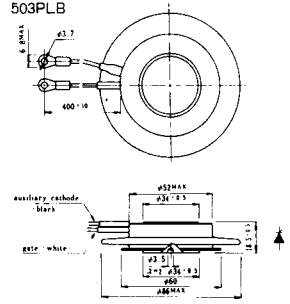
103PA  
253PA  
503PA  
553PA  
803PA  
103PLE  
103PLG  
103PLH  
203PLG  
253PLE  
253PLH  
353PLG  
403PLE  
403PLH



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

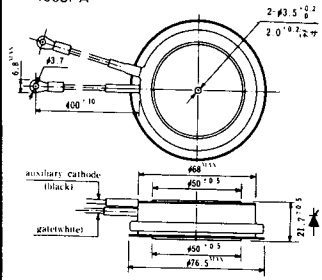
### NI-12

403PAB  
503PAB  
503PLB



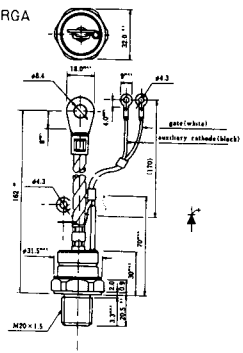
### NI-13

1003PA  
1003PAB  
1003PLF  
1003PLH  
1503PA



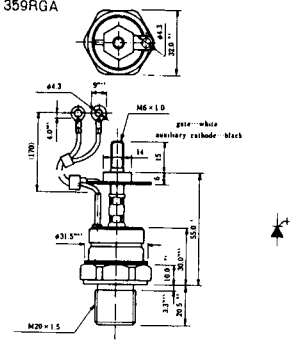
### NI-14

358RGA



### NI-15

359RGA







NI-24

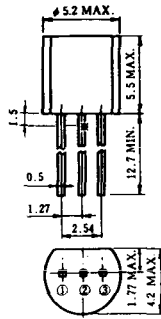
2001PGB<sup>r</sup> JE



NI-25

NI-26

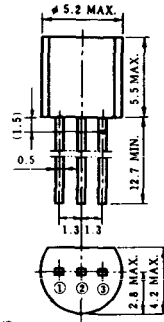
### NT-1



電極接続

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

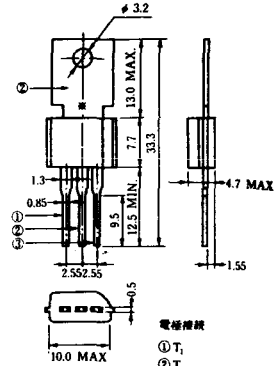
### NT-2



電極接続

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

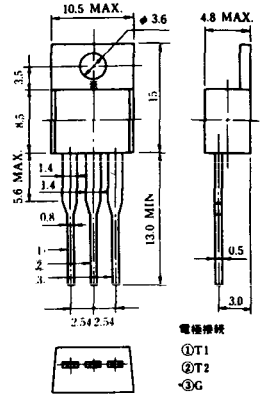
### NT-3



電極接続

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

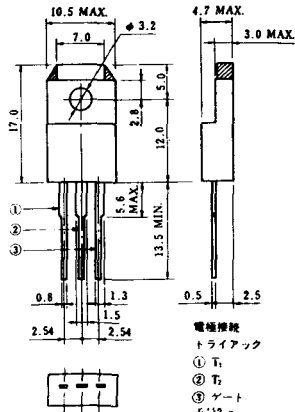
### NT-4



電極接続

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

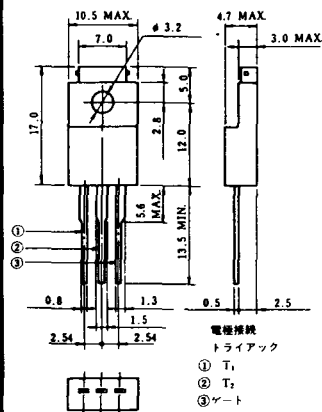
### NT-5



電極接続  
トライアック

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

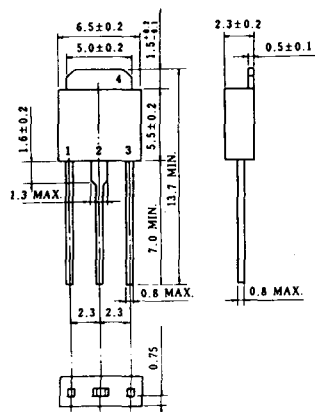
### NT-6



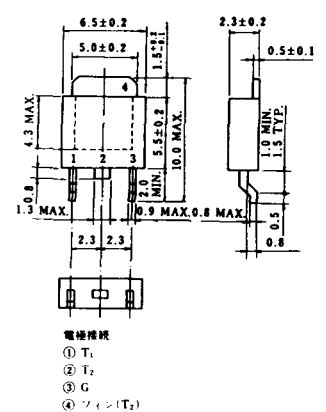
電極接続  
トライアック

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

### NT-7



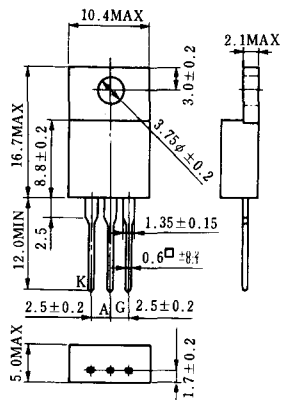
### NT-8



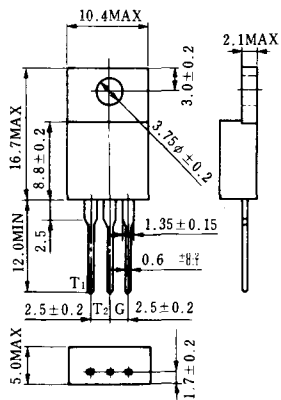
電極接続

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

### S-1



### ST-1



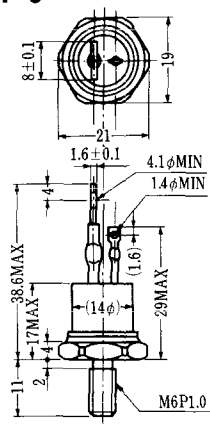
