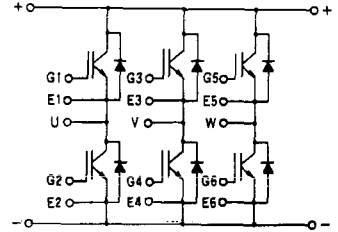
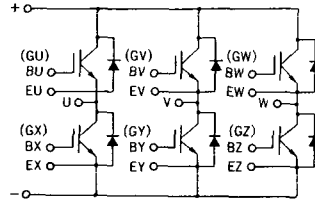
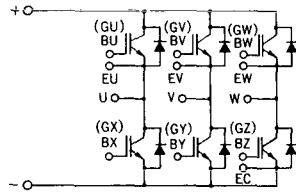


トランジスタ・モジュール [シリコンNチャネル・IGBT, 三相ブリッジ]

- MOSゲート構造
  - フリーホイール・ダイオード付
  - 絶縁形
  - UL認定品あり
- E 8 2 9 8 8 (M)

■ 等価回路



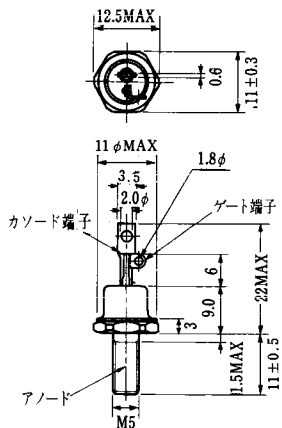
注1.  $T_c = 25^\circ\text{C}$ . 注2. AC, 1分間。

型名	最大定格										電気的特性												
	$V_{CES}$	$V_{DES}$	$I_c$	$I_{CP}$	$I_F$	$I_{FM}$	$P_c$	$T_c$	$T_{VJc}$	$V_{iso}$	$I_{CES}$		$I_{CES}$		$V_{CES}$		$V_{GE(OFF)}$		$V_{CE(SAT)}$				
	(V)	(V)	(A)	(Ams)	(A)	(A)	(W)	( $^\circ\text{C}$ )	( $^\circ\text{C}$ )	(V)	最大	最小	最大	最小	(V)	最小	最大	(V)	(mA)	(A)			
6MB18F-120	1200	$\pm 20$	8	16	8	16	60	150	-40~125	2500	$\pm 100$	$\pm 20$	1.0	1200			3	6	20	8	2.5	15	8
6MB18L-120	1200	$\pm 20$	8	16	8	16	60	150	-40~125	2500	$\pm 100$	$\pm 20$	1.0	1200			3	6	20	8	3.5	15	8
6MB110F-060	600	$\pm 20$	10	20	10	20	40	150	-40~125	2500	$\pm 100$	$\pm 20$	1.0	600			3	6	20	10	2.5	15	10
6MB110L-060	600	$\pm 20$	10	20	10	20	40	150	-40~125	2500	$\pm 100$	$\pm 20$	1.0	600			3	6	20	10	3.5	15	10
6MB115F-060	600	$\pm 20$	15	30	15	30	60	150	-40~125	2500	$\pm 100$	$\pm 20$	1.0	600			3	6	20	15	2.5	15	15
6MB115L-060	600	$\pm 20$	15	30	15	30	60	150	-40~125	2500	$\pm 100$	$\pm 20$	1.0	600			3	6	20	15	3.5	15	15
6MB115L-120	1200	$\pm 20$	15	30	15	30	120	150	-40~125	2500	$\pm 100$	$\pm 20$	1.0	1200			3	6	20	15	2.5	15	15
6MB120F-060	600	$\pm 20$	20	40	20	40	80	150	-40~125	2500	$\pm 100$	$\pm 20$	1.0	600			3	6	20	20	2.5	15	20
6MB120L-060	600	$\pm 20$	20	40	20	40	80	150	-40~125	2500	$\pm 100$	$\pm 20$	1.0	600			3	6	20	20	3.5	15	20
6MB125F-120	1200	$\pm 20$	25	50	25	50	220	150	-40~125	2500	$\pm 100$	$\pm 20$	1.0	1200			3	6	20	25	2.5	15	25
6MB125L-120	1200	$\pm 20$	25	50	25	50	250	150	-40~125	2500	$\pm 100$	$\pm 20$	1.0	1200			3	6	20	25	3.5	15	25
6MB130F-060	600	$\pm 20$	30	60	30	60	120	150	-40~125	2500	$\pm 100$	$\pm 20$	1.0	600			3	6	20	30	2.5	15	30
6MB130L-060	600	$\pm 20$	30	60	30	60	120	150	-40~125	2500	$\pm 100$	$\pm 20$	1.0	600			3	6	20	30	3.5	15	30
6MB150F-060	600	$\pm 20$	50	100	50	100	220	150	-40~125	2500	$\pm 100$	$\pm 20$	1.0	600			3	6	20	50	2.5	15	50
6MB150L-060	600	$\pm 20$	50	100	50	100	250	150	-40~125	2500	$\pm 100$	$\pm 20$	1.0	600			3	6	20	50	3.5	15	50
6MB150F-120	1200	$\pm 20$	50	100	50	100	360	150	-40~125	2500	$\pm 100$	$\pm 20$	1.0	1200			3	6	20	50	2.5	15	50
6MB150L-120	1200	$\pm 20$	50	100	50	100	400	150	-40~125	2500	$\pm 100$	$\pm 20$	1.0	1200			3	6	20	50	3.5	15	50
6MB175F-060	600	$\pm 20$	75	150	75	150	290	150	-40~125	2500	$\pm 100$	$\pm 20$	1.0	600			3	6	20	75	2.5	15	75
6MB175L-060	600	$\pm 20$	75	150	75	150	325	150	-40~125	2500	$\pm 100$	$\pm 20$	1.0	600			3	6	20	75	3.5	15	75
6MB1100F-060	600	$\pm 20$	100	200	100	200	360	150	-40~125	2500	$\pm 100$	$\pm 20$	1.0	600			3	6	20	100	2.5	15	100
6MB1100L-060	600	$\pm 20$	100	200	100	200	400	150	-40~125	2500	$\pm 100$	$\pm 20$	1.0	600			3	6	20	100	3.5	15	100

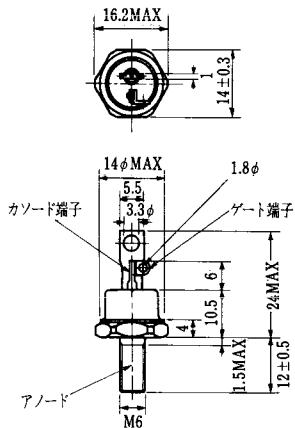
注3. スイッチング時間の  $t_r$ ,  $t_{on}$  は抵抗負荷,  $t_f$ ,  $t_{off}$  は誘導負荷における値。 注4. FD: フリーホイール・ダイオード。

C <sub>1..</sub> (pF)	V <sub>CE</sub> (V)		スイッチング時間 (μs)				R <sub>θ</sub> (Ω)	I <sub>c</sub> (A)	V <sub>CE</sub> (V)	エミッタ・コレクタ間ダイオード					熱抵抗		等価回路	外形図	記 事	型 名	
	標準	最大	最大	最大	最大	最大				V <sub>F</sub> (V)	I <sub>F</sub> (A)	t <sub>rr</sub> (ns)	I <sub>F</sub> (A)	V <sub>CE</sub> (V)	di/dt (A/μs)	θ <sub>J-c</sub> (°C/W)					
																トランジスタ部					ダイオード部
1450	10	0	0.6	0.8	1.0	1.5	150	8	600	2.5	8	350	8	-10	50	2.08	3.3	F 6 1	M 6 0 4	UL認定済	GMB18F-120
1450	10	0	0.6	0.8	0.5	1.5	150	8	600	2.5	8	350	8	-10	50	2.08	3.3	F 6 1	M 6 0 4		GMB18L-120
950	10	0	0.6	0.8	1.0	1.5	220	10	300	2.5	10	300	10	-10	50	3.13	4.15	F 6 1	M 6 0 4		GMB110F-060
950	10	0	0.6	0.8	0.35	1.0	220	10	300	2.5	10	300	10	-10	50	3.13	4.15	F 6 1	M 6 0 4		GMB110L-060
1400	10	0	0.6	0.8	1.0	1.5	150	15	300	2.5	15	300	15	-10	50	2.08	3.3	F 6 1	M 6 0 4		GMB115F-060
1400	10	0	0.6	0.8	0.35	1.0	150	15	300	2.5	15	300	15	-10	50	2.08	3.3	F 6 1	M 6 0 4		GMB115L-060
2700	10	0	0.6	0.8	1.0	1.5	82	15	600	2.5	15	350	15	-10	50	1.04	2.01	F 6 2	M 6 0 7	UL認定済	GMB115F-120
2700	10	0	0.6	0.8	0.5	1.5	82	15	600	2.5	15	350	15	-10	50	1.04	2.01	F 6 2	M 6 0 7		GMB115L-120
1900	10	0	0.6	0.8	1.0	1.5	120	20	300	2.5	20	300	20	-10	100	1.56	3.01	F 6 1	M 6 0 4		GMB120F-060
1900	10	0	0.6	0.8	0.35	1.0	120	20	300	2.5	20	300	20	-10	100	1.56	3.01	F 6 1	M 6 0 4		GMB120L-060
4500	10	0	0.6	0.8	1.0	1.5	50	25	600	2.5	25	350	25	-10	75	0.568	1.33	F 6 3	M 6 1 6	UL認定済	GMB125F-120
4500	10	0	0.6	0.8	0.5	1.5	50	25	600	2.5	25	350	25	-10	75	0.5	1.0	F 6 3	M 6 1 6		GMB125L-120
2850	10	0	0.6	0.8	1.0	1.5	82	30	300	2.5	30	300	30	-10	100	1.04	2.01	F 6 2	M 6 0 7		GMB130F-060
2850	10	0	0.6	0.8	0.35	1.0	82	30	300	2.5	30	300	30	-10	100	1.04	2.01	F 6 2	M 6 0 7		GMB130L-060
4750	10	0	0.6	0.8	1.0	1.5	51	50	300	2.5	50	300	50	-10	150	0.568	1.33	F 6 3	M 6 1 6		GMB150F-060
4750	10	0	0.6	0.8	0.35	1.0	51	50	300	2.5	50	300	50	-10	150	0.5	1.0	F 6 3	M 6 1 6		GMB150L-060
9000	10	0	0.6	0.8	1.0	1.5	25	50	600	2.5	50	350	50	-10	150	0.347	0.666	F 6 3	M 6 1 6	UL認定済	GMB150F-120
9000	10	0	0.6	0.8	0.5	1.5	25	50	600	2.5	50	350	50	-10	150	0.312	0.6	F 6 3	M 6 1 6		GMB150L-120
7100	10	0	0.6	0.8	1.0	1.5	33	75	300	2.5	75	300	75	-10	225	0.431	0.888	F 6 3	M 6 1 6		GMB175F-060
7100	10	0	0.6	0.8	0.35	1.0	33	75	300	2.5	75	300	75	-10	225	0.385	0.85	F 6 3	M 6 1 6		GMB175L-060
8500	10	0	0.6	0.8	1.0	1.5	25	100	300	2.5	100	300	100	-10	300	0.347	0.666	F 6 3	M 6 1 6		GMB1100F-060
8500	10	0	0.6	0.8	0.35	1.0	25	100	300	2.5	100	300	100	-10	300	0.312	0.6	F 6 3	M 6 1 6		GMB1100L-060

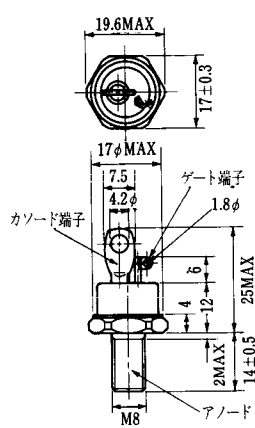
FD-1



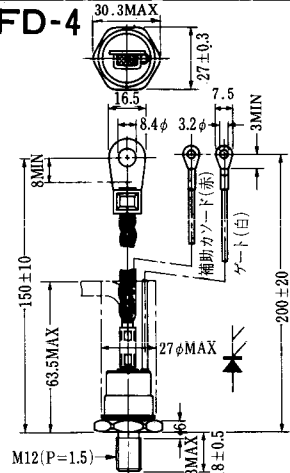
FD-2



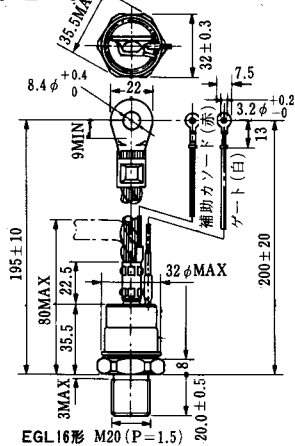
FD-3



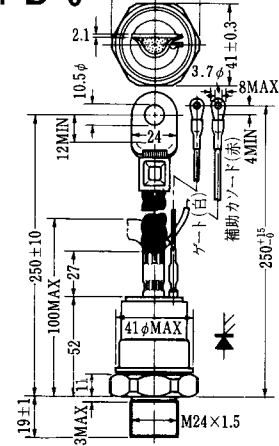
FD-4



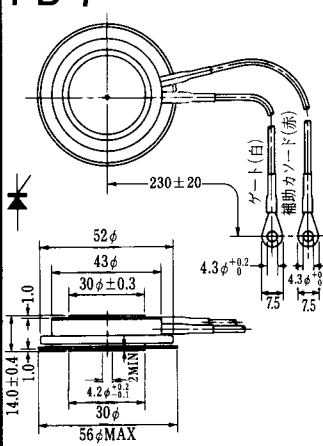
FD-5



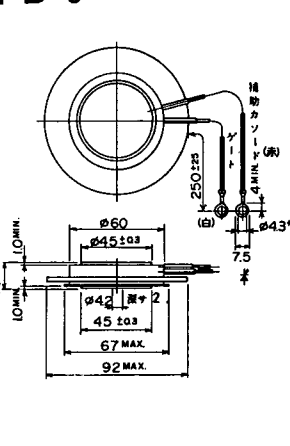
FD-6



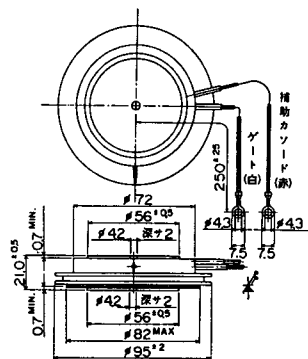
FD-7



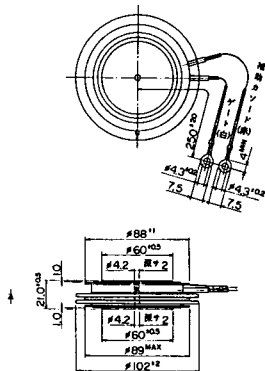
FD-8



FD-9



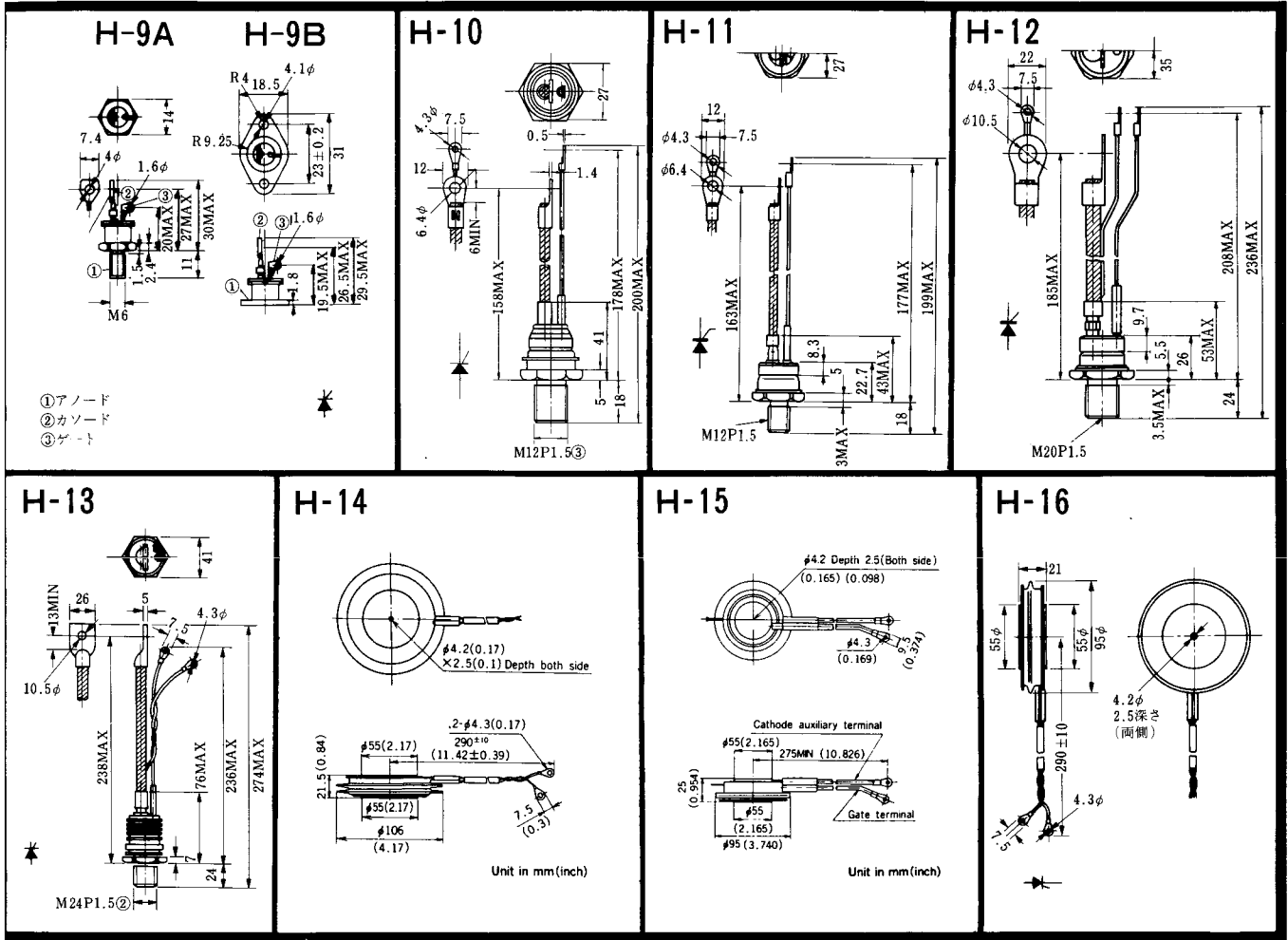
FD-10



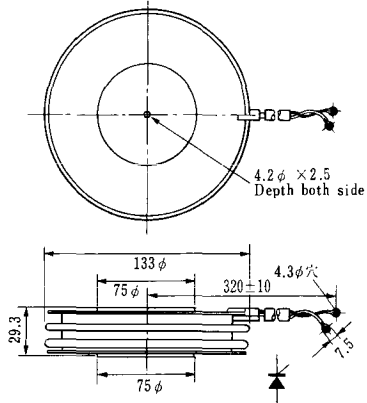
FD-11

FD-12

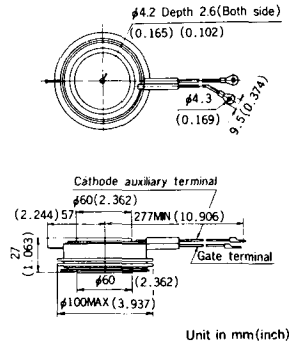




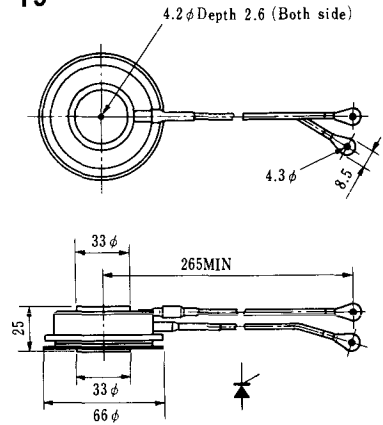
**H-17**



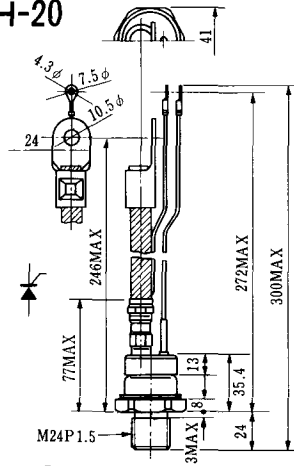
**H-18**



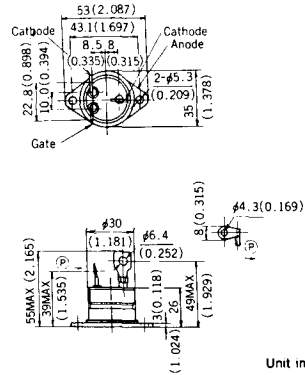
**H-19**



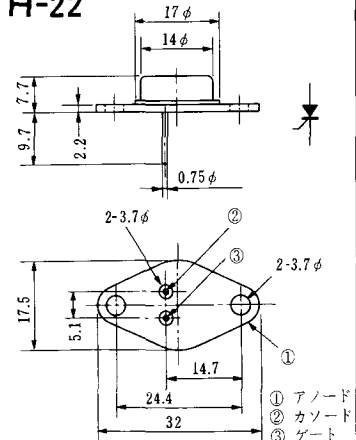
**H-20**



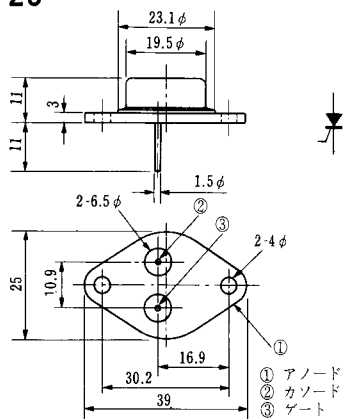
**H-21**



**H-22**

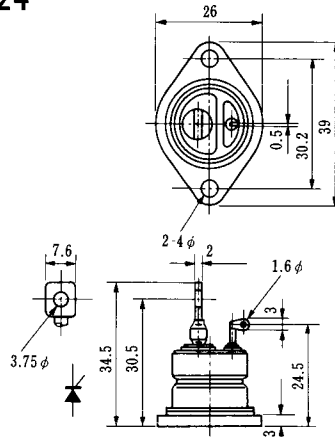


### H-23

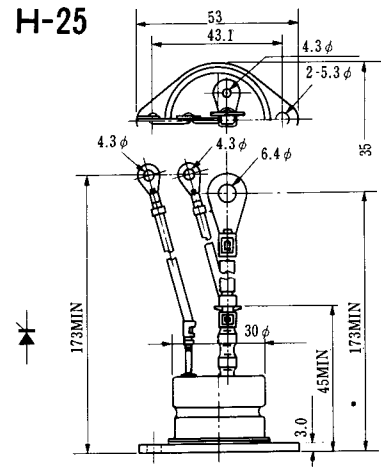


① アノード  
② カソード  
③ ゲート

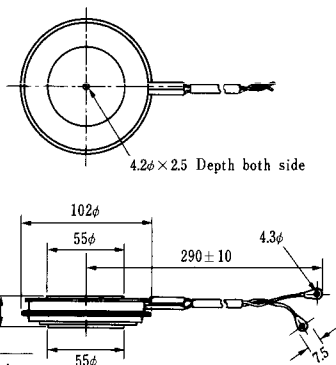
### H-24



### H-25



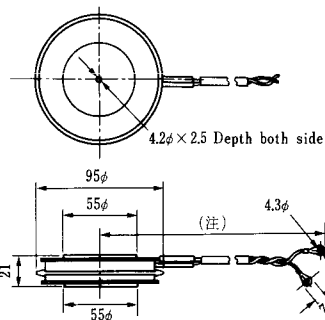
### H-26



Type	Direction of polarity
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CA12	
------	--

### H-27

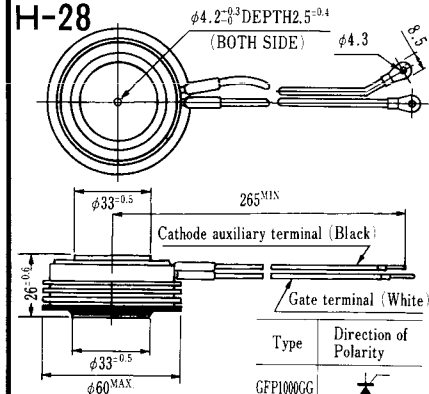


Type	Direction of polarity
------	-----------------------

CF11V	
-------	--

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

### H-28



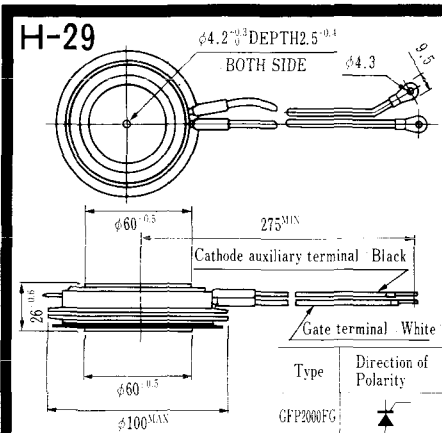
Type	Direction of Polarity
------	-----------------------

GFP100GG	
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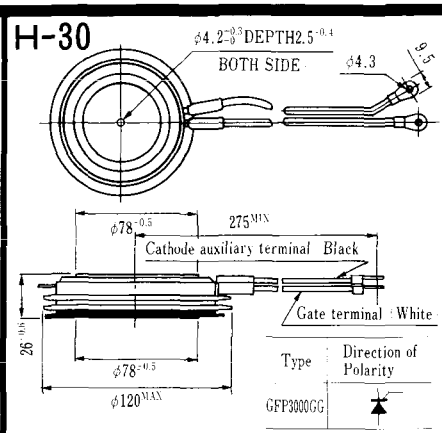
Weight: 360(g)

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



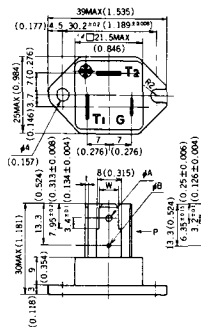


Note : The thickness is a dimension in press at the rated mounting force. Weight: 870(g)



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

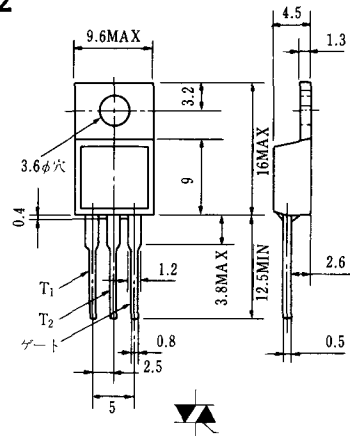
# HT-1



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 <sup>+0.004</sup> <sub>0</sub> )	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 <sup>+0.004</sup> <sub>0</sub> )	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 <sup>+0.004</sup> <sub>0</sub> )	1.3 (0.051)

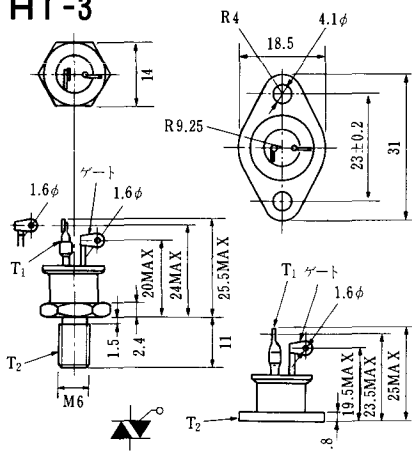
Unit in mm(inch)