SA-1



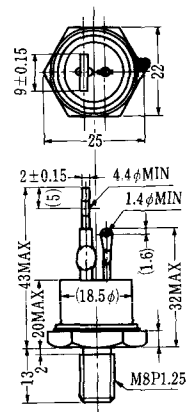
SA-2



SA-3



SA-4



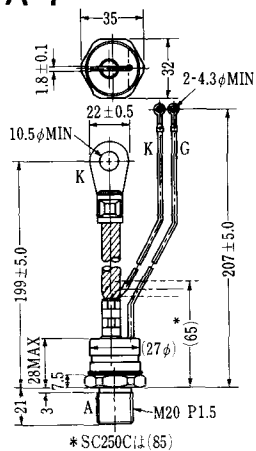
SA-5



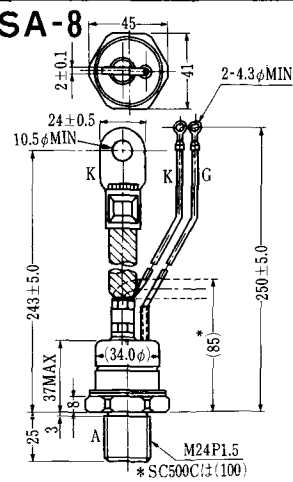
SA-6



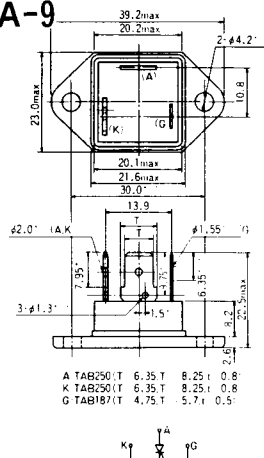
SA-7



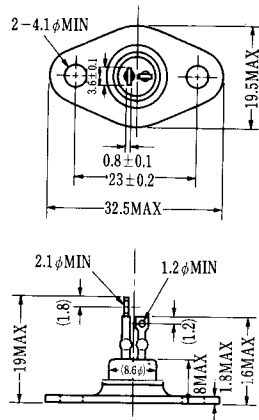
SA-8



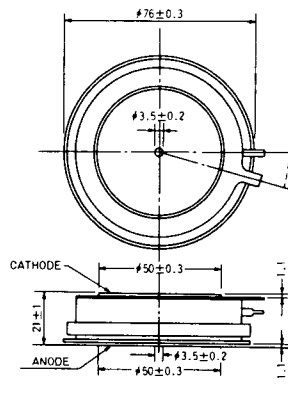
SA-9



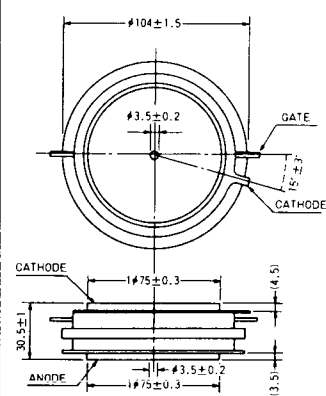
SA-10



SA-11



SA-12

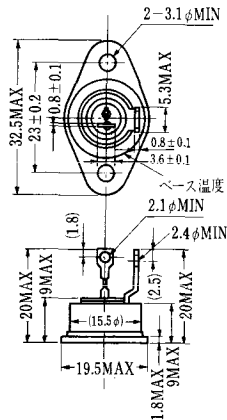


SAT-1



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

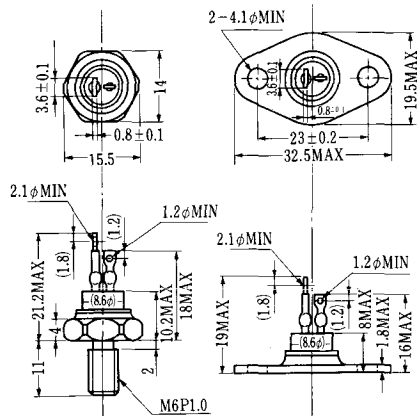
SAT-2



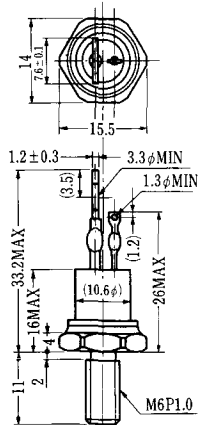
SAT-3



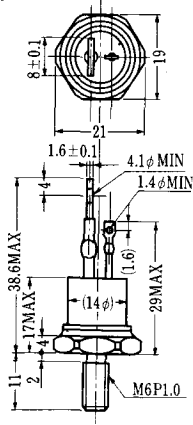
SAT-4



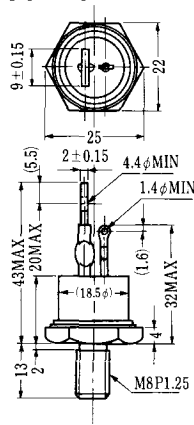
SAT-5



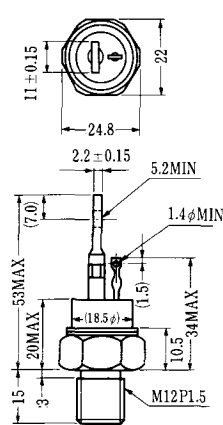
SAT-6



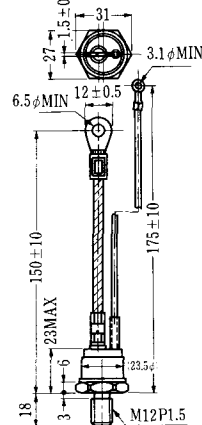
SAT-7



SAT-8



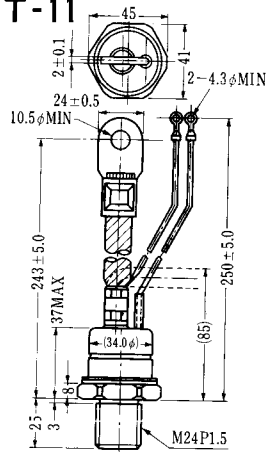
SAT-9



SAT-10



SAT-11





### SY-1 (1096A)



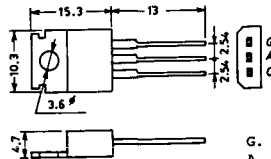
C: Cathode  
A: Anode  
G: Gate

### SY-2 (1151)



G: Gate  
A: Anode  
C: Cathode

### SY-3 (1104)



G: Gate  
A: Anode  
C: Cathode

### SY-4 (1150)



G: Gate  
A: Anode  
C: Cathode

1097A



G: Gate

1102



1141



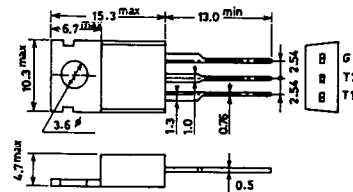
1142



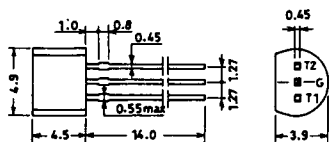
1144



1155

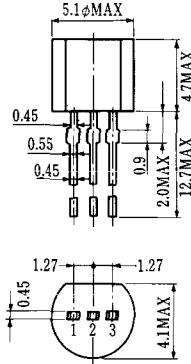


1192A



G: Gate

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



- 1 ゲート
- 2 アノード
- 3 カソード

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



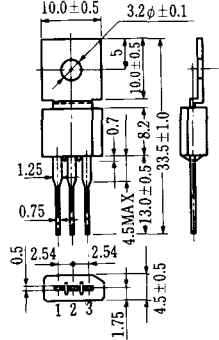
1. カソード
2. ゲート
3. アノード(ケース)