# HT-2

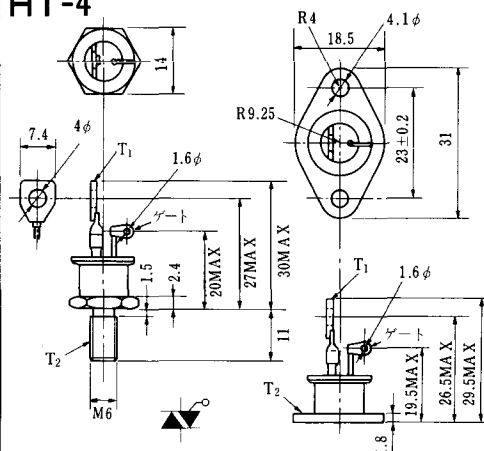


リード加工標準寸法

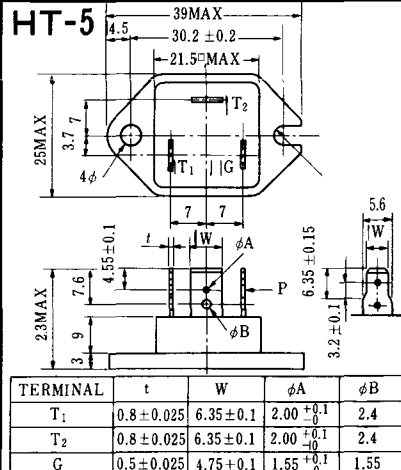
# HT-3



# 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

### M-1



### M-2



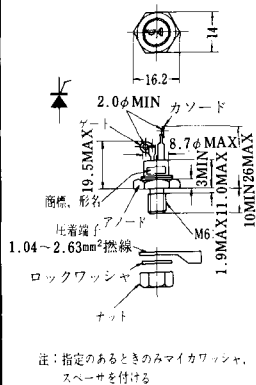
### M-3



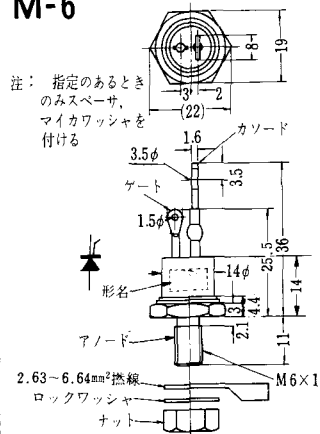
### M-4



### M-5



### M-6



### M-7



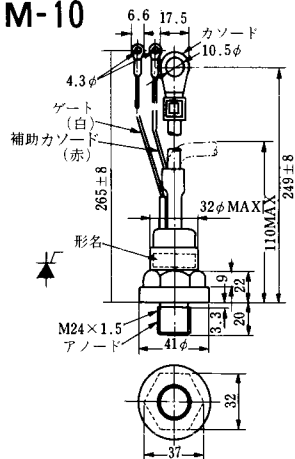
### M-8



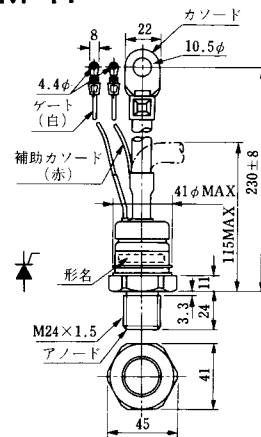
M-9



M-10



M-11



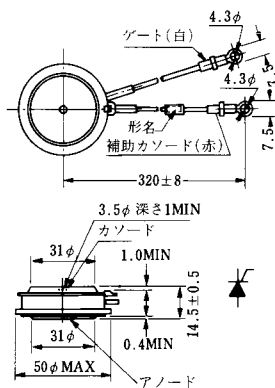
M-12



M-13



M-14



M-15



M-16





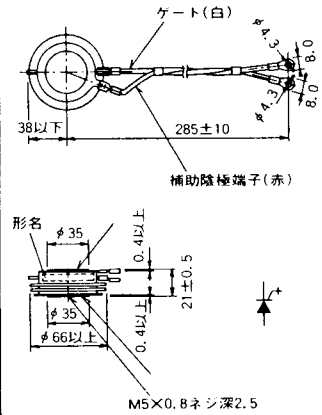
M-25



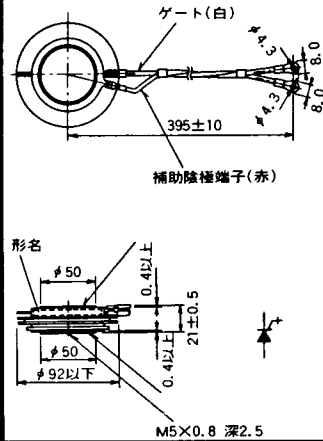
M-26



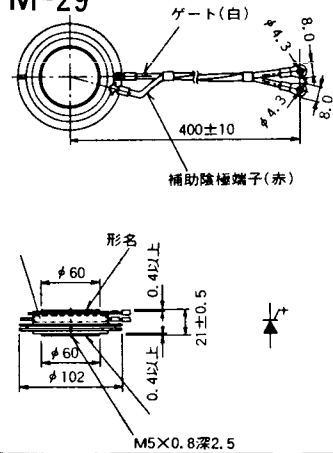
M-27



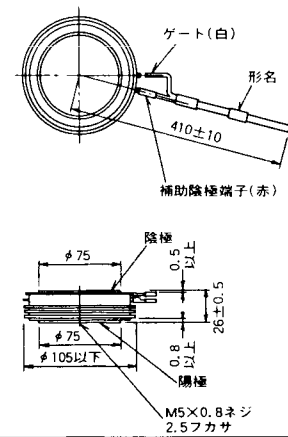
M-28



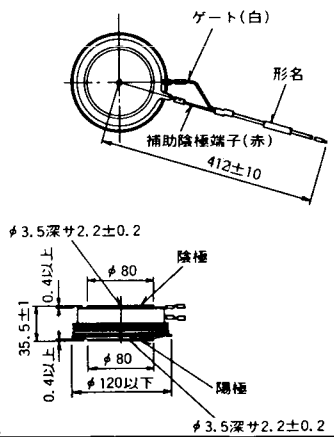
M-29



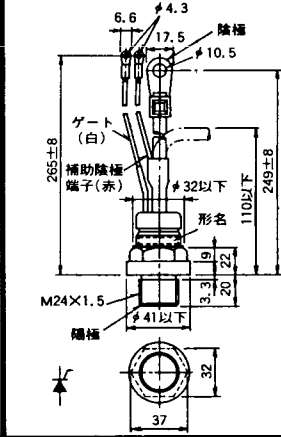
M-30



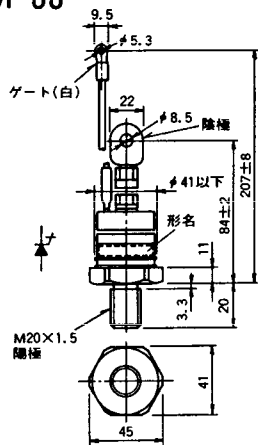
M-31



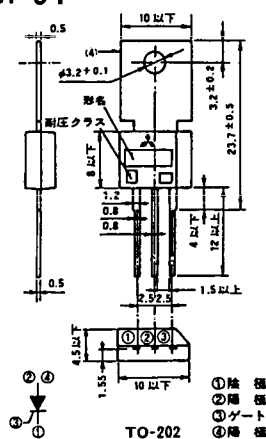
M-32



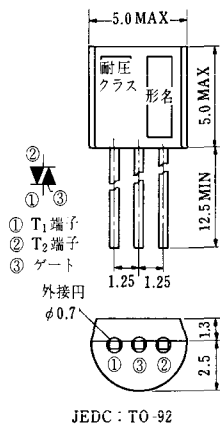
### M-33



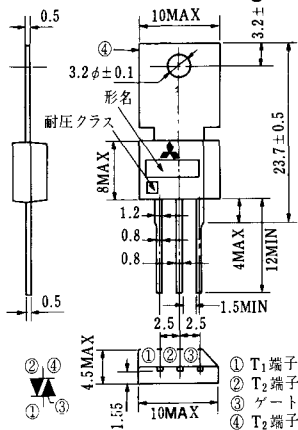
### M-34



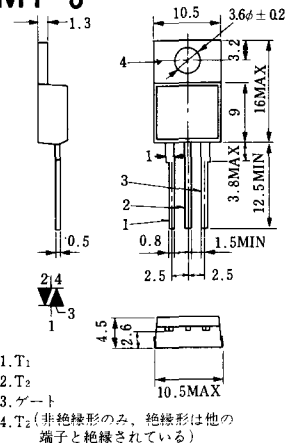
### MT-1



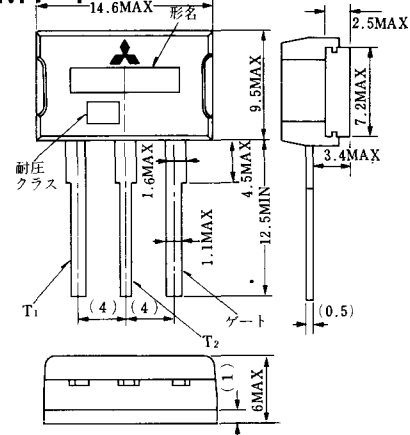
### MT-2



### MT-3



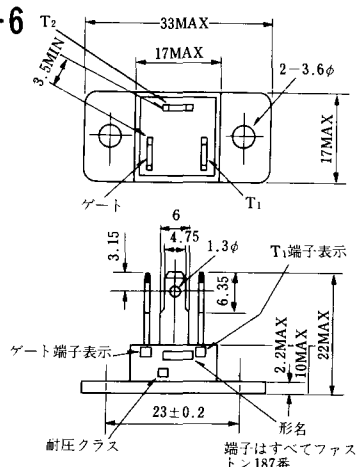
### MT-4



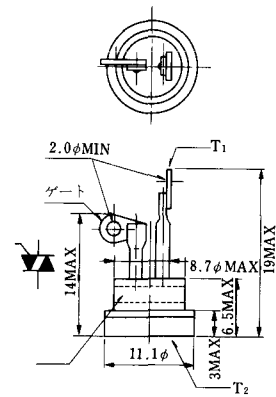
### MT-5



### MT-6



### MT-7

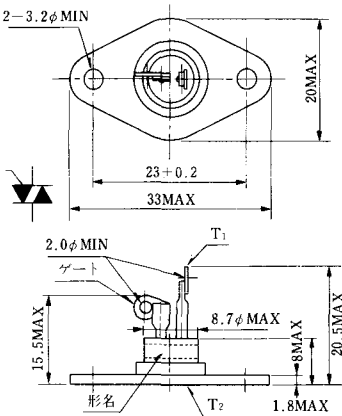




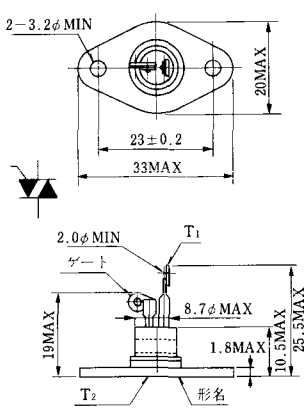
MT-8



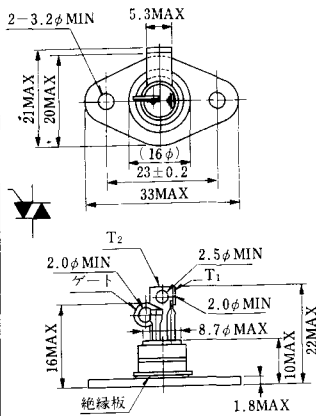
MT-9



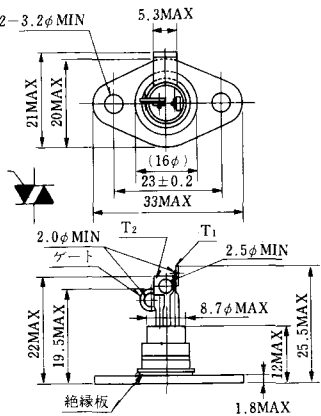
MT-10



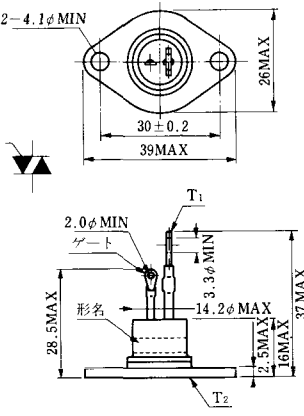
MT-11



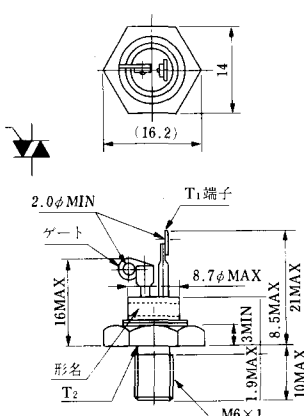
MT-12



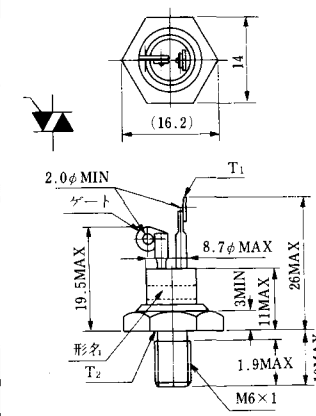
MT-13



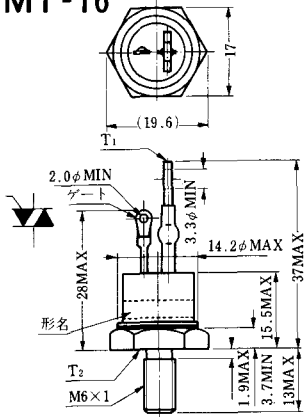
MT-14



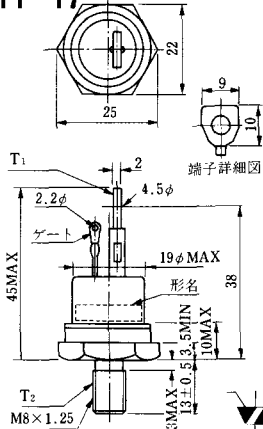
MT-15



MT-16

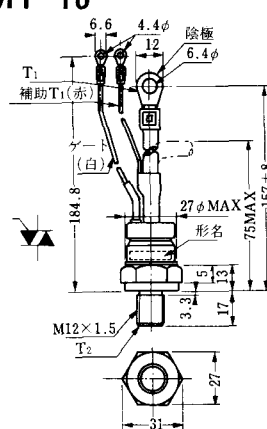


MT-17

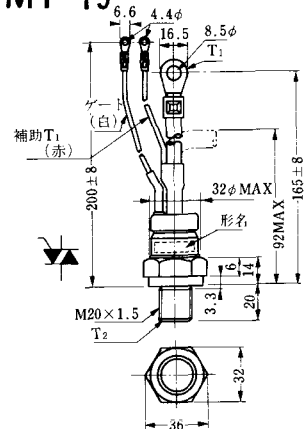


端子詳細図

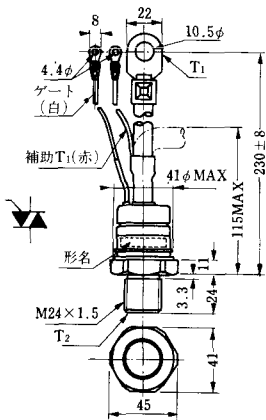
MT-18



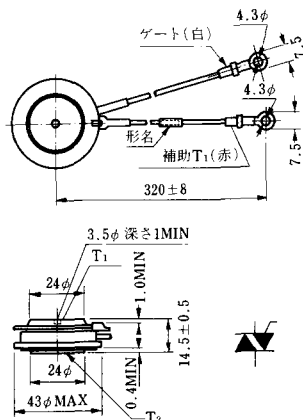
MT-19



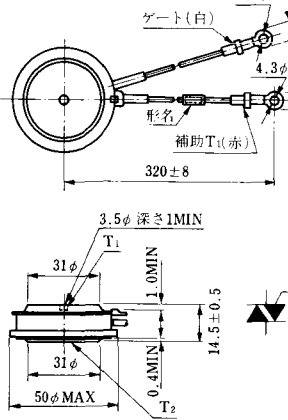
MT-20



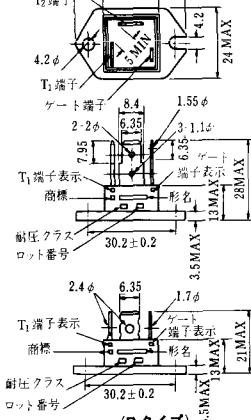
MT-21



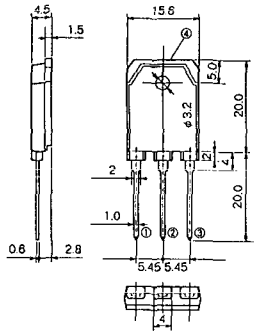
MT-22



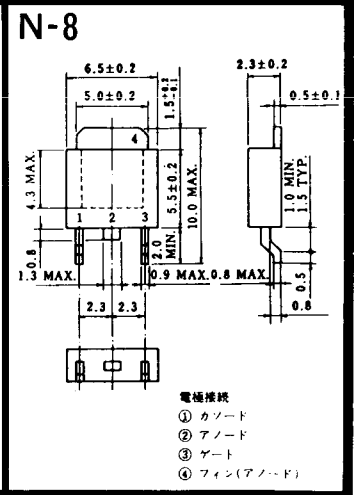
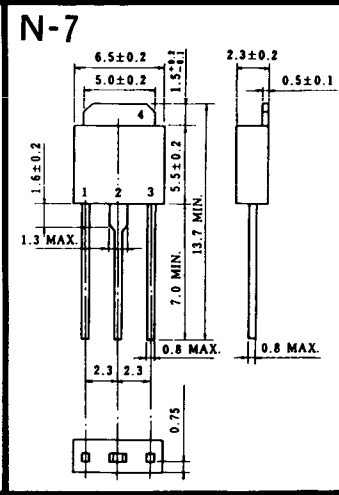
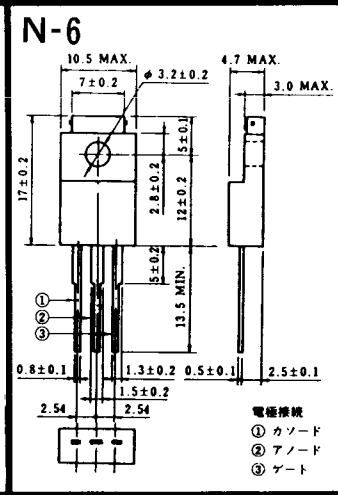
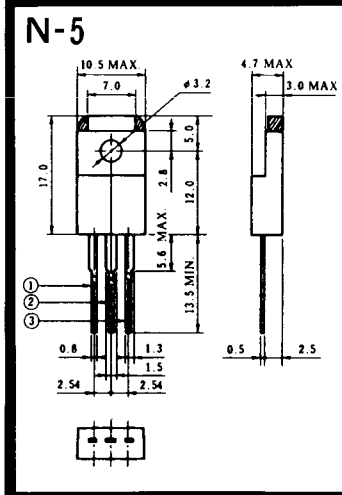
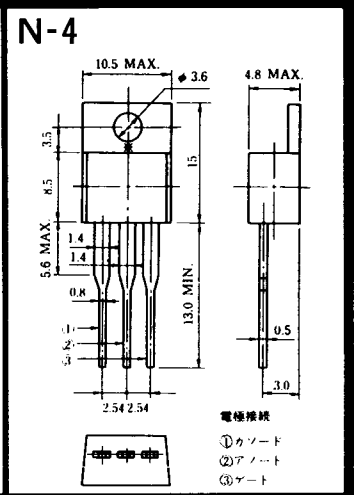
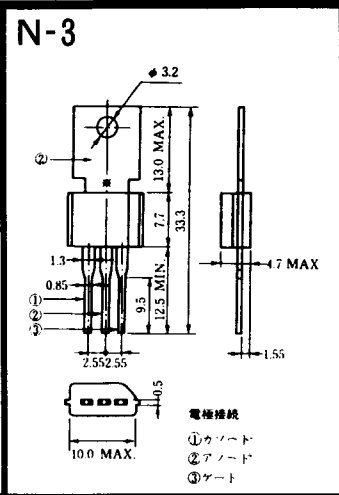
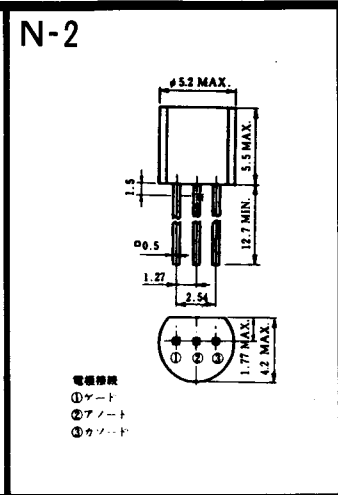
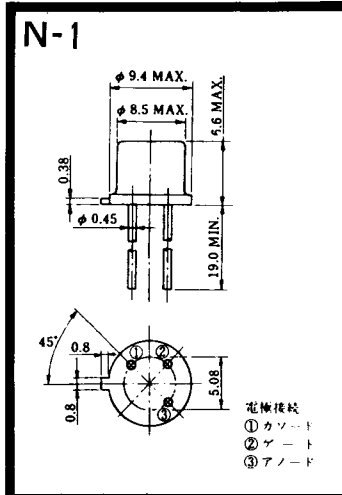
MT-23



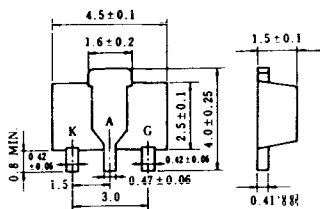
MT-24



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



N-9



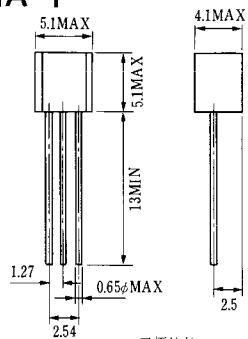
電極接続

K : カソード

A : アノード

G : ゲート

### NA-1

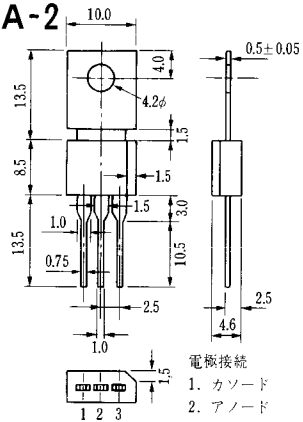


電極接続

1. ゲート
2. アノード
3. カソード

JEDEC: TO-92

### NA-2

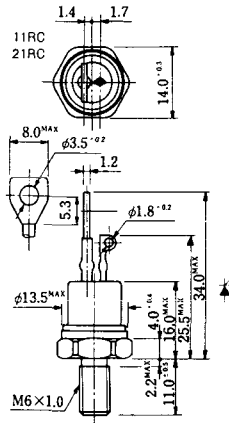


電極接続

1. カソード
2. アノード
3. ゲート

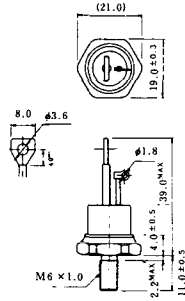
JEDEC: TO-202AA

### NI-1



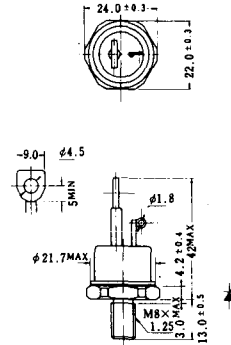
### NI-2

29RD



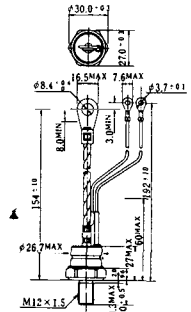
### NI-3

39RC  
59RC  
39RF  
59RF



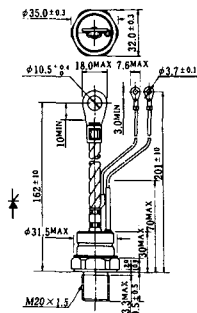
### NI-4

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



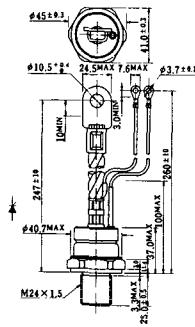
### NI-5

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



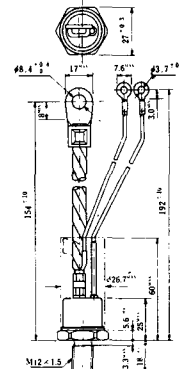
### NI-6

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



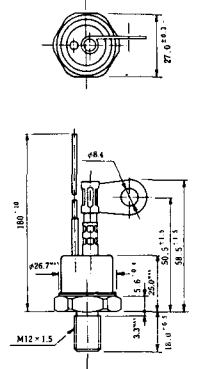
### NI-7

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



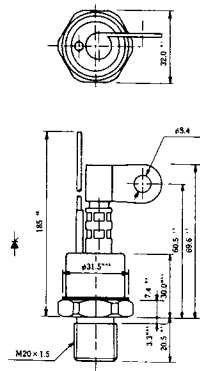
### NI-8

89RW  
129RW



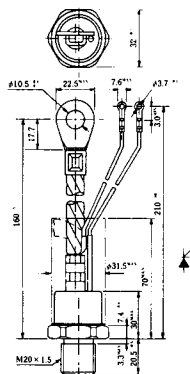
### NI-9

259RW  
309RW



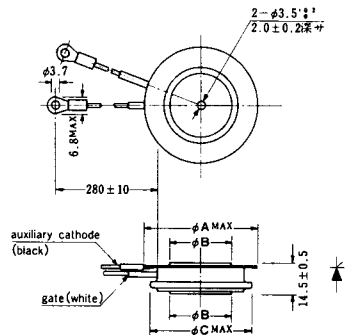
### NI-10

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



### NI-11

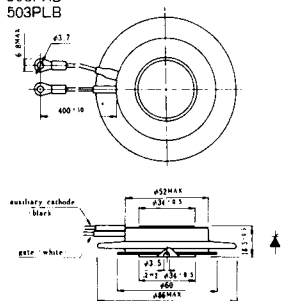
103PA  
253PA  
503PA  
553PA  
803PA  
103PLE  
103PLG  
103PLH  
203PLG  
253PLE  
253PLH  
353PLG  
403PLE  
403PLH



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

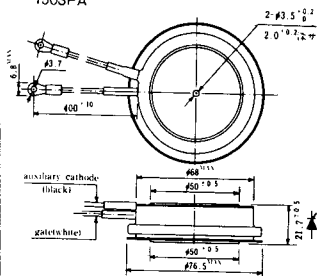
### NI-12

403PAB  
503PAB  
503PLB



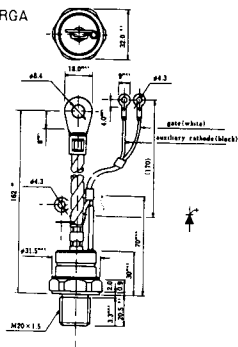
### NI-13

1003PA  
1003PAB  
1003PLF  
1003PLH  
1503PA



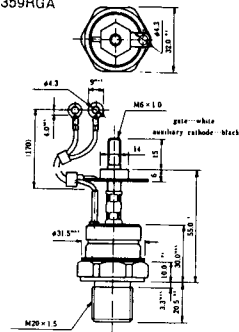
### NI-14

358RGA

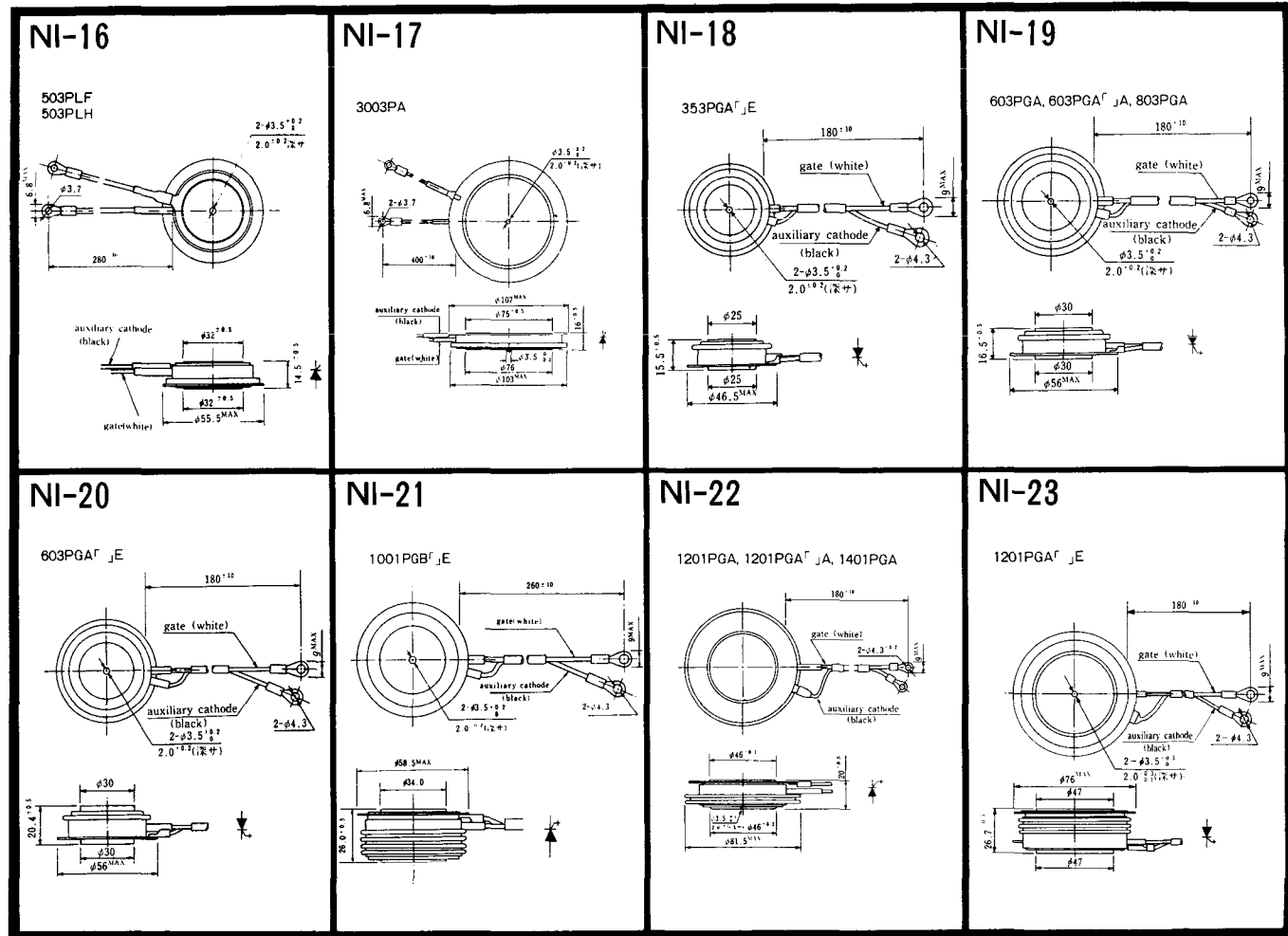


### NI-15

359RGA

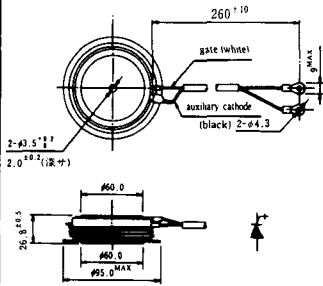






NI-24

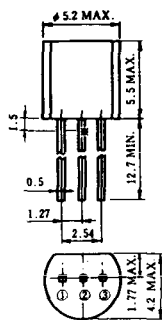
2001PGB<sup>r</sup> JE



NI-25

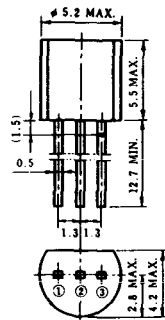
NI-26

### NT-1



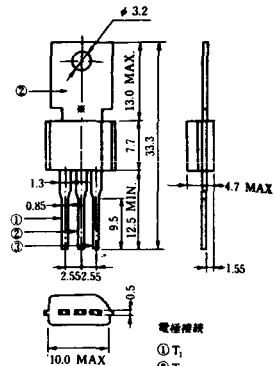
電極接続  
① T<sub>1</sub>  
② ゲート  
③ T<sub>2</sub>

### NT-2



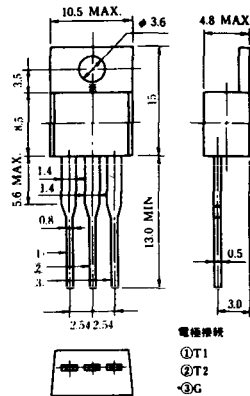
電極接続  
① T<sub>1</sub>  
② ゲート  
③ T<sub>2</sub>

### NT-3



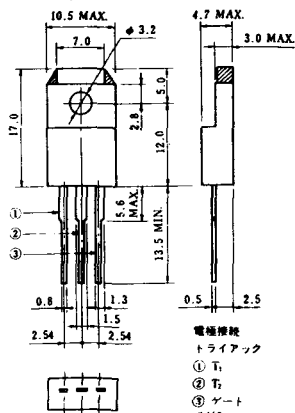
電極接続  
① T<sub>1</sub>  
② T<sub>2</sub>  
③ ゲート

### NT-4



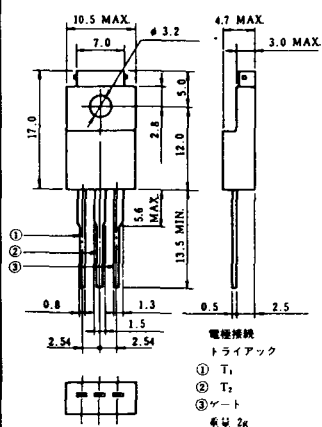
電極接続  
① T<sub>1</sub>  
② T<sub>2</sub>  
③ G

### NT-5



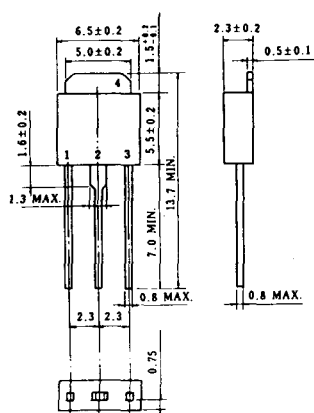
電極接続  
トライアック  
① T<sub>1</sub>  
② T<sub>2</sub>  
③ ゲート  
④ G

### NT-6

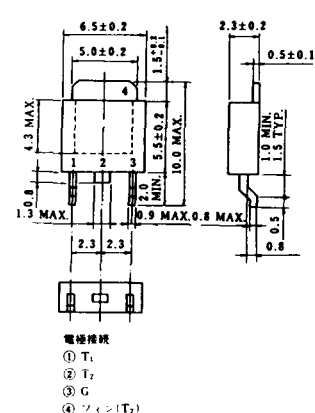


電極接続  
トライアック  
① T<sub>1</sub>  
② T<sub>2</sub>  
③ ゲート  
④ G

### NT-7

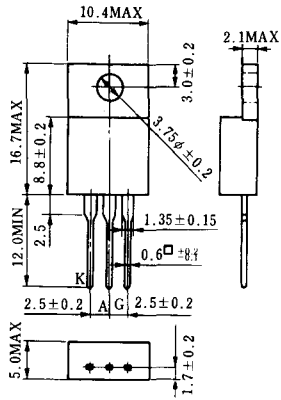


### NT-8

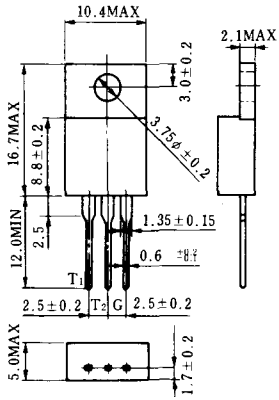


電極接続  
① T<sub>1</sub>  
② T<sub>2</sub>  
③ G  
④ ツイン(T<sub>2</sub>)

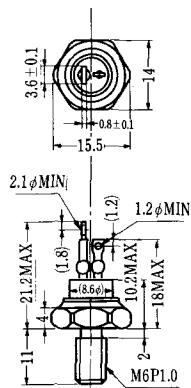
# S-1



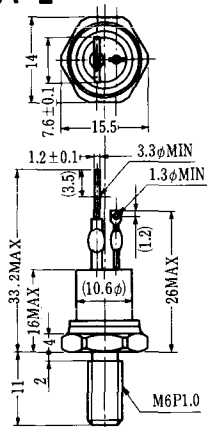
# ST-1



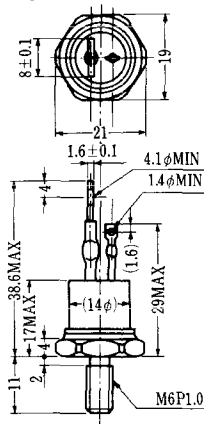
SA-1



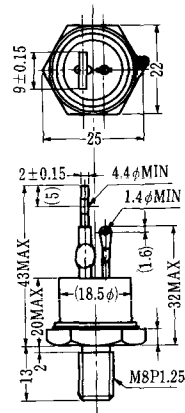
SA-2



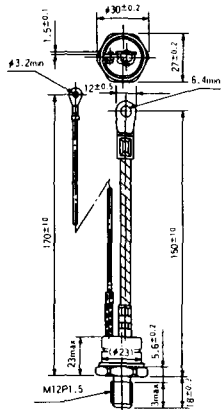
SA-3



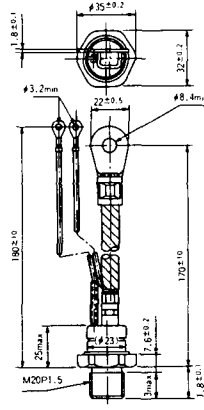
SA-4



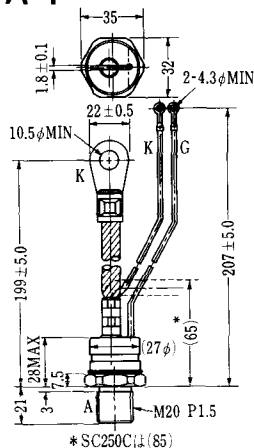
SA-5



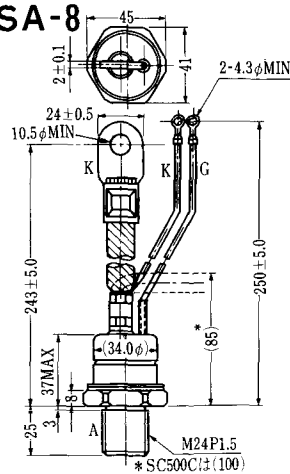
SA-6

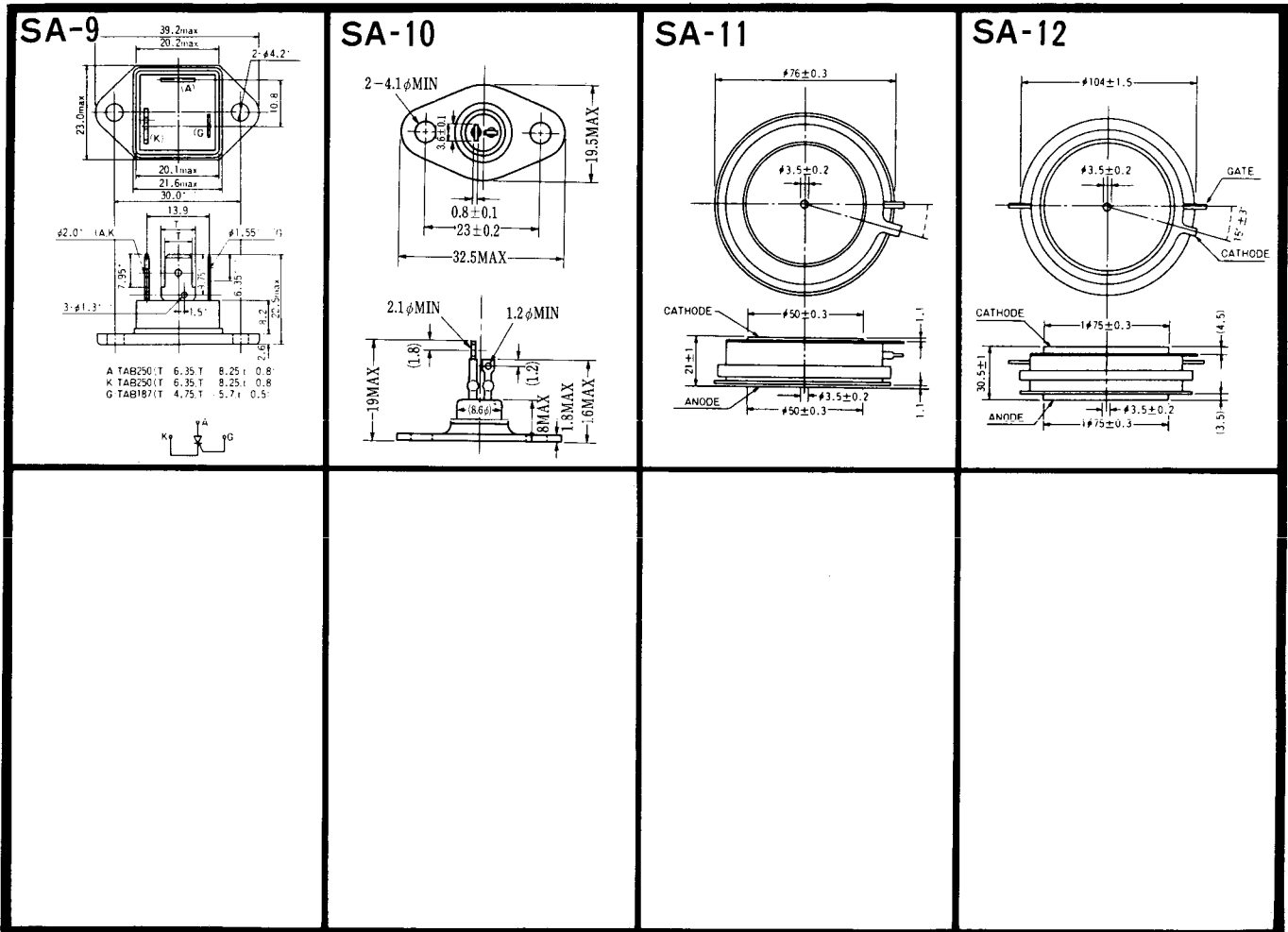


SA-7

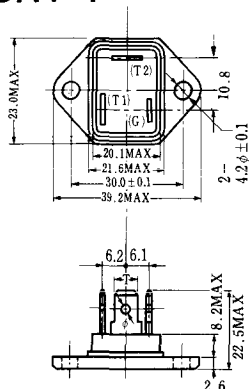


SA-8



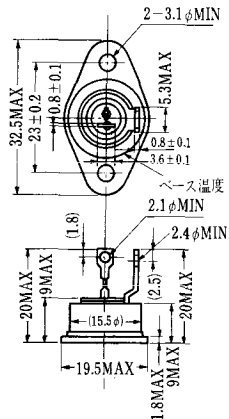


SAT-1

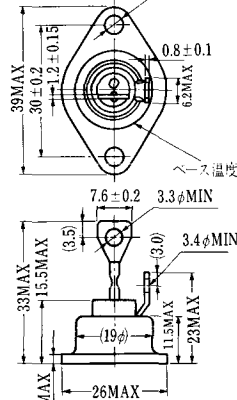


T1 端子: フラスト > 250 (T=6.35, t=0.8, φ=1.65)  
 T2 端子: フラスト > 250 (T=6.35, t=0.8, φ=1.65)  
 C 端子: フラスト > 187 (T=4.75, t=0.5, φ=1.3)

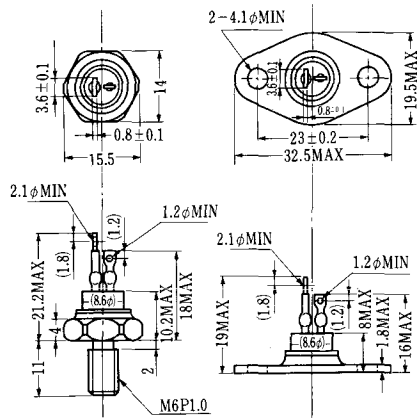
SAT-2



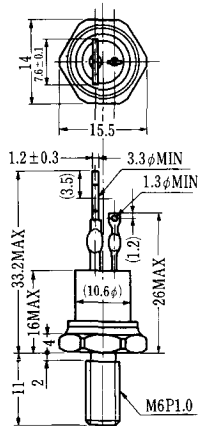
SAT-3



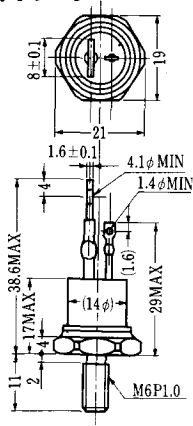
SAT-4



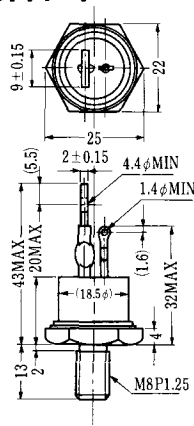
SAT-5



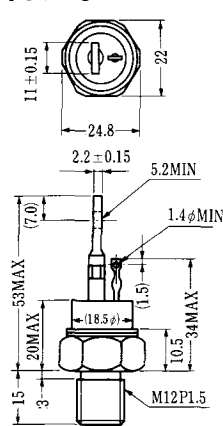
SAT-6



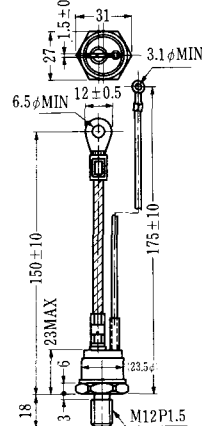
SAT-7



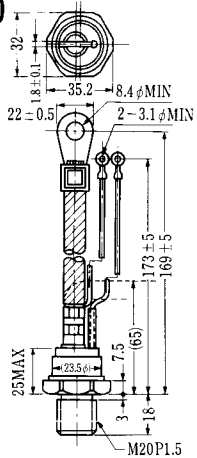
SAT-8



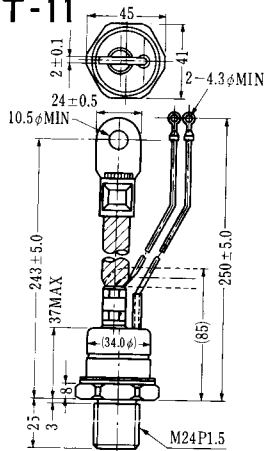
SAT-9



SAT-10

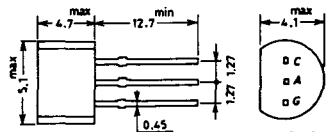


SAT-11



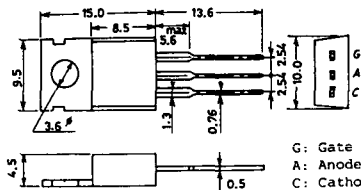


### SY-1 (1096A)



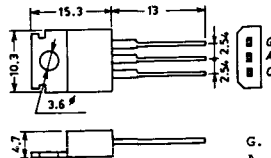
C: Cathode  
A: Anode  
G: Gate

### SY-2 (1151)



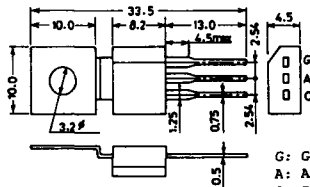
G: Gate  
A: Anode  
C: Cathode

### SY-3 (1104)



G: Gate  
A: Anode  
C: Cathode

### SY-4 (1150)



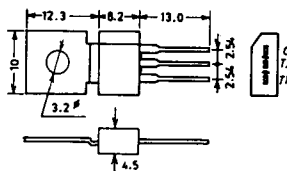
G: Gate  
A: Anode  
C: Cathode

1097A



G: Gate

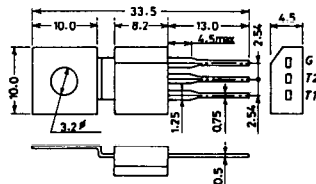
1102



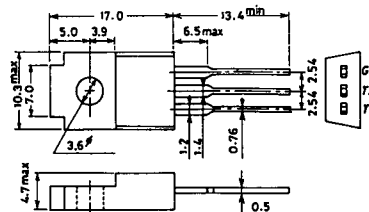
1141



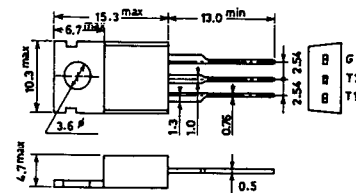
1142



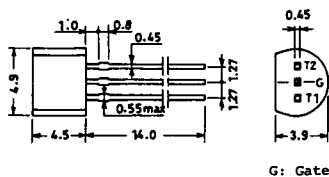
1144



1155

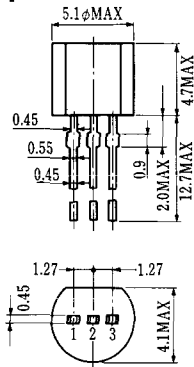


1192A



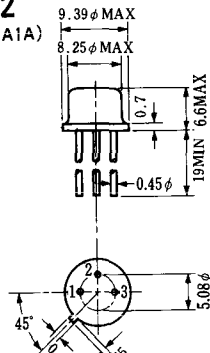
G: Gate

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



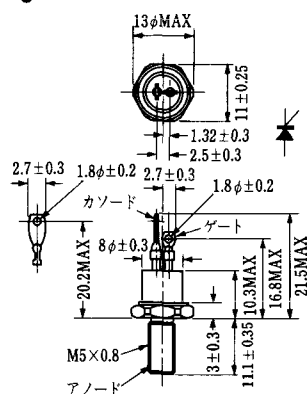
- 1 ゲート
- 2 アノード
- 3 カソード

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



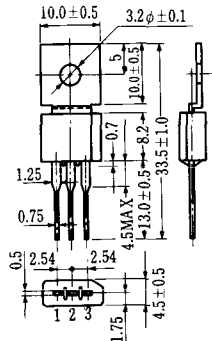
1. カソード
2. ゲート
3. アノード(ケース)

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

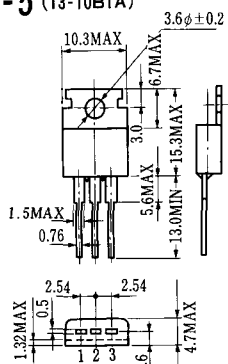


- 1 カソード
- 2 アノード
- 3 ゲート

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

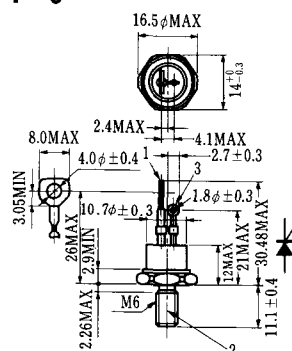


**T-5 (13-10B1A)**



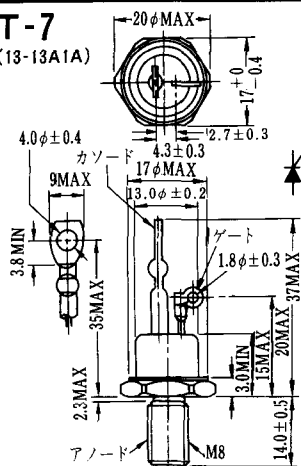
- 1 カソード
- 2 アノード
- 3 ゲート

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



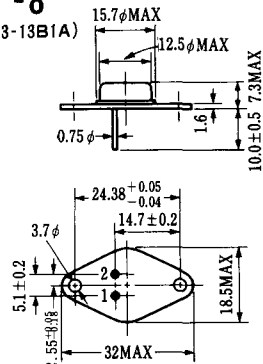
- 1 カソード
- 2 アノード
- 3 ゲート

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

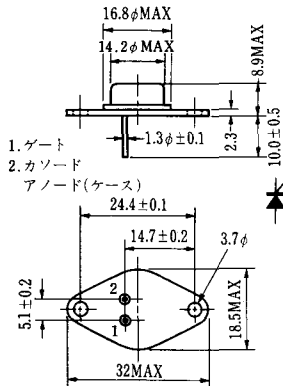


1. ゲート
2. カソード
3. アノード(ケース)

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

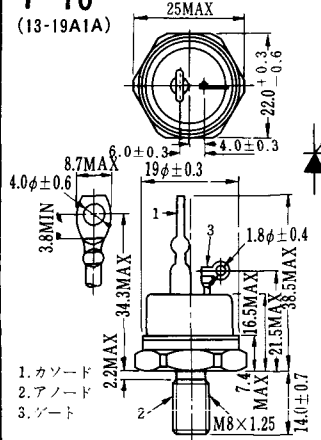


### T-9 (13-14A1A)



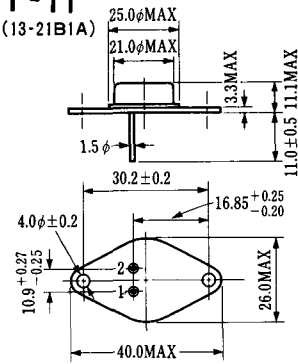
1. ゲート
2. カソード
- アノード(ケース)