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

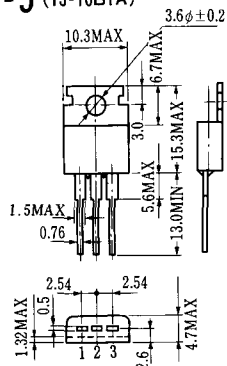


- 1 カソード
- 2 アノード
- 3 ゲート

**T-4 (13-10A1A)**

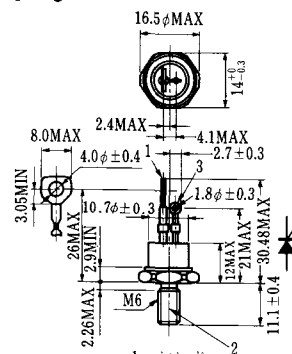


**T-5 (13-10B1A)**



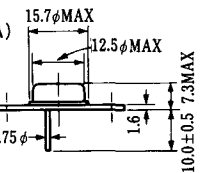
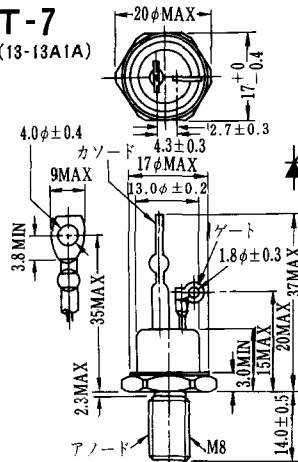
- 1 カソード
- 2 アノード
- 3 ゲート

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



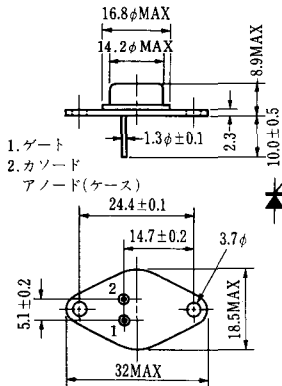
- 1 カソード
- 2 アノード
- 3 ゲート

**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)



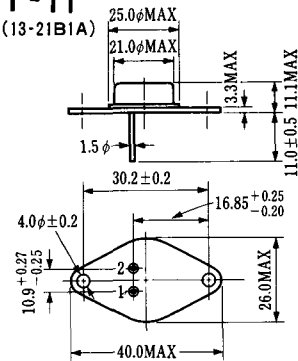
1. ゲート
2. カソード
- アノード(ケース)

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



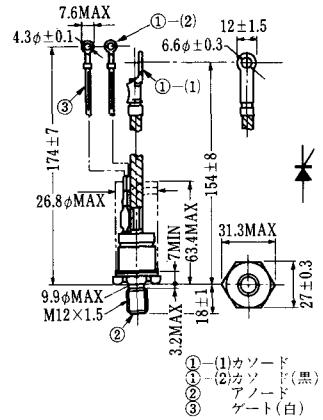
1. カソード
2. アノード
3. ゲート

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



1. ゲート
2. カソード
- アノード(ケース)

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



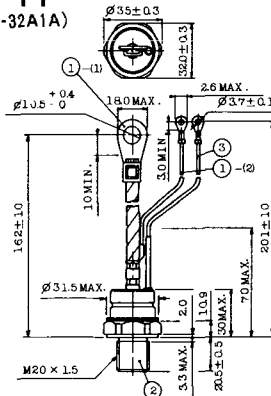
- ① (1) カソード
- ① (2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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



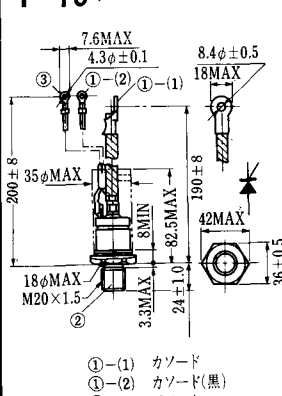
- 1-(1) カソード
- 1-(2) カソード(黒)
- 2 アノード
- 3 ゲート(白)

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



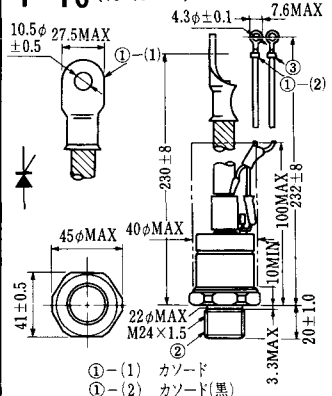
- 1-(1) カソード
- 1-(2) カソード(黒)
- 2 アノード
- 3 ゲート(白)

### 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)



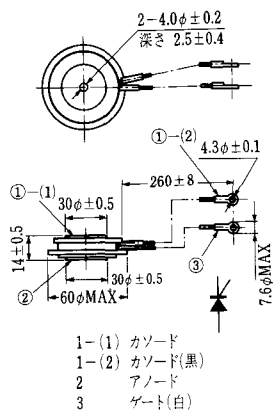
T-19 (13-52B1A)



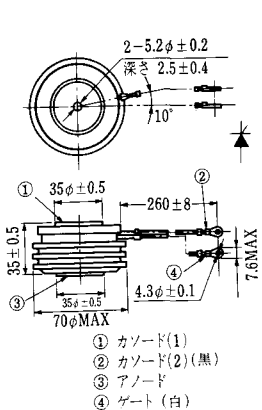
T-20 (13-52C1A)



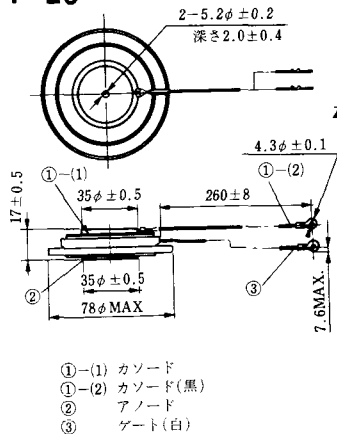
T-21 (13-60A1A)



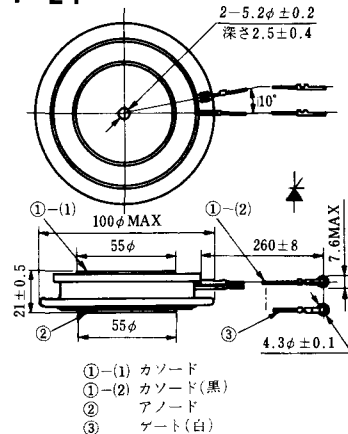
T-22 (13-70C1A)



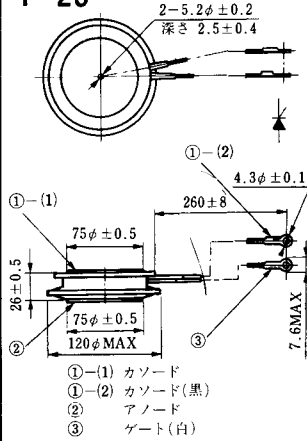
T-23 (13-78A1A)



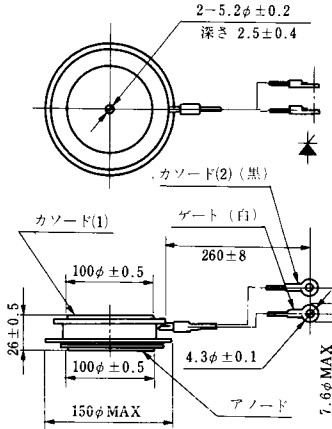
T-24 (13-100C1A)



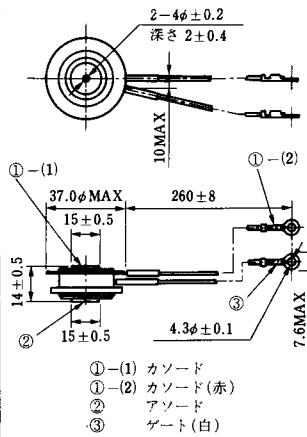
**T-25** (13-120A2A)



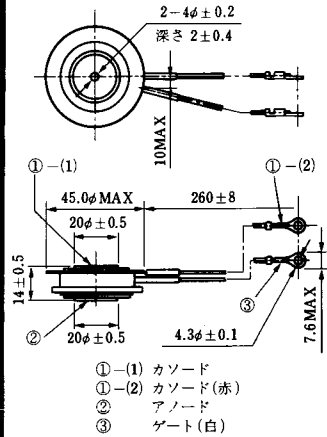
**T-26** (13-150A1A)



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



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



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



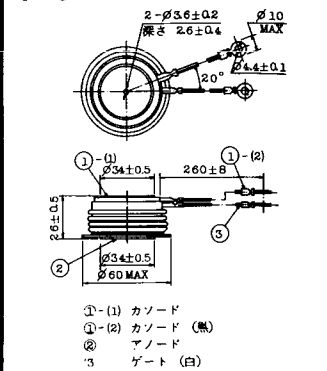
**T-30** (13-57A1A)



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



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



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



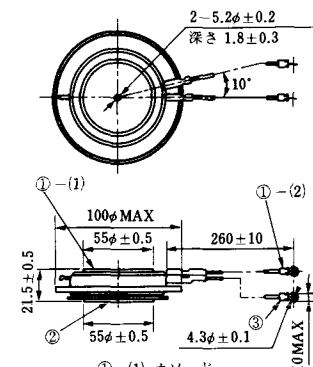
- ① カソード
- ② アノード
- ③ ゲート

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



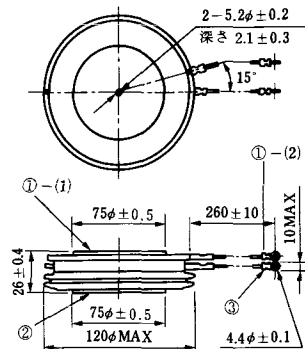
- ① カソード
- ② アノード
- ③ ゲート

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



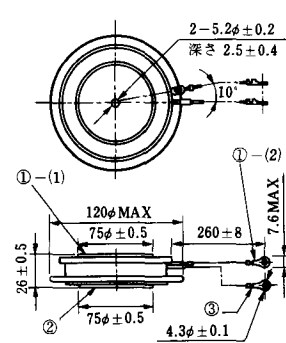
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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



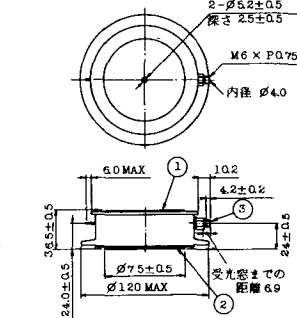
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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



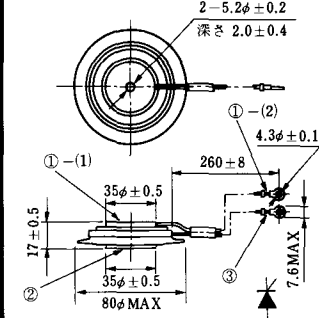
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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



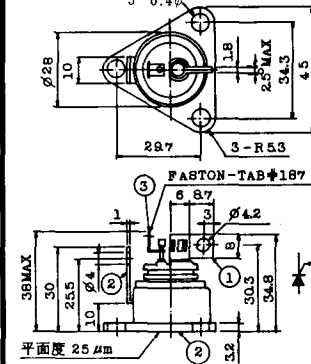
- ① カソード
- ② アノード
- ③ ゲート

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



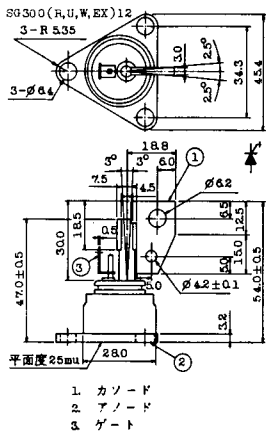
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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

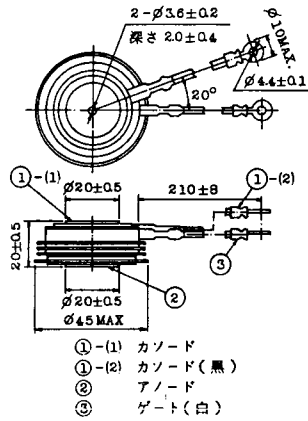


- 1. カソード
- 2. アノード
- 3. ゲート

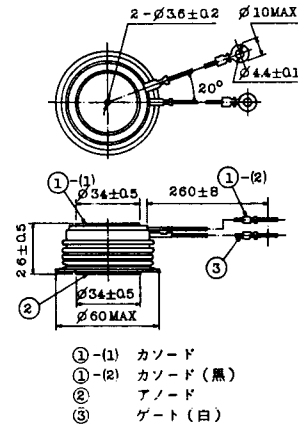
### T-41 (13-28A2A)



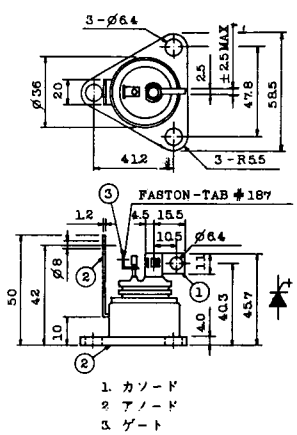
### T-42 (13-45F1A)



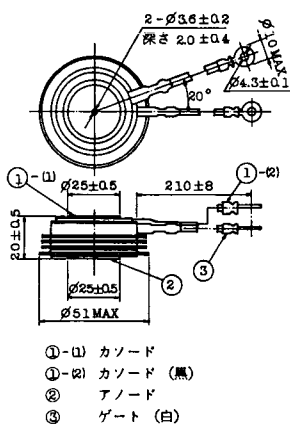
### T-43 (13-60E2A)



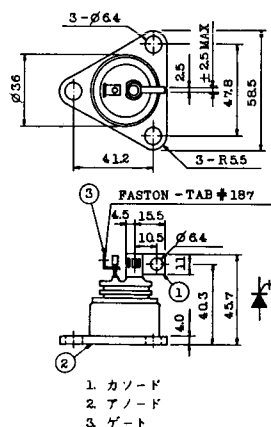
### T-44 (13-36A1A)