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



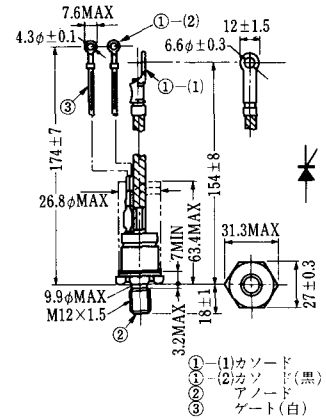
1. カソード
2. アノード
3. ゲート

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



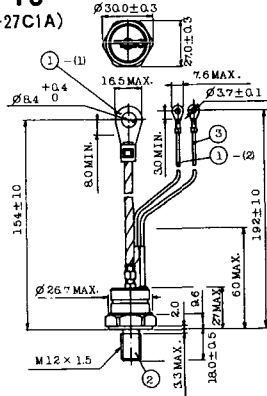
1. ゲート
2. カソード
- アノード(ケース)

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



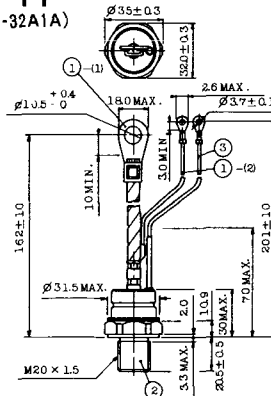
- ① (1) カソード
- ① (2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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



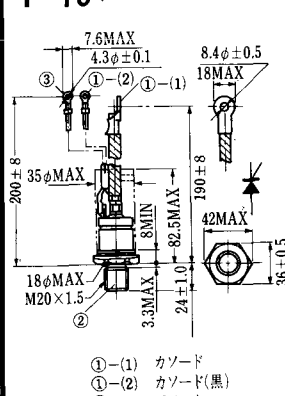
- 1-(1) カソード
- 1-(2) カソード(黒)
- 2 アノード
- 3 ゲート(白)

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



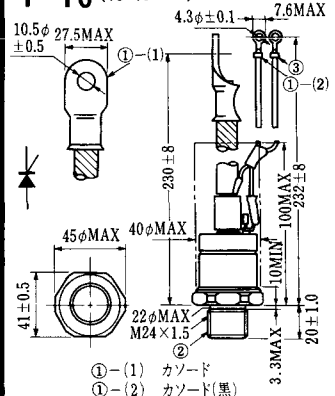
- 1-(1) カソード
- 1-(2) カソード(黒)
- 2 アノード
- 3 ゲート(白)

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



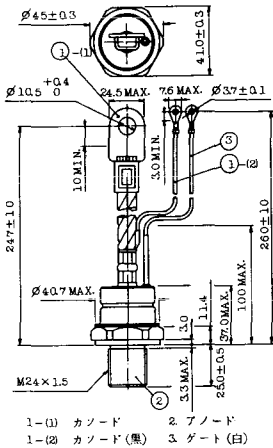
- ① (1) カソード
- ① (2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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

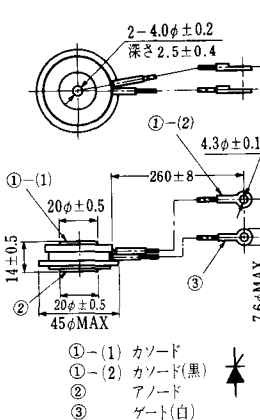


- ① (1) カソード
- ① (2) カソード(黒)
- ② アノード
- ③ ゲート(白)

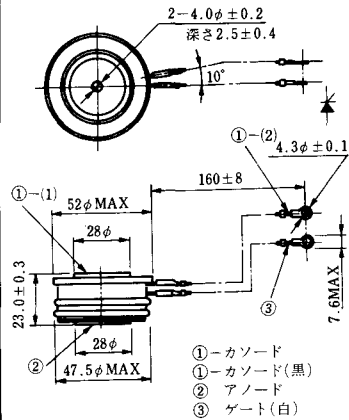
**T-17 (13-42A1A)**



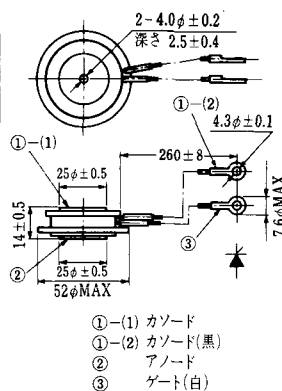
**T-18 (13-45D1A)**



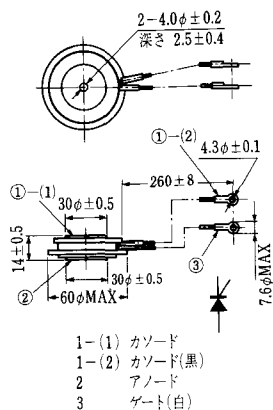
**T-19 (13-52B1A)**



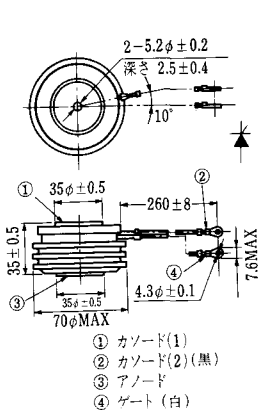
**T-20 (13-52C1A)**



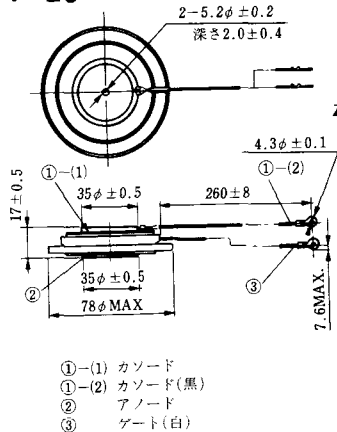
**T-21 (13-60A1A)**



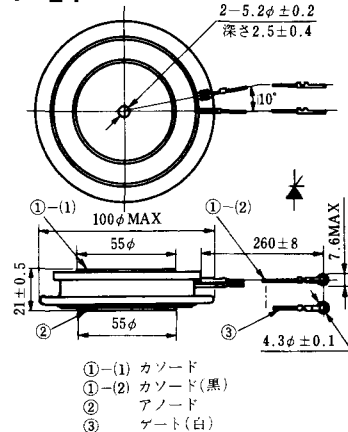
**T-22 (13-70C1A)**



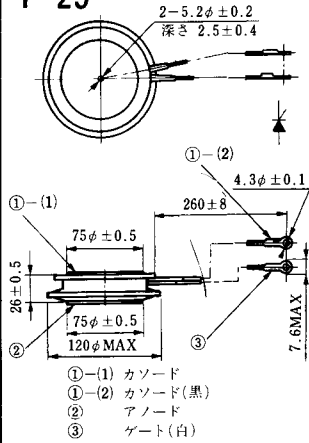
**T-23 (13-78A1A)**



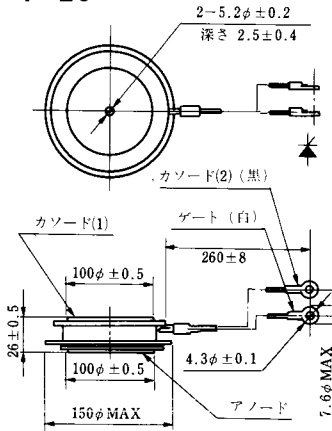
**T-24 (13-100C1A)**



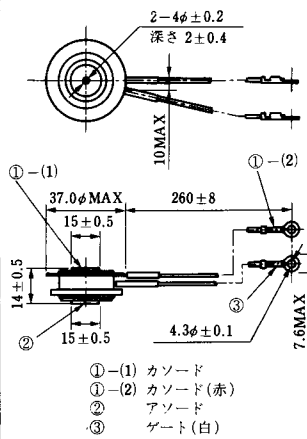
**T-25** (13-120A2A)



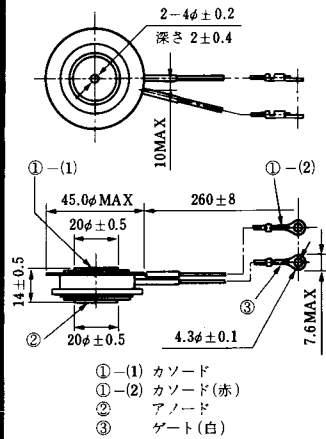
**T-26** (13-150A1A)



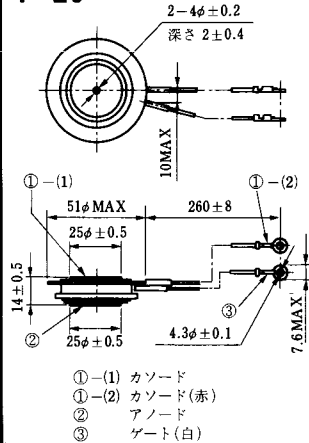
**T-27** (13-37A1A)



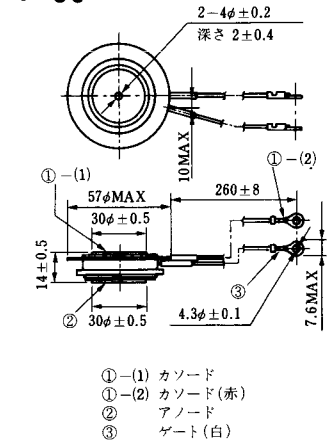
**T-28** (13-45E1A)



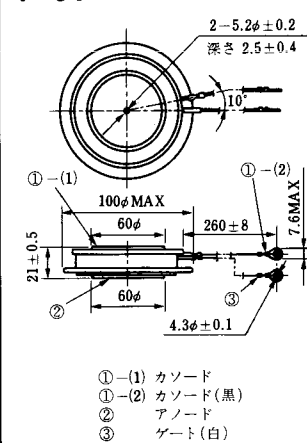
**T-29** (13-51A1A)



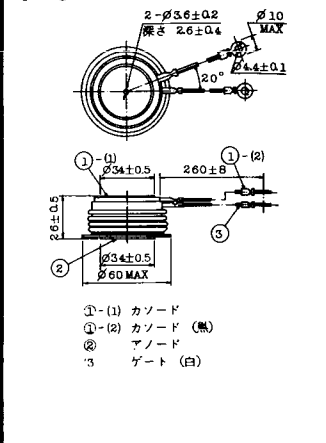
**T-30** (13-57A1A)



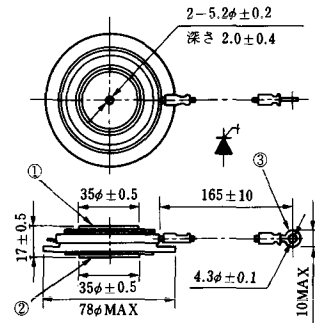
**T-31** (13-100E1A)



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

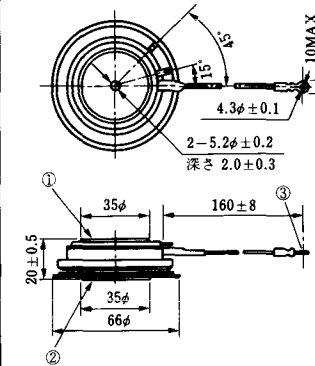


**T-33 (13-78B1A)**



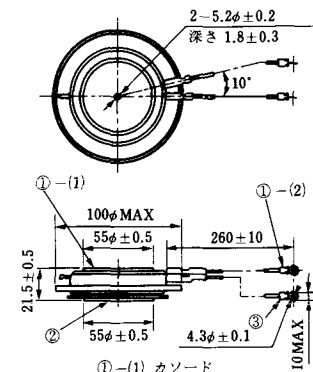
- ① カソード
- ② アノード
- ③ ゲート

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



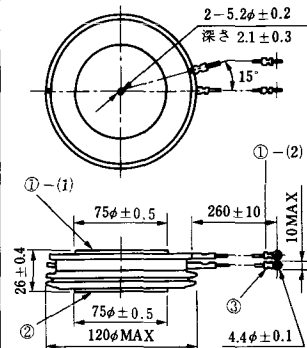
- ① カソード
- ② アノード
- ③ ゲート

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



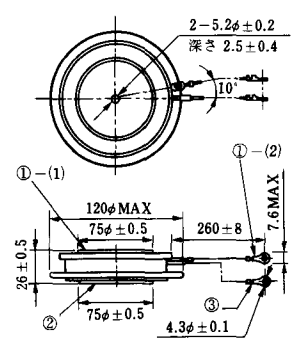
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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



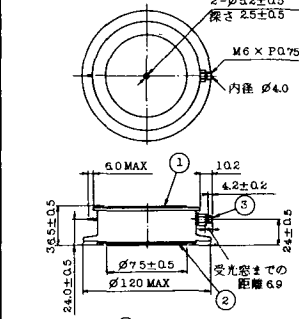
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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



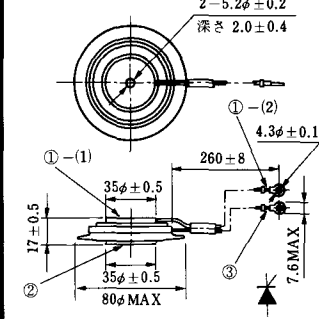
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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



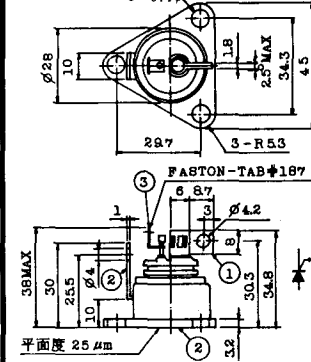
- ① カソード
- ② アノード
- ③ ゲート

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



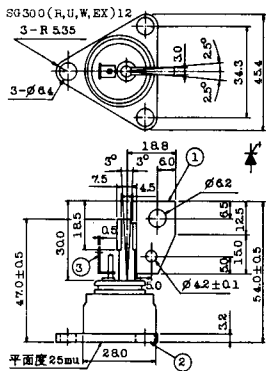
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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



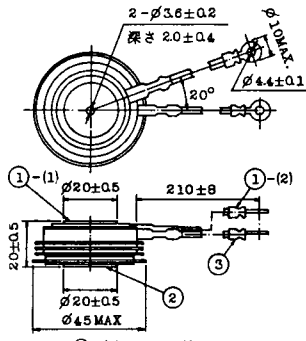
- 1. カソード
- 2. アノード
- 3. ゲート

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



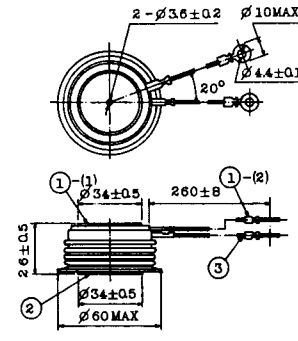
- 1 カソード
- 2 アノード
- 3 ゲート

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



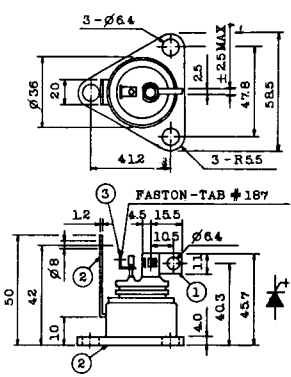
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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



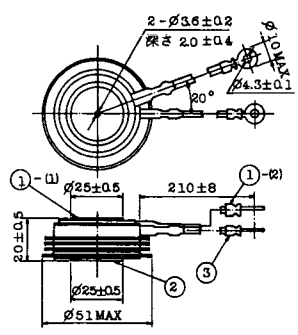
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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



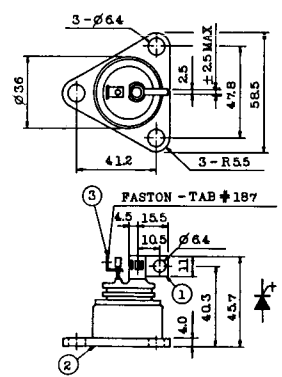
- 1 カソード
- 2 アノード
- 3 ゲート

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



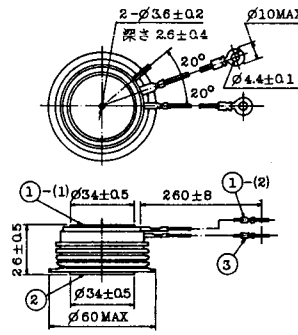
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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



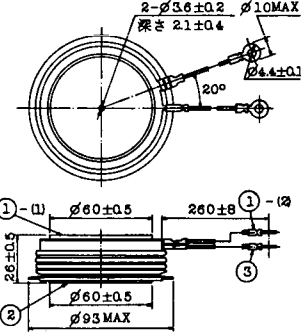
- 1 カソード
- 2 アノード
- 3 ゲート

### 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)

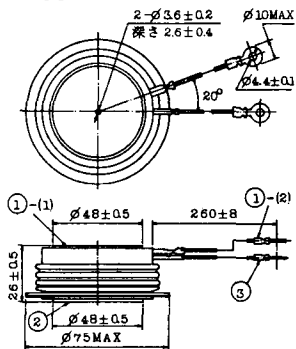
### T-48 (13-93C1A)



- 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)

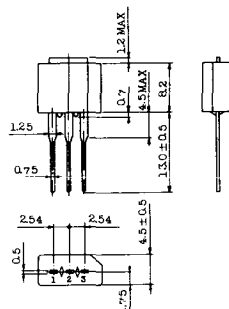


**T-49** (13-75A1A)



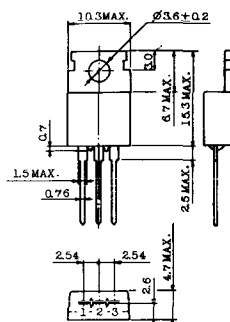
- 1-(1) カソード
- 1-(2) カソード(黒)
- 2 アノード
- 3 ゲート(白)

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



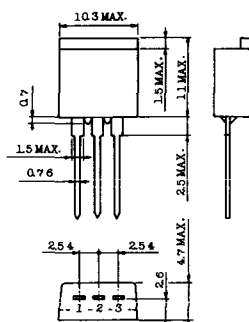
- 1 カソード
- 2 アノード
- 3 ゲート

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



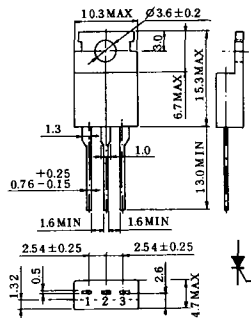
- 1 カソード
- 2 アノード
- 3 ゲート

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



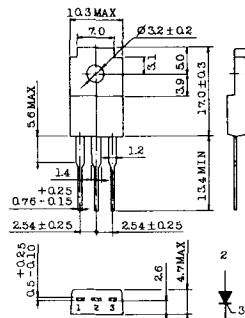
- 1 カソード
- 2 アノード
- 3 ゲート

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



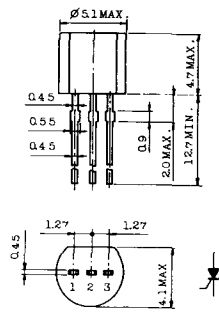
- 1 カソード
- 2 アノード
- 3 ゲート

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



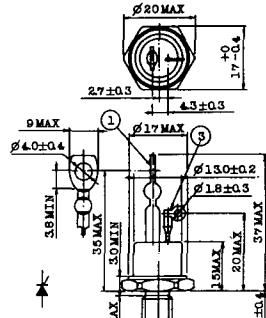
- 1 カソード
- 2 アノード
- 3 ゲート

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



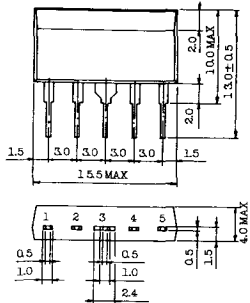
- 1 カソード
- 2 アノード
- 3 アノード

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



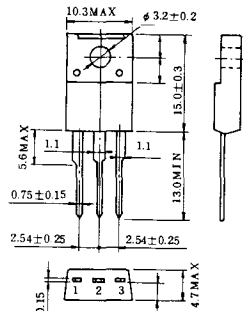
- 1 カソード
- 2 アノード
- 3 ゲート

T-57 (12-16C1A)