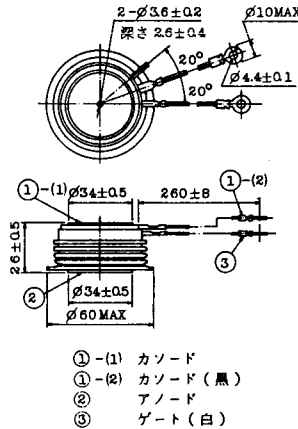
### T-45 (13-51B1A)



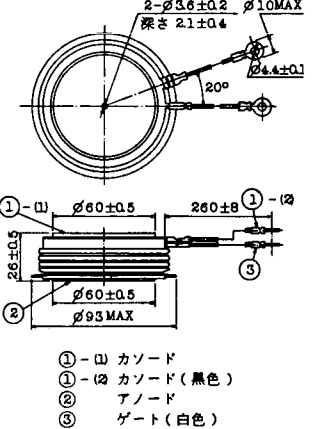
### T-46 (13-36B1A)



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



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





T-49 (13-75A1A)



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

T-50 (13-10A3A)



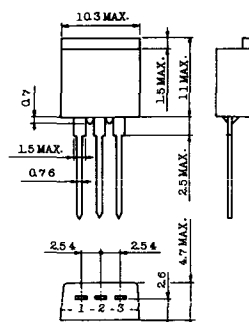
- 1 カソード
- 2 アノード
- 3 ゲート

T-51 (13-10D1A)



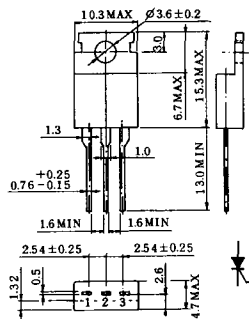
- 1 カソード
- 2 アノード
- 3 ゲート

T-52 (13-10D2A)



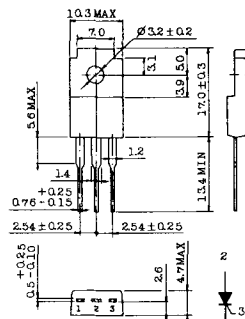
- 1 カソード
- 2 アノード
- 3 ゲート

T-53 (13-10E1B)



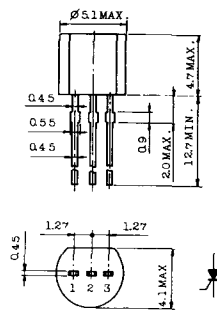
- 1 カソード
- 2 アノード
- 3 ゲート

T-54 (13-10F1B)



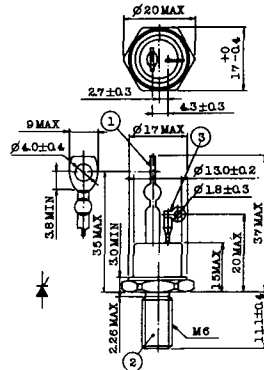
- 1 カソード
- 2 アノード
- 3 ゲート

T-55 (13-5A1D)



- 1 カソード
- 2 アノード
- 3 アノード

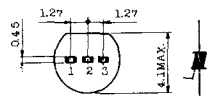
T-56 (13-13C1A)



- 1 カソード
- 2 アノード
- 3 ゲート

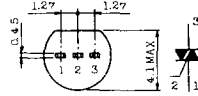
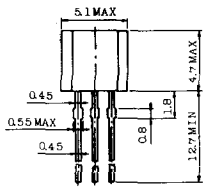


TT-1



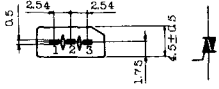
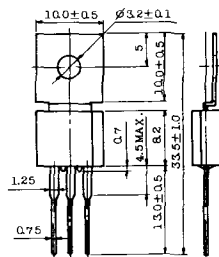
- 1 ゲート
- 2 T<sub>2</sub>
- 3 T<sub>1</sub>

TT-2



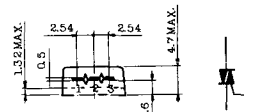
- 1 T<sub>1</sub>
- 2 ゲート
- 3 T<sub>2</sub>

TT-3



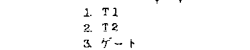
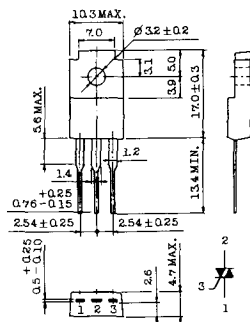
- 1 T<sub>1</sub>
- 2 T<sub>2</sub>
- 3 ゲート

TT-4



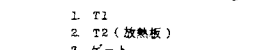
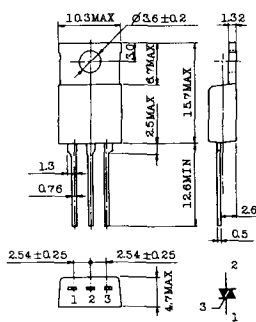
- 1 T<sub>1</sub>
- 2 T<sub>2</sub>
- 3 ゲート

TT-5



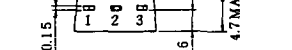
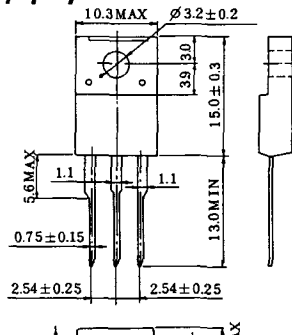
- 1 T<sub>1</sub>
- 2 T<sub>2</sub>
- 3 ゲート

TT-6



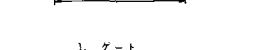
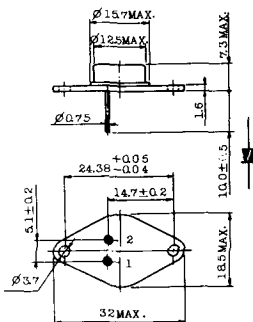
- 1 T<sub>1</sub>
- 2 T<sub>2</sub> (放熱板)
- 3 ゲート

TT-7



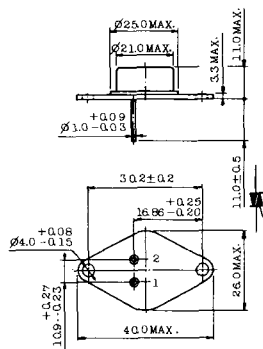
- 1 T<sub>1</sub>
- 2 T<sub>2</sub>
- 3 ゲート

TT-8



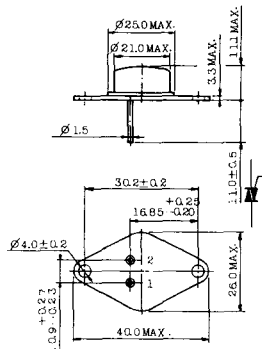
- 1 ゲート
- 2 T<sub>1</sub>
- T<sub>2</sub> (ケース)

TT-9



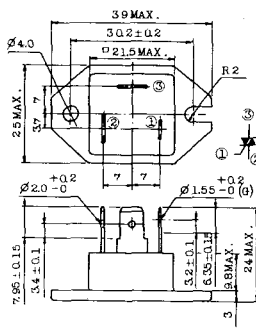
1. ゲート
2. T<sub>1</sub>
3. T<sub>2</sub> (ケース)