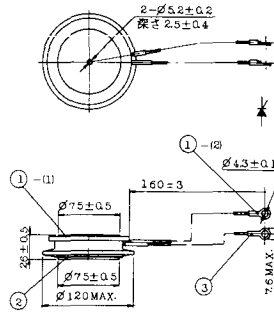
- 1. アノード (主)
- 2. ゲート (主)
- 3. カソード (共通)
- 4. ゲート (補助)
- 5. アノード (補助)

T-58 (13-10H1B)



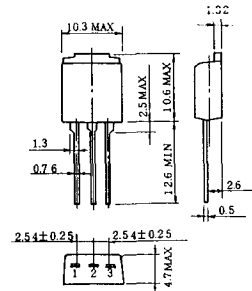
- 1. カソード
- 2. アノード
- 3. ゲート

T-59 (13-120A1A)



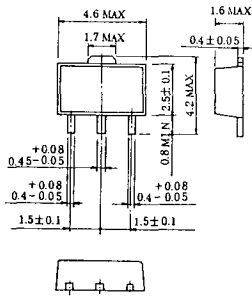
- 1-(1) カソード
- 1-(2) カソード (黒)
- 2. アノード
- 3. ゲート (白)

T-60



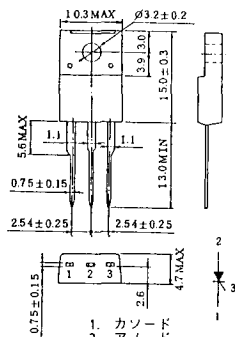
- 1. カソード
- 2. アノード
- 3. ゲート

T-61 (13-5B1A)



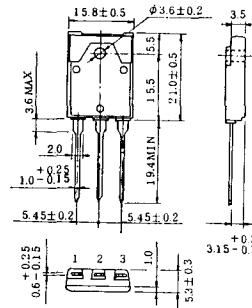
- 1. ゲート
- 2. アノード
- 3. カソード

T-62 (13-10H1A)



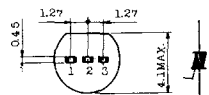
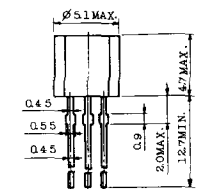
- 1. カソード
- 2. アノード
- 3. ゲート

T-63 (13-16A1B)



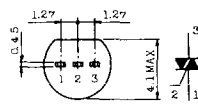
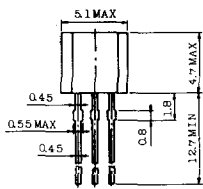
- 1. カソード
- 2. アノード
- 3. ゲート

TT-1



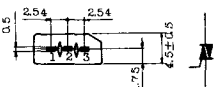
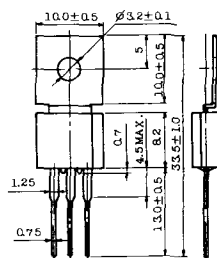
- 1. ゲート
- 2. T<sub>2</sub>
- 3. T<sub>1</sub>

TT-2



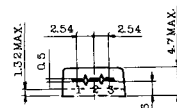
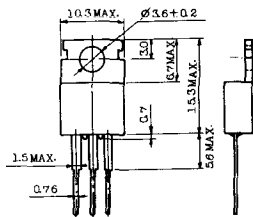
- 1. T<sub>1</sub>
- 2. ゲート
- 3. T<sub>2</sub>

TT-3



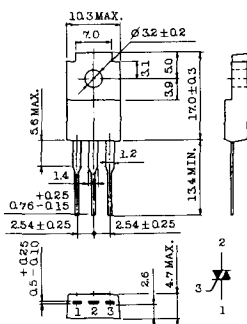
- 1. T<sub>1</sub>
- 2. T<sub>2</sub>
- 3. ゲート

TT-4



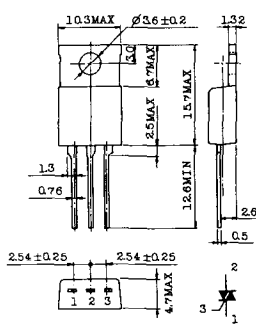
- 1. T<sub>1</sub>
- 2. T<sub>2</sub>
- 3. ゲート

TT-5



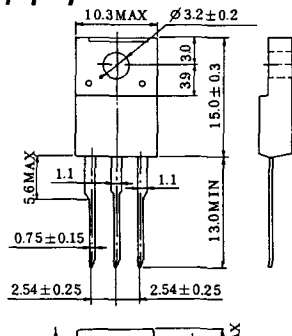
- 1. T<sub>1</sub>
- 2. T<sub>2</sub>
- 3. ゲート

TT-6



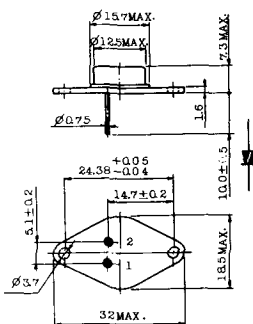
- 1. T<sub>1</sub>
- 2. T<sub>2</sub> (放熱板)
- 3. ゲート

TT-7



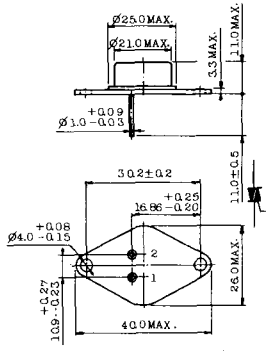
- 1. T<sub>1</sub>
- 2. T<sub>2</sub>
- 3. ゲート

TT-8



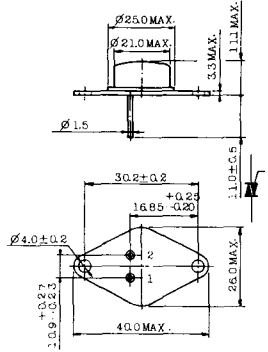
- 1. ゲート
- 2. T<sub>1</sub>
- T<sub>2</sub> (ケース)

TT-9



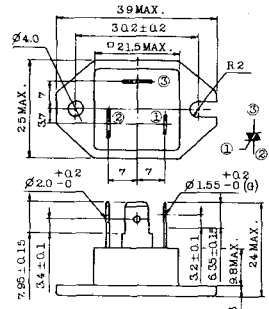
- 1. ゲート
- 2. T<sub>1</sub>
- 3. T<sub>2</sub> (ケース)

TT-10



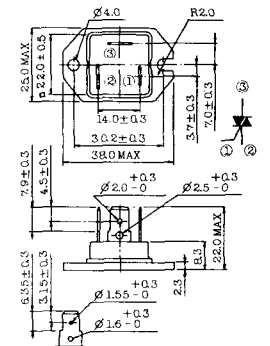
- 1. ゲート
- 2. T<sub>1</sub>
- 3. T<sub>2</sub> (ケース)

TT-11



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

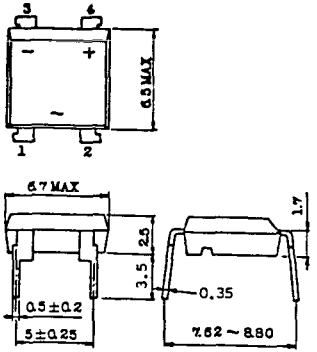
TT-12



ゲート端子詳細

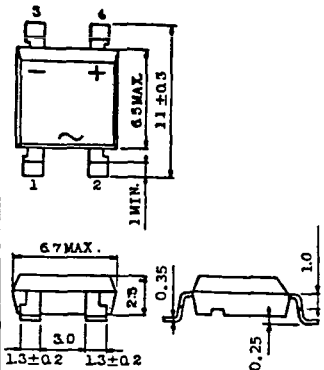
- ① ゲート (フーストン端子 #187)
- ② T<sub>1</sub> ( " #250)
- ③ T<sub>2</sub> ( " #250)

TT-13



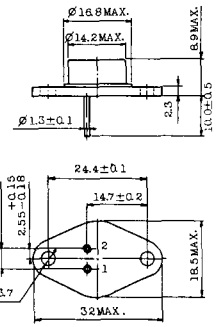
- 1, 2: T<sub>2</sub>
- 3: GATE
- 4: T<sub>1</sub>

TT-14



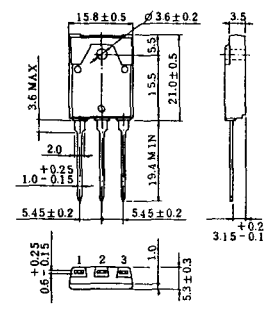
- 1, 2: T<sub>2</sub>
- 3: GATE
- 4: T<sub>1</sub>

TT-15 (13-14A1B)



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

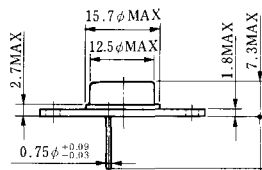
TT-16 (13-16A1A)



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

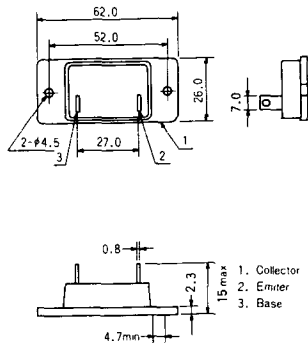


# TS-8

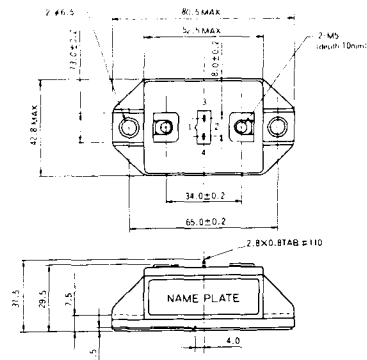


- 1. ベース
- 2. エミッタ  
コレクタ  
(ケース)

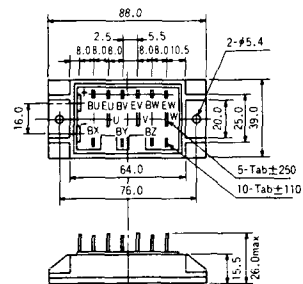
### S-62A1A



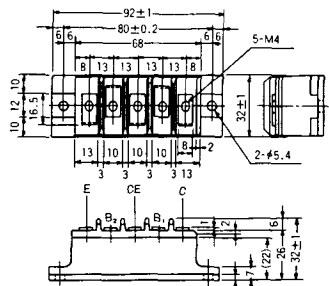
### S-80A1A



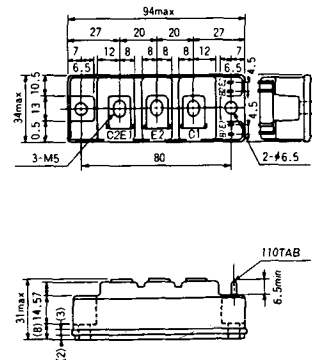
### S-88D1A



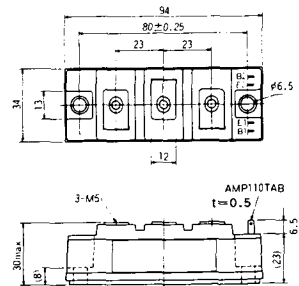
### S-92B1A



### S-94B1A



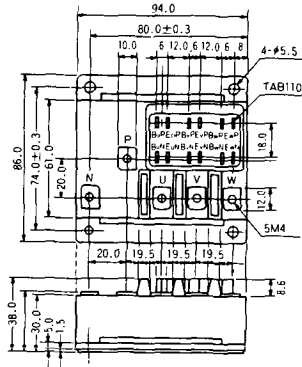
### S-94B1B



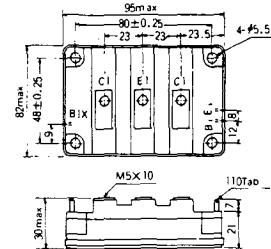
S-94B2A



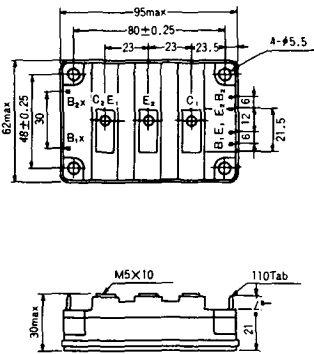
S-94D1A



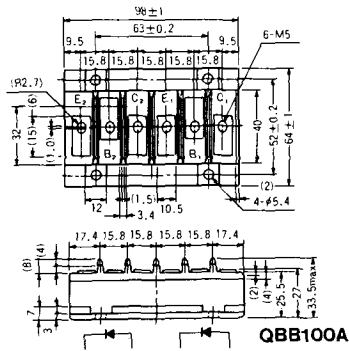
S-95A1A



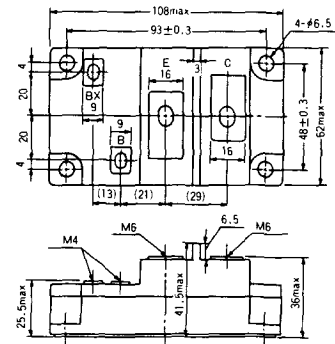
S-95B1A



S-98B1B

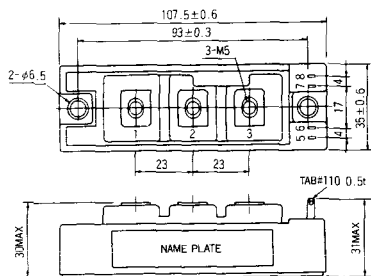


S-108A2A

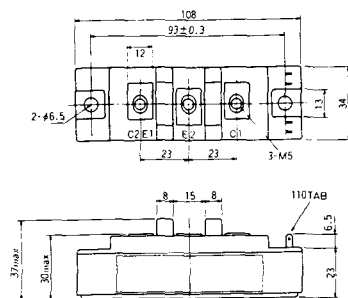




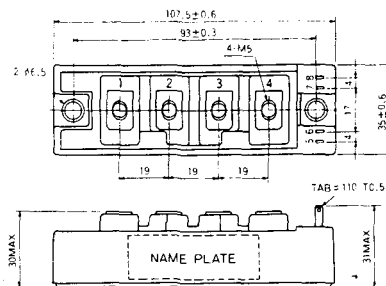
### S-108B1A



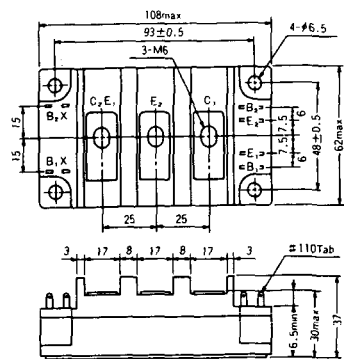
### S-108B1B



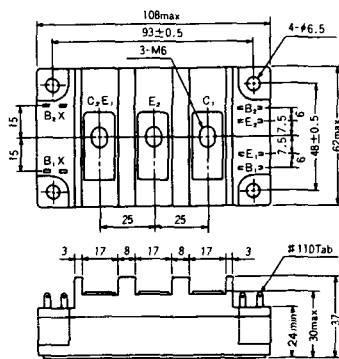
### S-108B1C



### S-108B2A



### S-108B2B



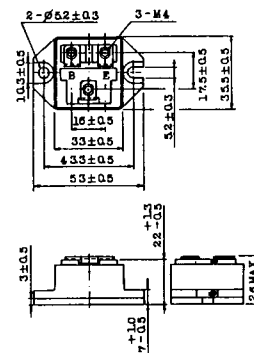
### 2-22B1A



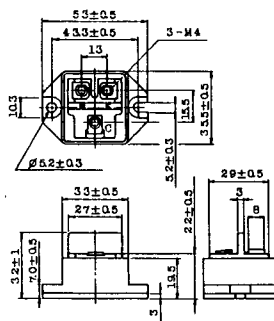
### 2-27A4A



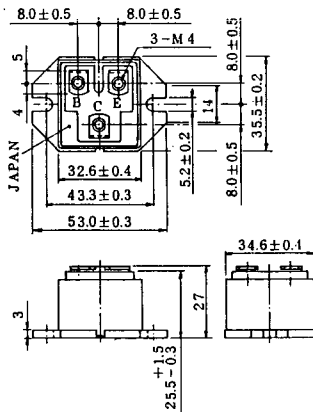
### 2-33C1A



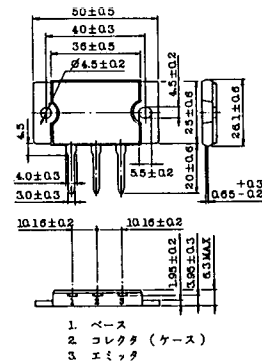
### 2-33D1A



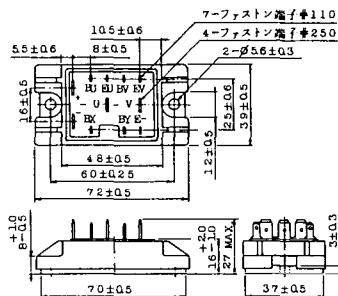
### 2-33F1A



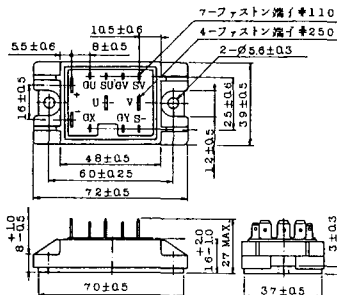
### 2-37A1A



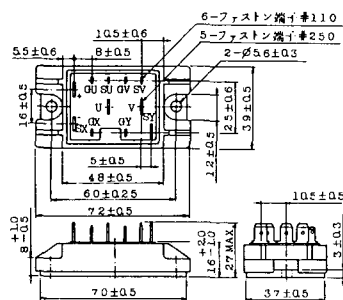
2-48A3A



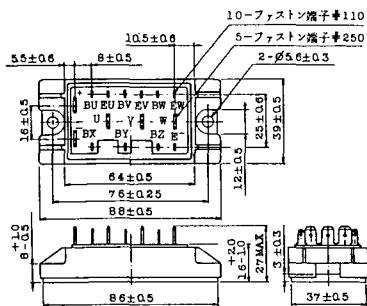
2-48A3B



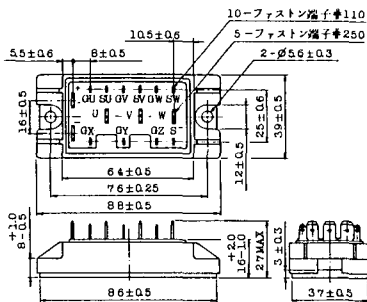
2-48A4A



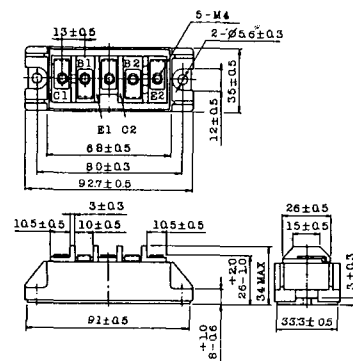
2-64A2A



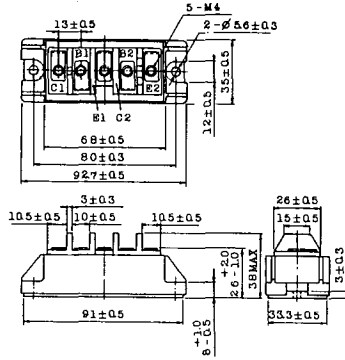
2-64A2B



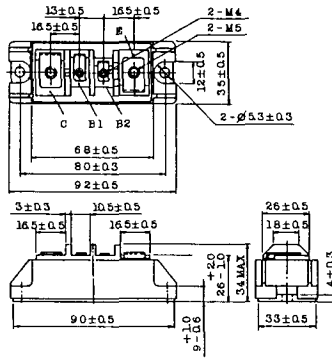
2-68A2A



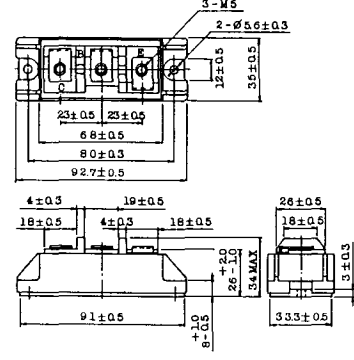
2-68B2A



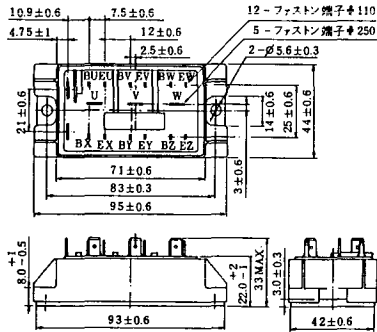
2-68C1A



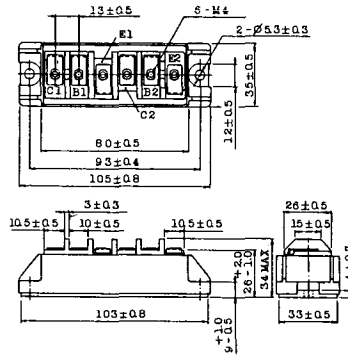
2-68D2A



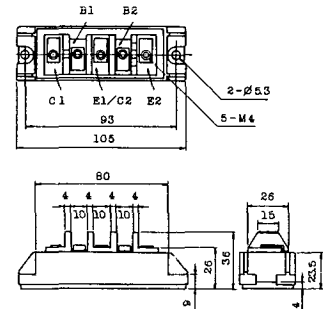
2-72A3A



2-80A1A

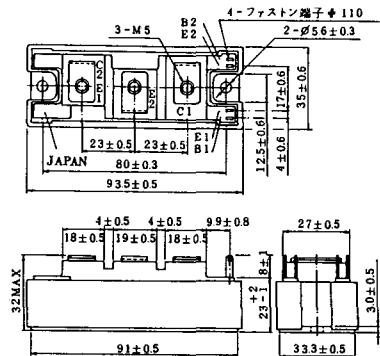


2-80B1A

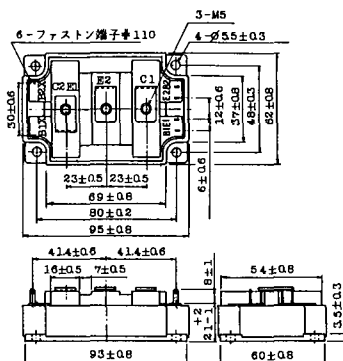




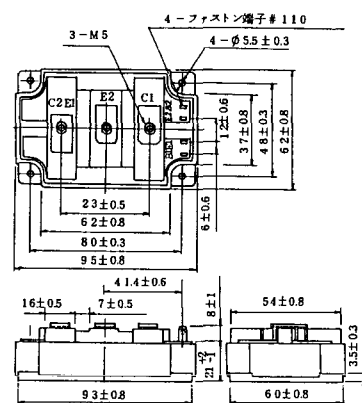
### 2-94D1A



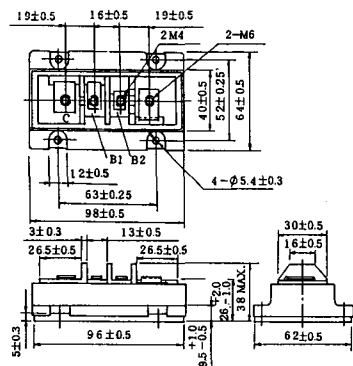
### 2-96A3A



### 2-96A4A



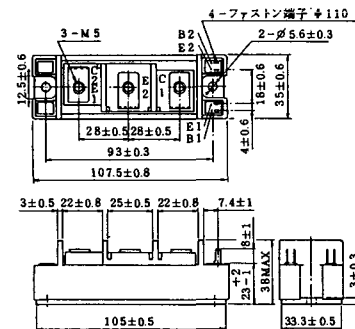
### 2-98B1A



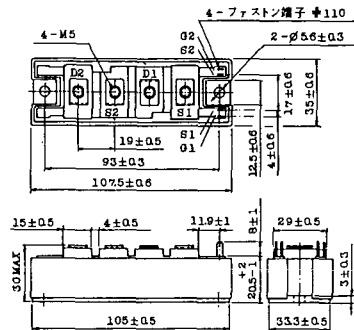
### 2-98C2A



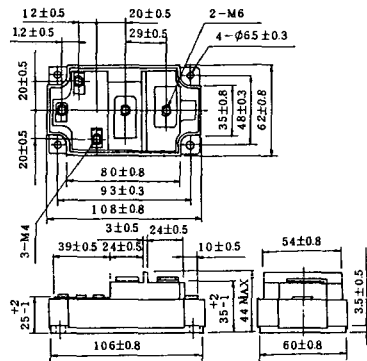
### 2-108A2A



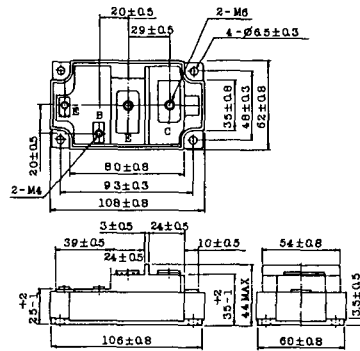
### 2-108B1A



### 2-109A3A



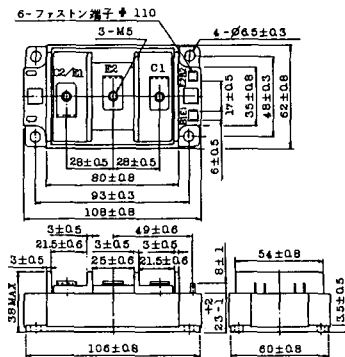
### 2-109A4A



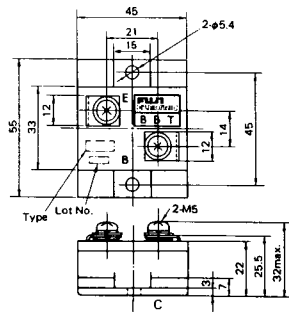
### 2-109B3A



### 2-109B4A

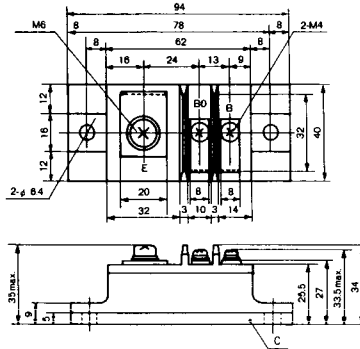


**BBT-II**  
BBTII  
1D200A-020



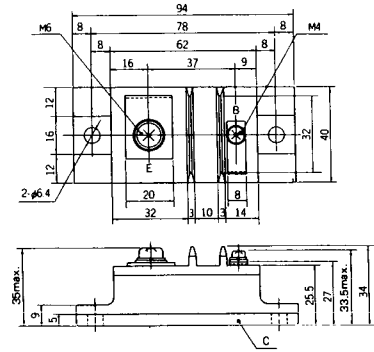
**BBT-III**

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



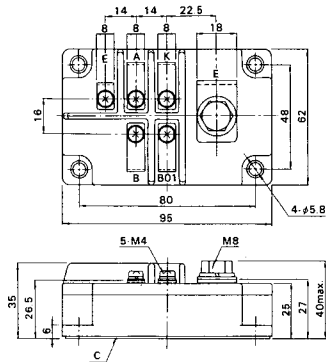
**BBT-III**

BBTIII  
ETN01-055  
ET1257



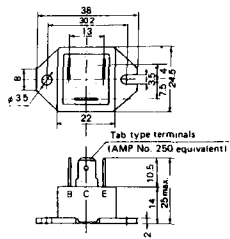
**BBT-IV**

BBTIV  
1D500A-030

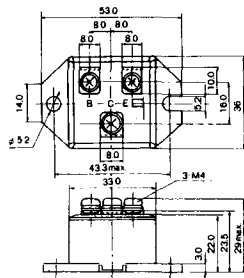




M-101



M-102



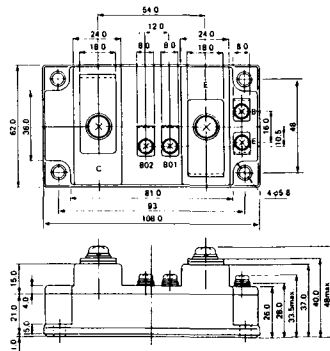
M-103



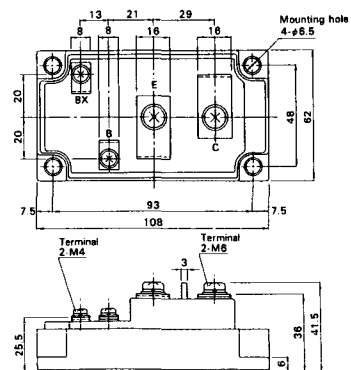
M-104



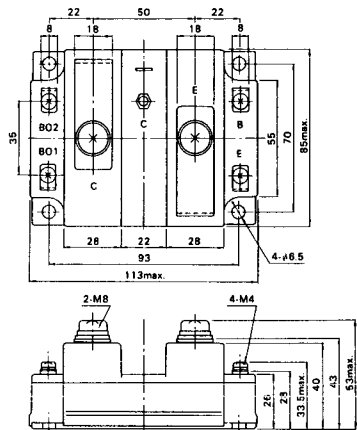
M-105



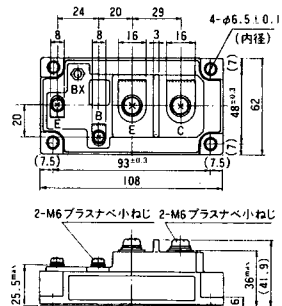
M-106



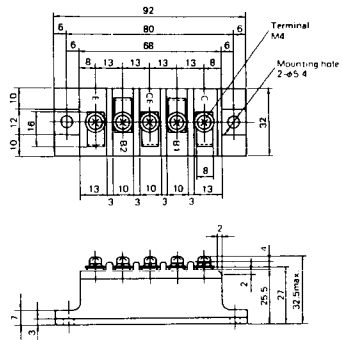
### M-107



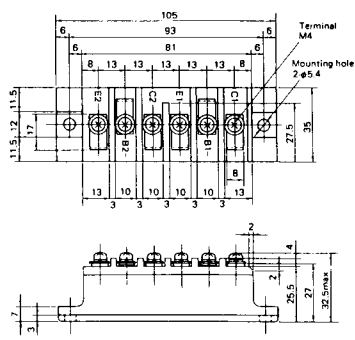
### M-116



### M-201



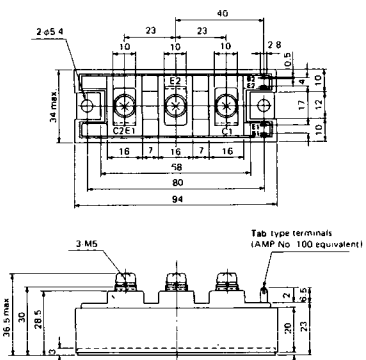
### M-202



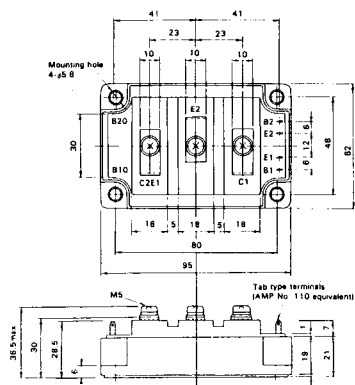
### M-203



### M-204



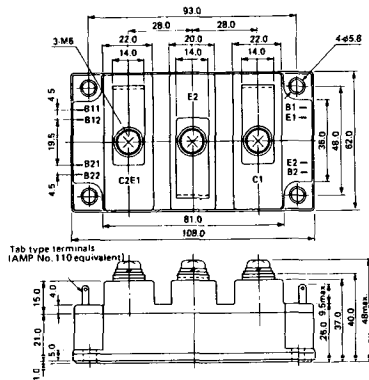
### M-205



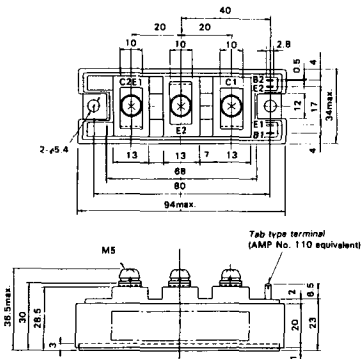
### M-206



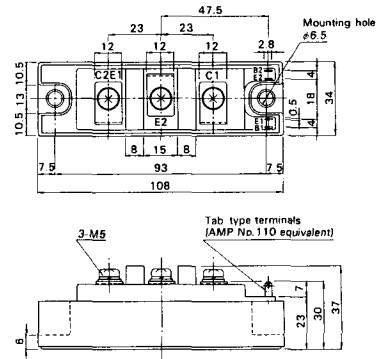
M-207



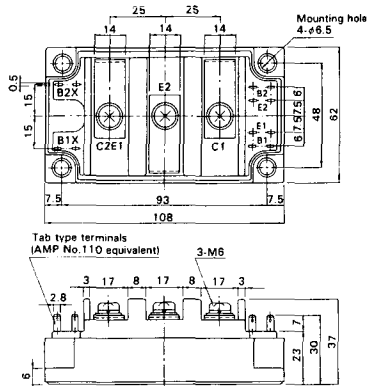
M-208



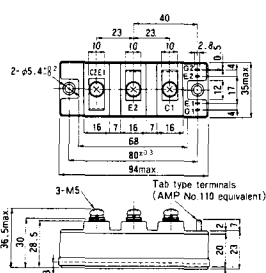
M-209



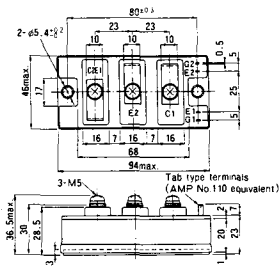
M-210



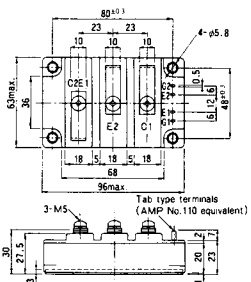
M-211



M-212

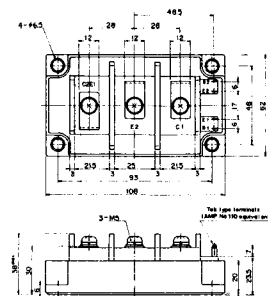


M-213

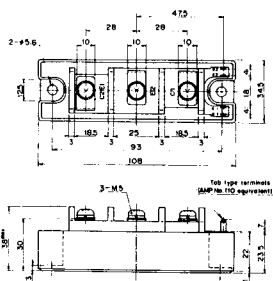


M-214

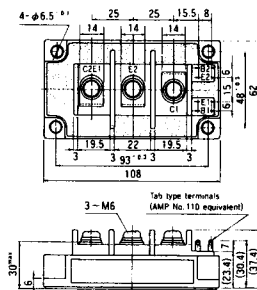
M-215



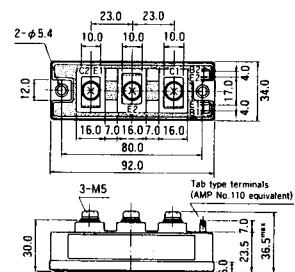
M-216



M-217



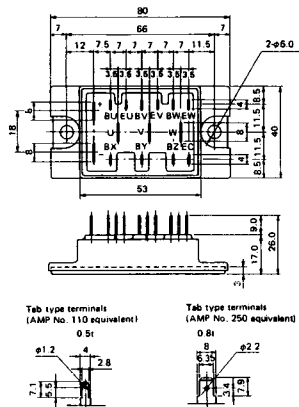
M-218



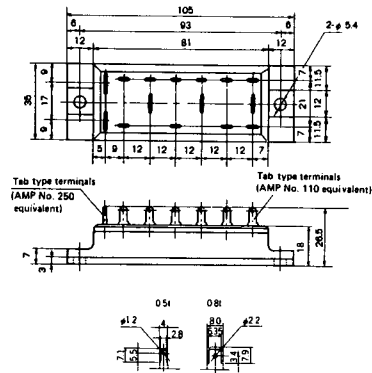