TT-10



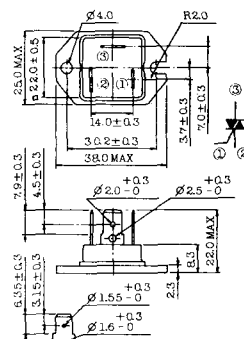
1. ゲート
2. T<sub>1</sub>
3. T<sub>2</sub> (ケース)

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)

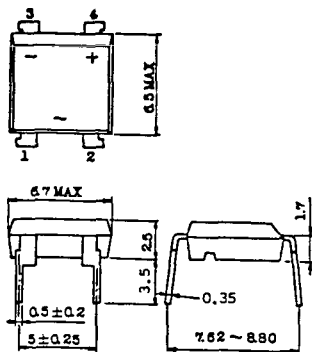
TT-12



ゲート端子詳細

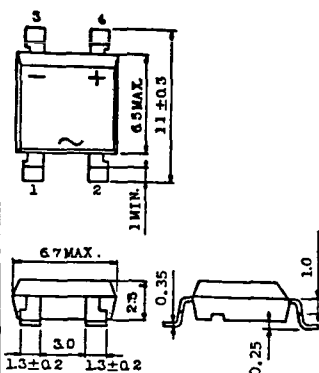
- ① ゲート (フーストン端子 # 187)
- ② T<sub>1</sub> ( " # 250)
- ③ T<sub>2</sub> ( " # 250)

TT-13



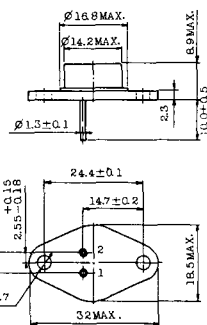
- 1, 2: T<sub>2</sub>
- 3: GATE
- 4: T<sub>1</sub>

TT-14



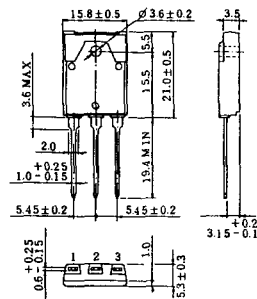
- 1, 2: T<sub>2</sub>
- 3: GATE
- 4: T<sub>1</sub>

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



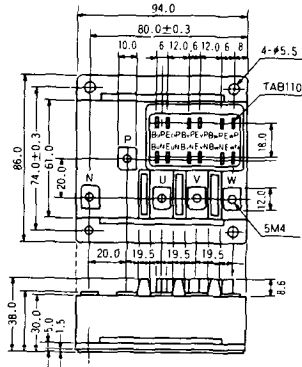
- 1. ベース
- 2. エミッタ  
コレクタ  
(ケース)



S-94B2A



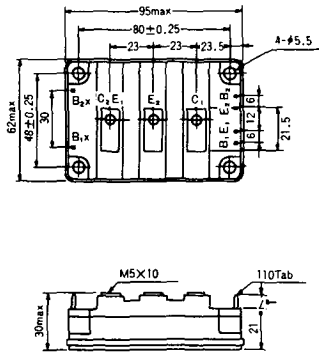
S-94D1A



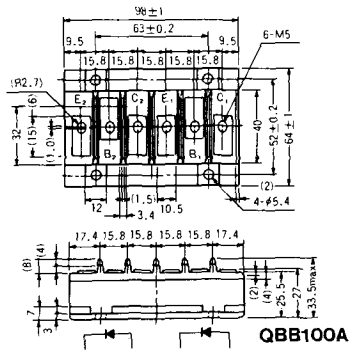
S-95A1A



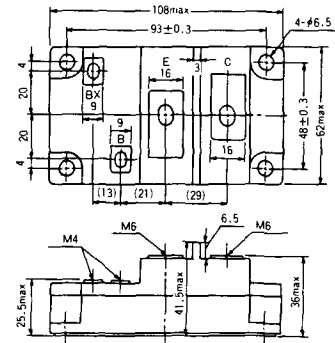
S-95B1A



S-98B1B

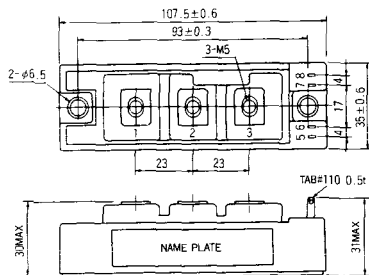


S-108A2A

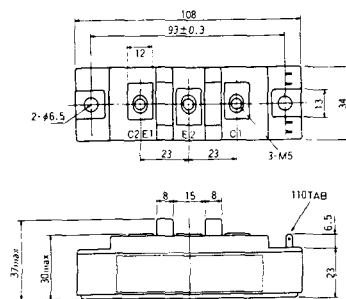




S-108B1A



S-108B1B



S-108B1C



S-108B2A



S-108B2B



### 2-22B1A



### 2-27A4A



### 2-33C1A



### 2-33D1A



### 2-33F1A



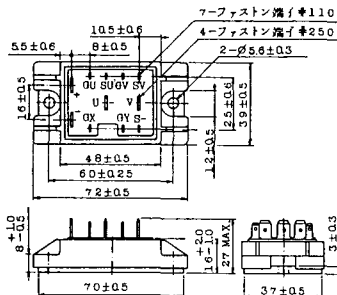
### 2-37A1A



2-48A3A



2-48A3B



2-48A4A



2-64A2A



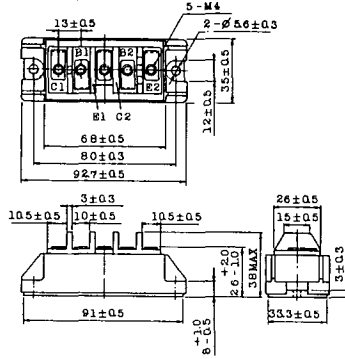
2-64A2B



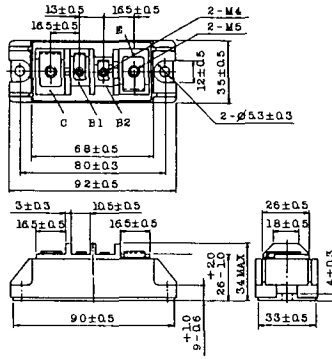
2-68A2A



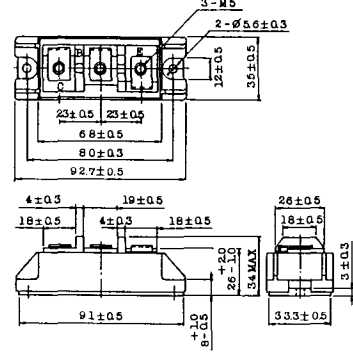
### 2-68B2A



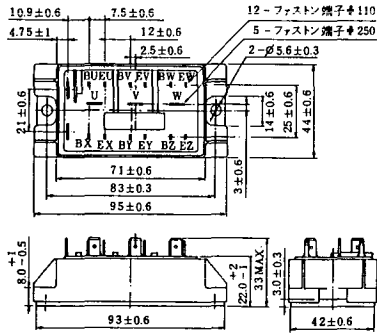
### 2-68C1A



### 2-68D2A



### 2-72A3A



### 2-80A1A



### 2-80B1A





### 2-94D1A



### 2-96A3A



### 2-96A4A



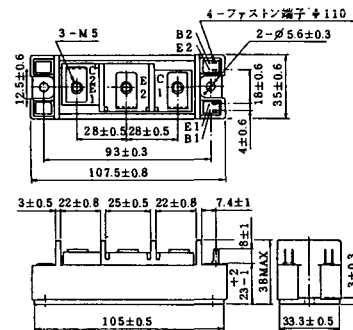
### 2-98B1A



### 2-98C2A



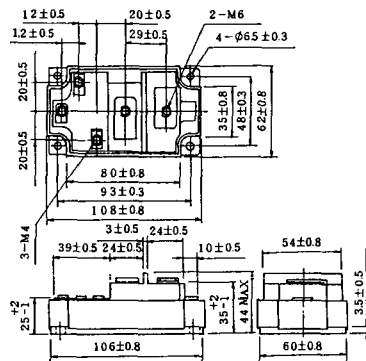
### 2-108A2A



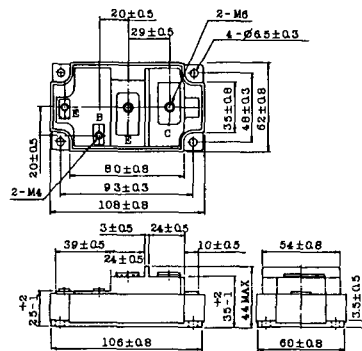
### 2-108B1A



### 2-109A3A



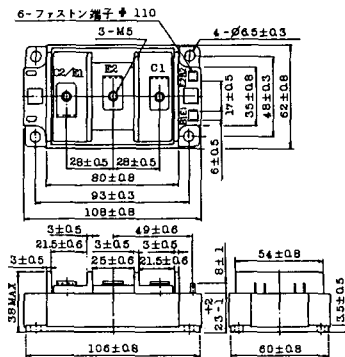
### 2-109A4A



### 2-109B3A



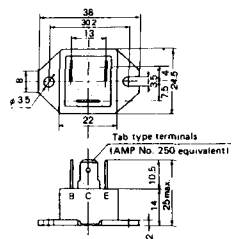
### 2-109B4A



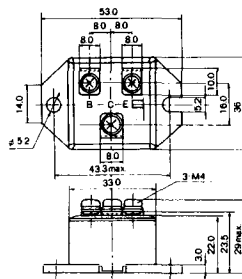




M-101



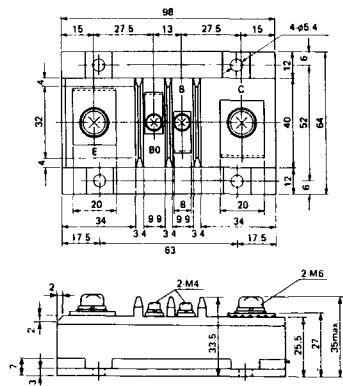
M-102



M-103



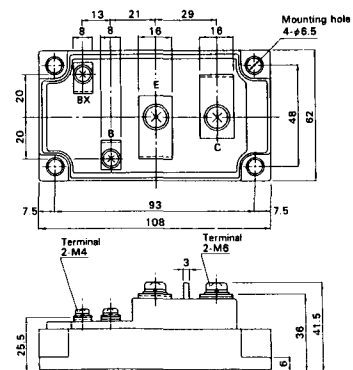
M-104



M-105



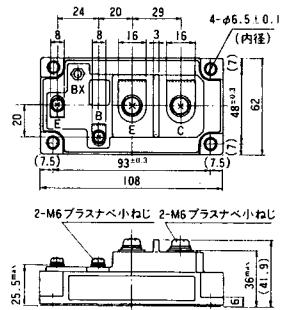
M-106



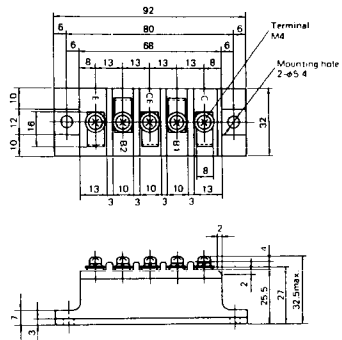
### M-107



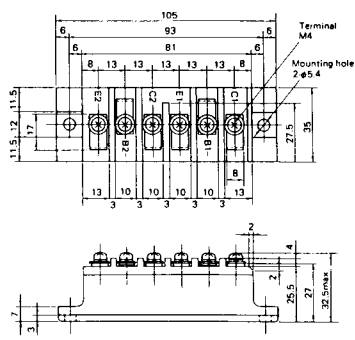
### M-116



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-219

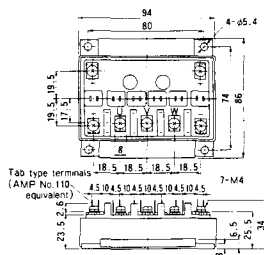




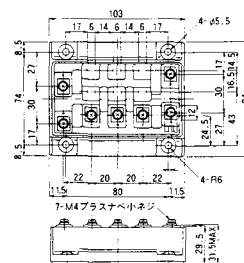