M-219



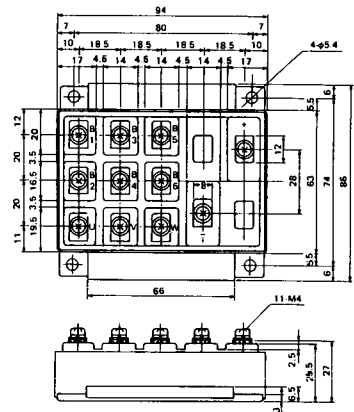
M-601



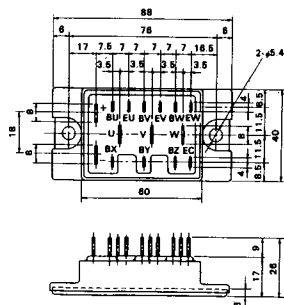
M-602



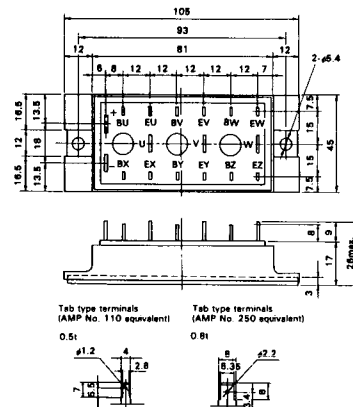
M-603



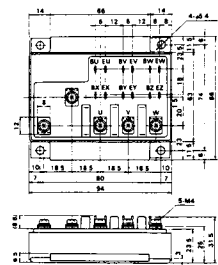
M-604



M-605



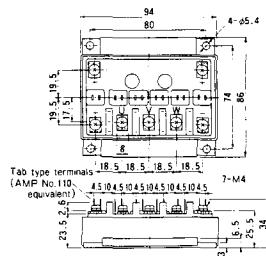
M-606



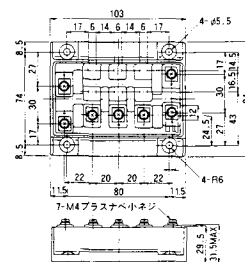
M-607



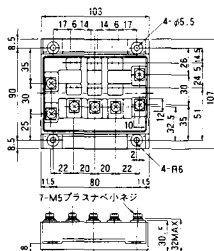
M-608



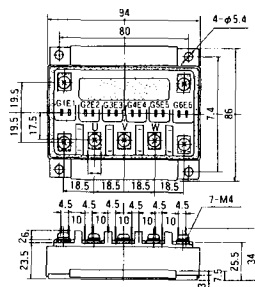
M-609



M-610

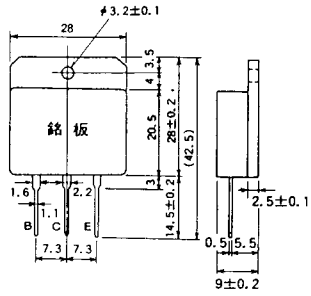


M-616

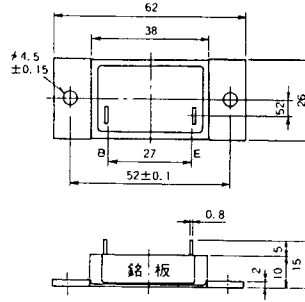




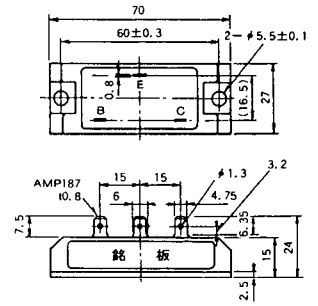
M-1A1A



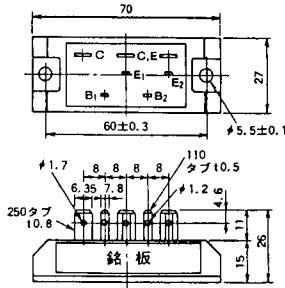
M-2A1A



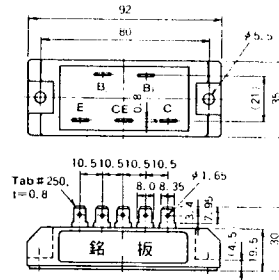
M-2B1A



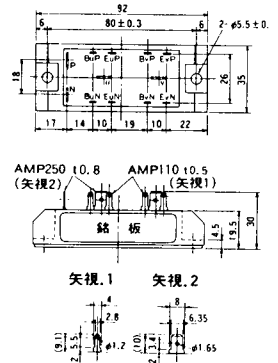
M-2B2A



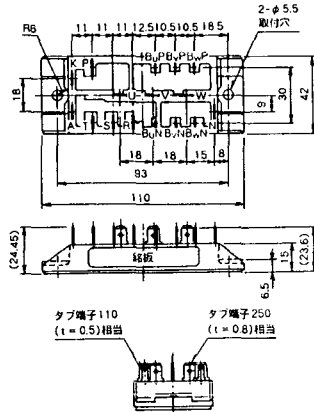
M-2C2A



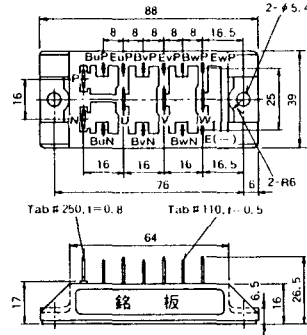
M-2D4A



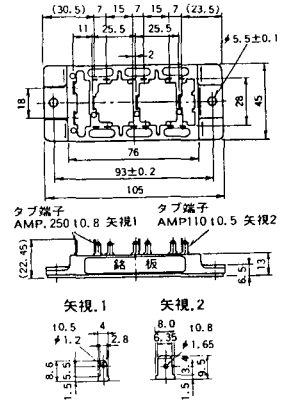
### M-2E6A



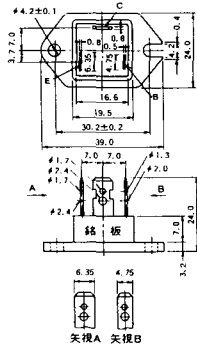
### M-2F6A



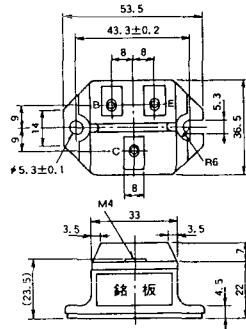
### M-2G6A



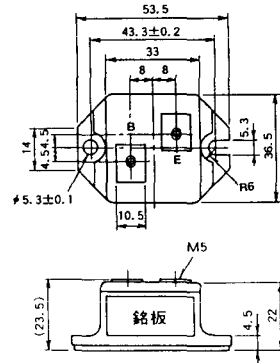
### M-3A1A



### M-3B1A



### M-3B1B



M-3C1A



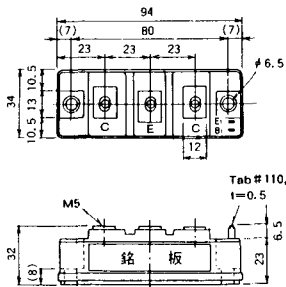
M-3D6A



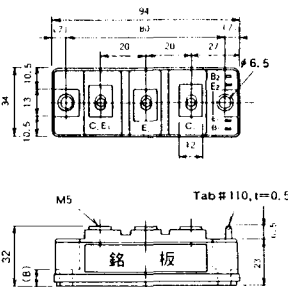
M-3E6A



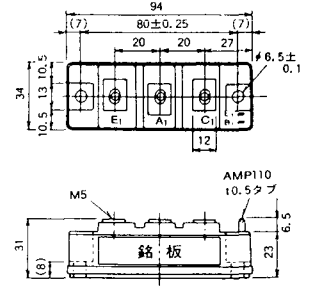
M-4A1A



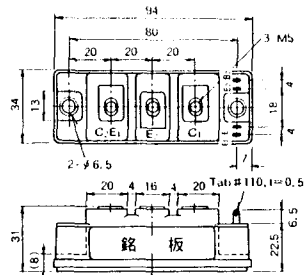
M-4A2A



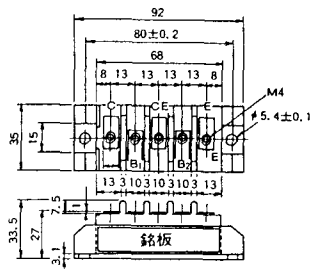
M-4A1B



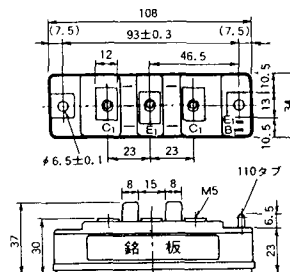
M-4A2B



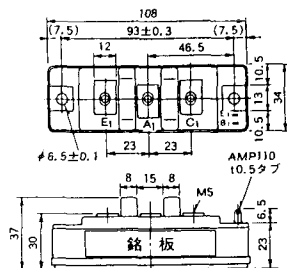
M-4B2A



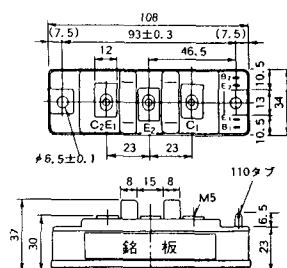
M-5A1A



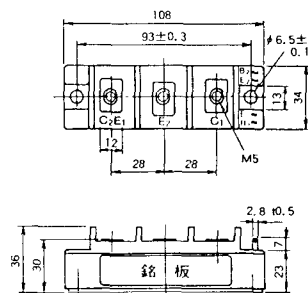
M-5A1B



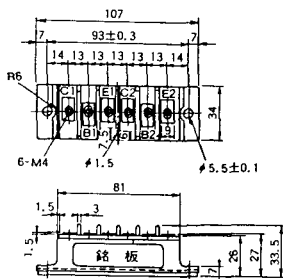
M-5A2A



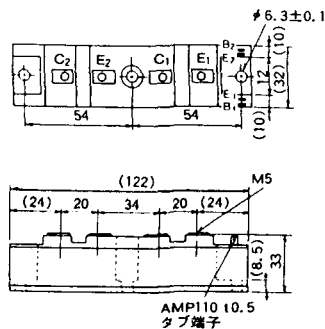
M-5B2A



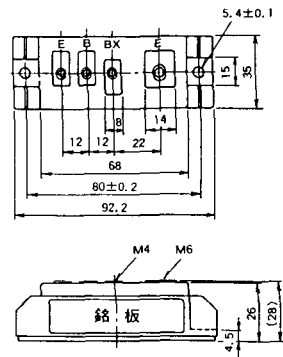
M-5C2A



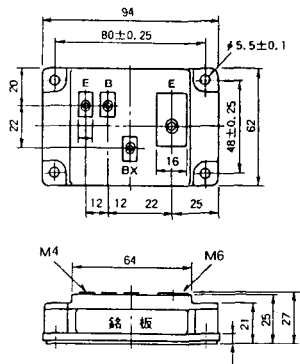
M-5D2A



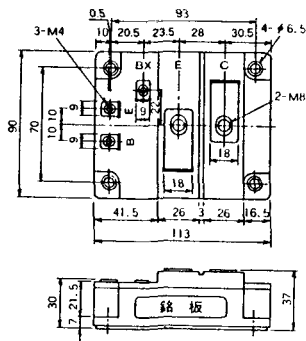
M-6A1A



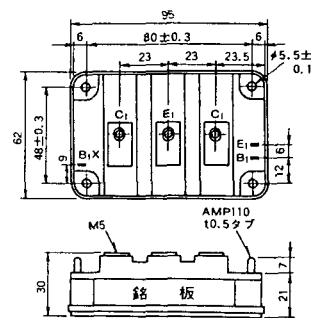
M-7A1A



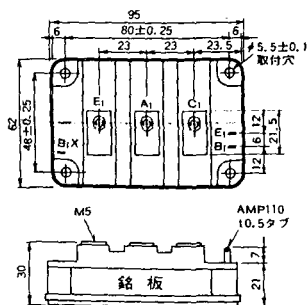
M-7B1A



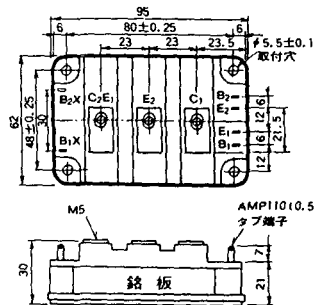
M-8A1A



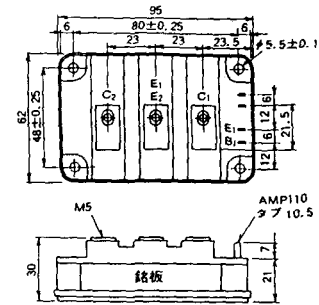
M-8A1B



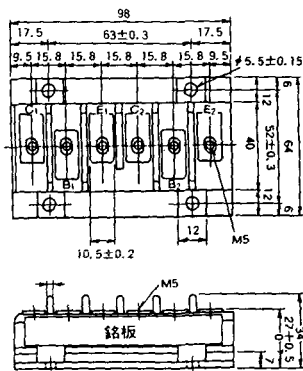
M-8A2A



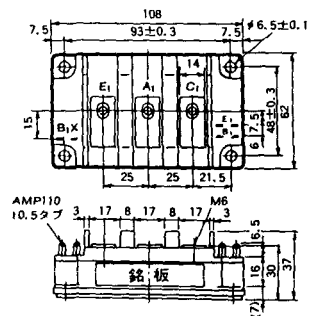
M-8A2B



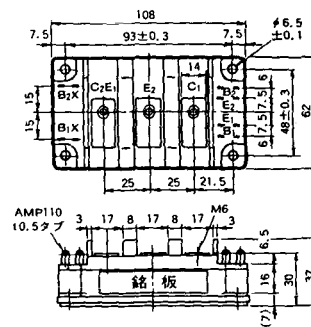
M-8B2A



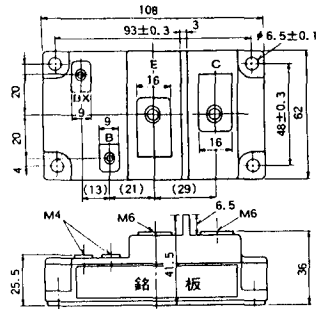
M-9A1A



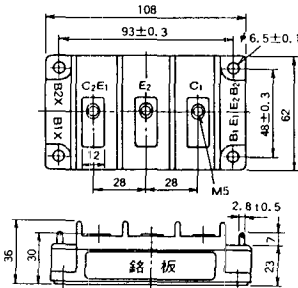
M-9A2A



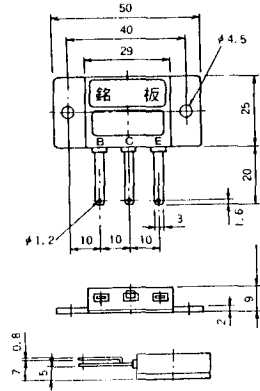
### M-9B1A



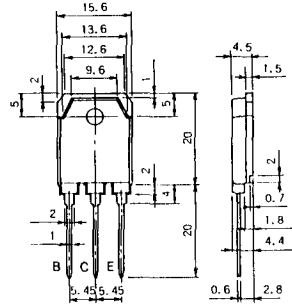
### M-9C2A



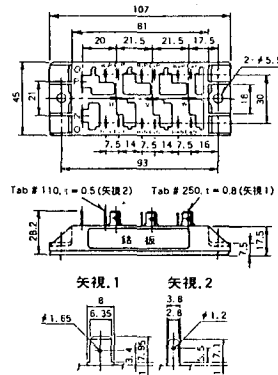
### M-1A1B



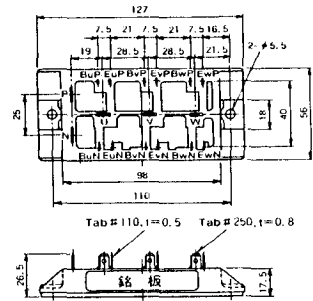
### M-1A1C



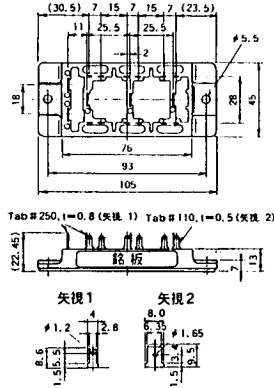
### M-2E6B



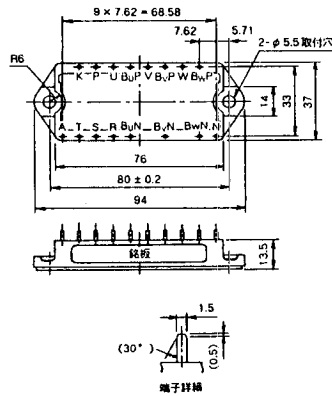
### M-2E6C



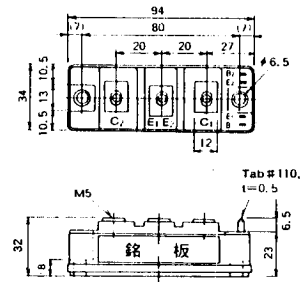
### M-2G6B



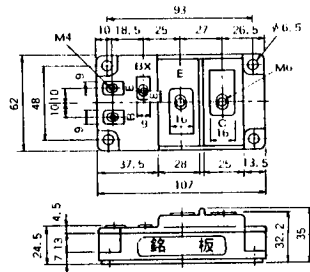
### M-3D6B



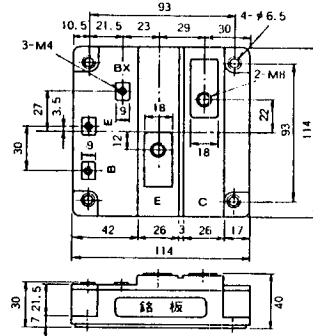
### M-4A2C



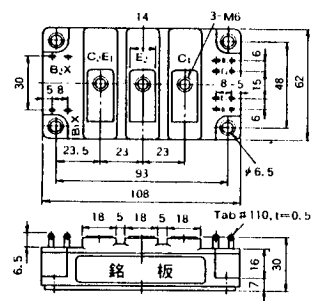
### M-7A1B



### M-7C1A

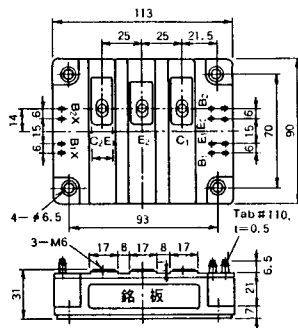


### M-8A2C

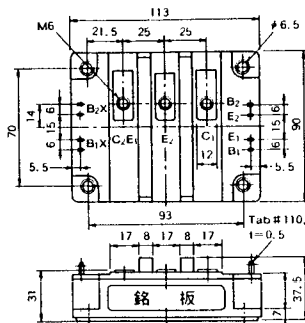




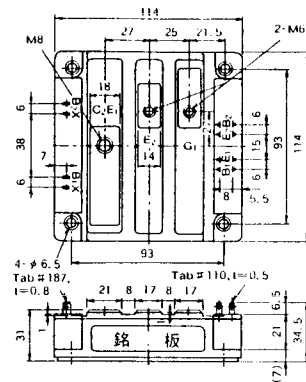
M-10A2A



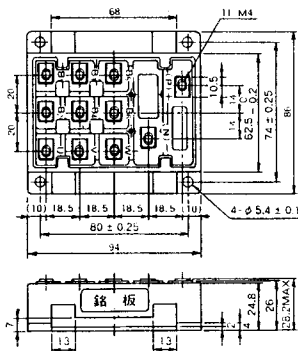
M-10A2B



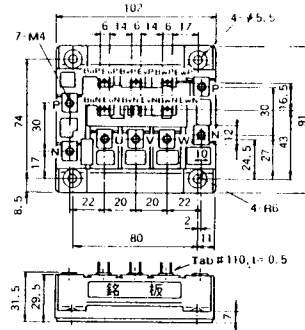
M-11A2A



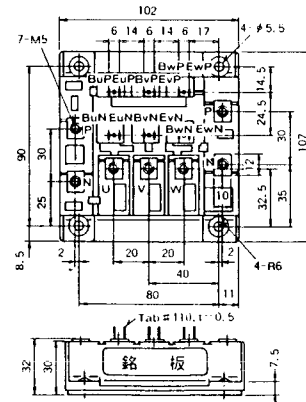
M-12A6A



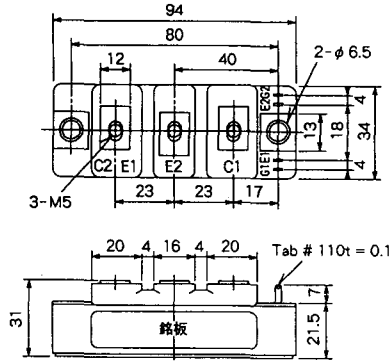
M-12B6A



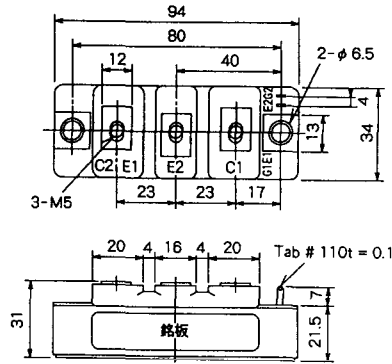
M-12B6B



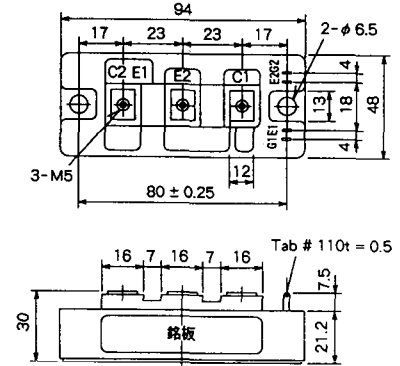
M-4A2D



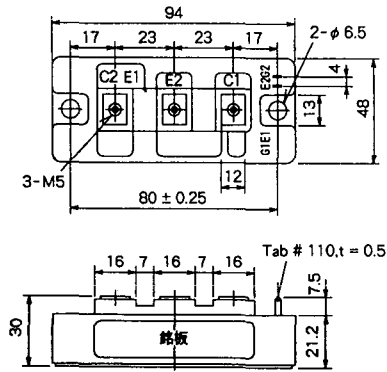
M-4A2E



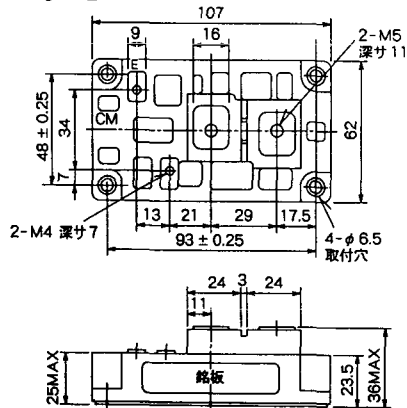
M-4C2A



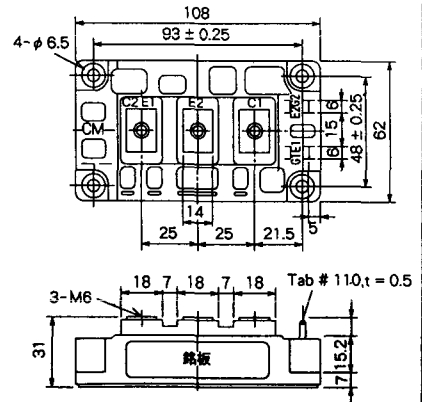
M-4C2B



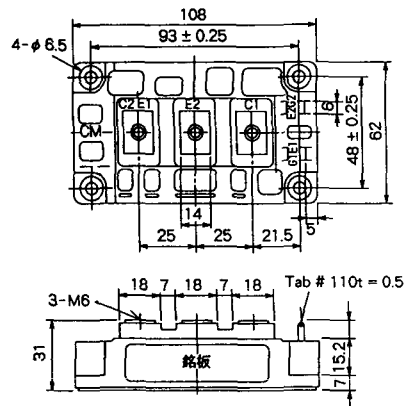
M-9B1C



M-9D2A



M-9D2B



M-10A2C

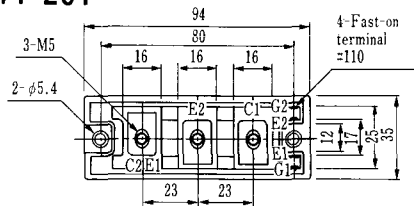


H-101



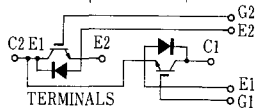
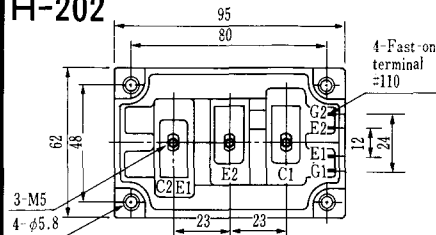
Weight :480g

### H-201



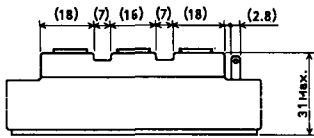
Weight: 200g

### H-202



Weight: 360g

### LF-J



### LF-K