M-607



M-608



M-609



M-610

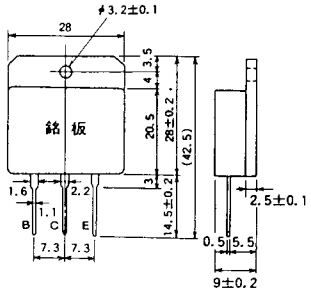


M-616

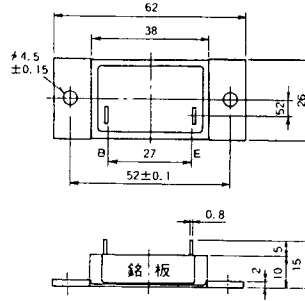




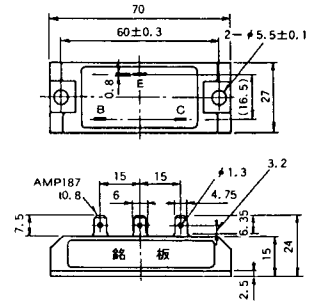
M-1A1A



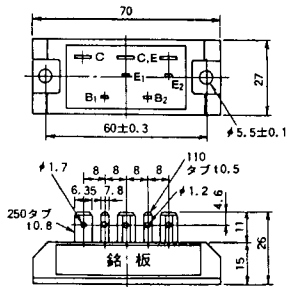
M-2A1A



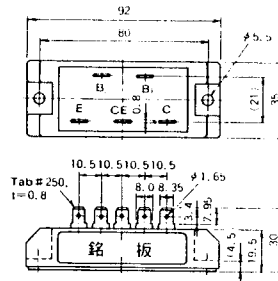
M-2B1A



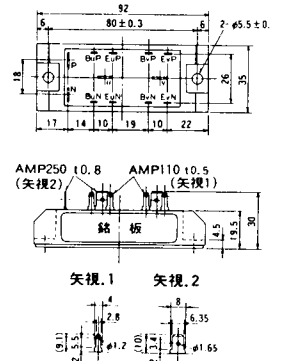
M-2B2A



M-2C2A



M-2D4A





M-3C1A



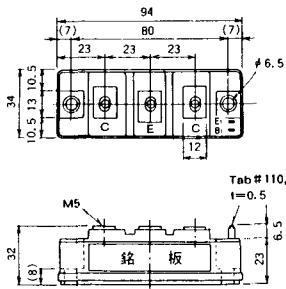
M-3D6A



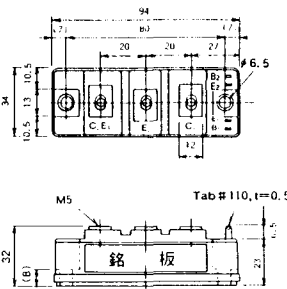
M-3E6A



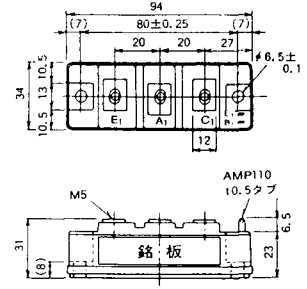
M-4A1A



M-4A2A



M-4A1B



M-4A2B



M-4B2A



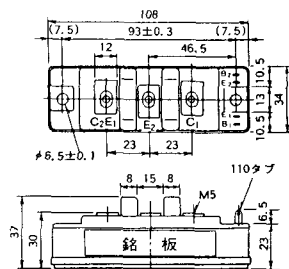
M-5A1A



M-5A1B



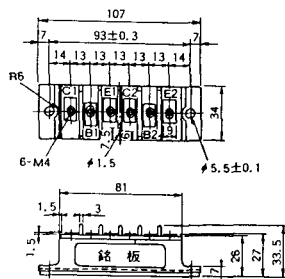
M-5A2A



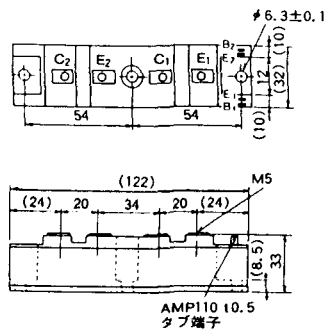
M-5B2A



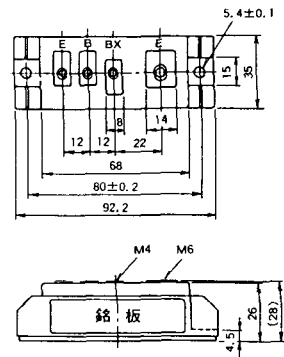
M-5C2A



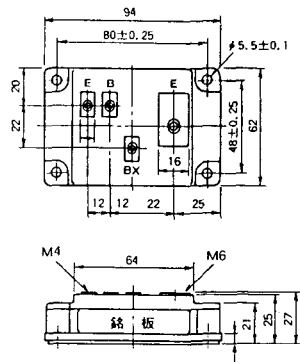
M-5D2A



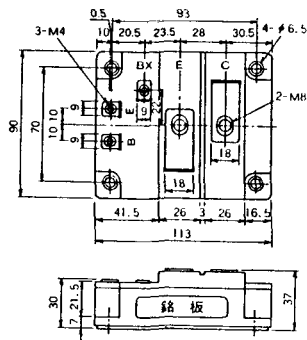
M-6A1A



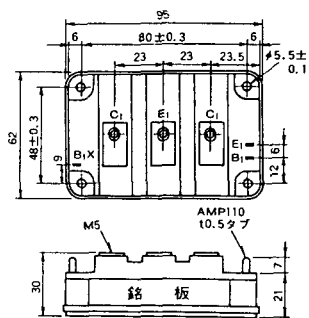
M-7A1A



M-7B1A



M-8A1A







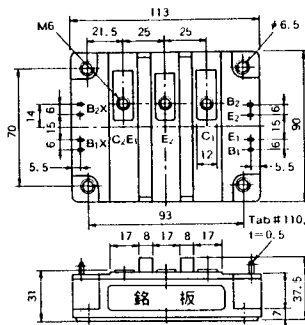




M-10A2A



M-10A2B



M-11A2A



M-12A6A



M-12B6A



M-12B6B





M-9D2B



M-10A2C



H-101



Weight :480g

### H-201



Weight: 200g

### H-202



Weight: 360g

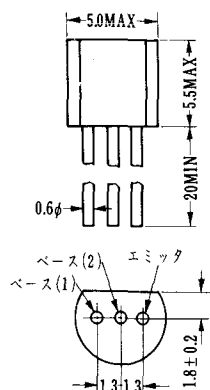
### LF-J



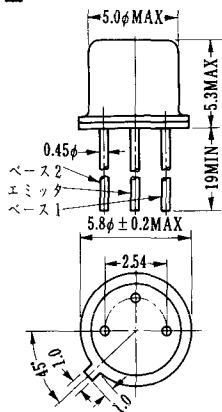
### LF-K



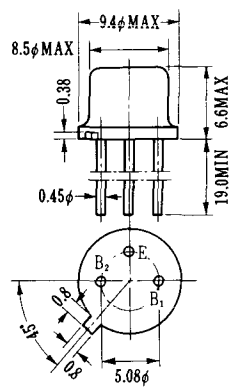
U-1



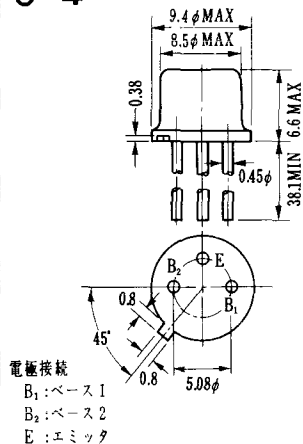
U-2



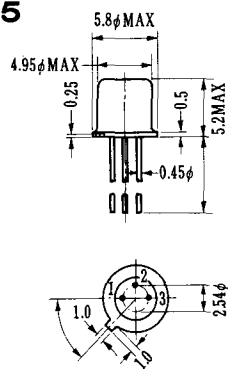
U-3



U-4

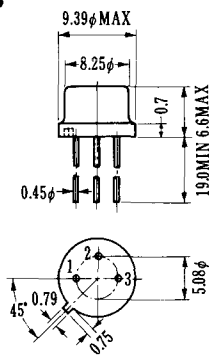


U-5



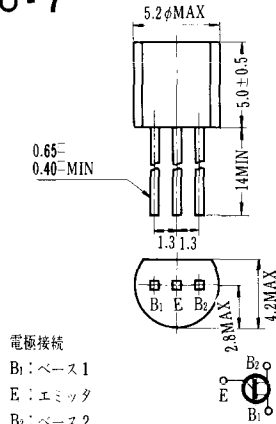
1. BASE 1
2. EMITTER
3. BASE 2 (CASE)

U-6



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

U-7



U-8

