

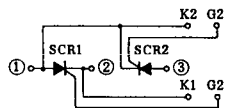
サイリスタ・モジュール

東芝

MSG60<sup>†</sup>G, L, Q, U<sub>1</sub>43

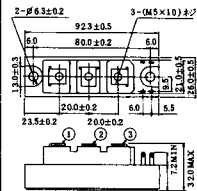
○絶縁形: AC 2000V (MSG60<sup>†</sup>G, L<sub>1</sub>43)  
AC 2500V (MSG60<sup>†</sup>Q, U<sub>1</sub>43)

■接続図



G1, K1, G2 および K2 端子: フェストン $\phi$ 110

■外形図



■最大定格

記号	MSG60G43	MSG60L43	MSG60Q43	MSG60U43	単位
$V_{RSM}$	500	960	1440	1750	V
$V_{RRM}$	400	800	1200	1600	V
$V_{DRM}$	400	800	1200	1600	V
$I_{T(AV)}$	30 ( $T_c = 84^\circ\text{C}$ )				
$I_{T(RMS)}$	47				
$I_{TSM}$	600/660 (50Hz/60Hz正弦半波, 1サイクル波高値)				
$I^2 \cdot t$	1800 (2~10ms)				
$di/dt$	100 ( $V_D = \frac{1}{2} V_{DRM}$ , $t_{gr} \leq 250\text{ns}$ , $i_G \geq 200\text{mA}$ )				
$P_{GM}$	5				
$P_{G(AV)}$	0.5				
$V_{GRM}$	5				
$I_{GFM}$	2				
$T_j$	125				
$T_{stg}$	-40~125				

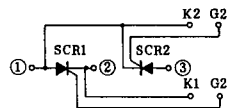
■電気的特性 ( $T_c = 25^\circ\text{C}$ )

記号	測定条件	最小	標準	最大	単位
$I_{RRM}$	$T_j = 125^\circ\text{C}$ , $V_D = V_{RRM}$			6	mA
$I_{DRM}$	$T_j = 125^\circ\text{C}$ , $V_D = V_{DRM}$			6	mA
$V_{TM}$	$I_{TM} = 100\text{A}$			1.5	V
$V_{GT}$	$V_D = 6\text{V}$ , $R_L = 10\Omega$			1.5	V
$I_{GT}$				80	mA
$V_{GD}$	$T_c = 125^\circ\text{C}$ , $V_D = \frac{1}{2} V_{DRM}$	0.25			V
$I_{GD}$					mA
$dv/dt$	$T_c = 125^\circ\text{C}$ , $V_D = \frac{2}{3} V_{DRM}$	500			V/ $\mu\text{s}$
$I_H$	$R_L = 100\Omega$			150	mA
$R_{th}$	接合~ケース間			0.8	$^\circ\text{C}/\text{W}$

MSG100<sup>†</sup>G, L, Q, U<sub>1</sub>43

○絶縁形: AC 2000V (MSG100<sup>†</sup>G, L<sub>1</sub>43)  
AC 2500V (MSG100<sup>†</sup>Q, U<sub>1</sub>43)

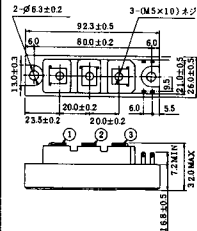
■接続図



G1, K1, G2 および K2 端子: フェストン $\phi$ 110

東芝

■外形図



■最大定格

記号	MSG100G43	MSG100L43	MSG100Q43	MSG100U43	単位
$V_{RSM}$	500	960	1440	1750	V
$V_{RRM}$	400	800	1200	1600	V
$V_{DRM}$	400	800	1200	1600	V
$I_{T(AV)}$	50 ( $T_c = 86^\circ\text{C}$ )				
$I_{T(RMS)}$	79				
$I_{TSM}$	1000/1100 (50Hz/60Hz正弦半波, 1サイクル波高値)				
$I^2 \cdot t$	5000 (2~10ms)				
$di/dt$	100 ( $V_D = \frac{1}{2} V_{DRM}$ , $t_{gr} \leq 250\text{ns}$ , $i_G \geq 200\text{mA}$ )				
$P_{GM}$	5				
$P_{G(AV)}$	0.5				
$V_{GRM}$	5				
$I_{GFM}$	2				
$T_j$	125				
$T_{stg}$	-40~125				

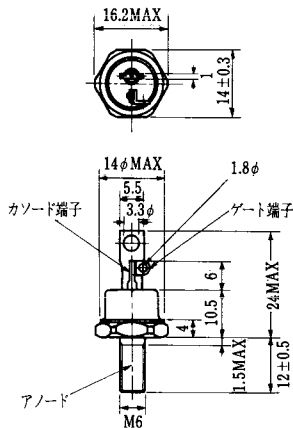
■電気的特性 ( $T_c = 25^\circ\text{C}$ )

記号	測定条件	最小	標準	最大	単位
$I_{RRM}$	$T_j = 125^\circ\text{C}$ , $V_D = V_{RRM}$			10	mA
$I_{DRM}$	$T_j = 125^\circ\text{C}$ , $V_D = V_{DRM}$			10	mA
$V_{TM}$	$I_{TM} = 150\text{A}$			1.5	V
$V_{GT}$	$V_D = 6\text{V}$ , $R_L = 10\Omega$			1.5	V
$I_{GT}$				80	mA
$V_{GD}$	$T_c = 125^\circ\text{C}$ , $V_D = \frac{1}{2} V_{DRM}$	0.25			V
$I_{GD}$					mA
$dv/dt$	$T_c = 125^\circ\text{C}$ , $V_D = \frac{2}{3} V_{DRM}$	500			V/ $\mu\text{s}$
$I_H$	$R_L = 100\Omega$			150	mA
$R_{th}$	接合~ケース間			0.5	$^\circ\text{C}/\text{W}$

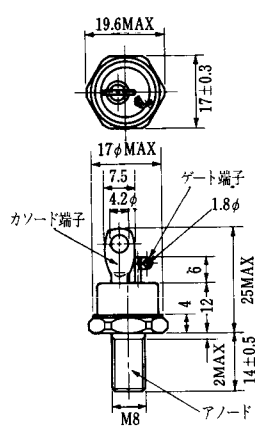
FD-1



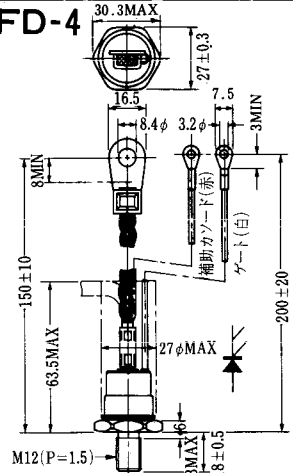
FD-2



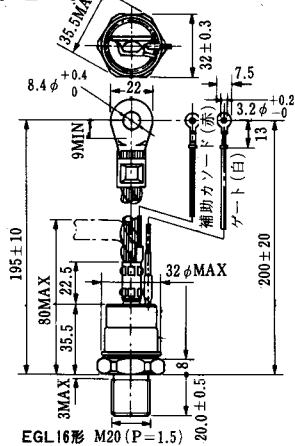
FD-3



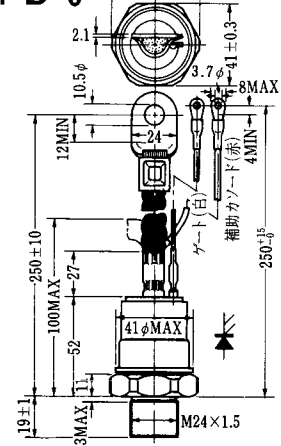
FD-4



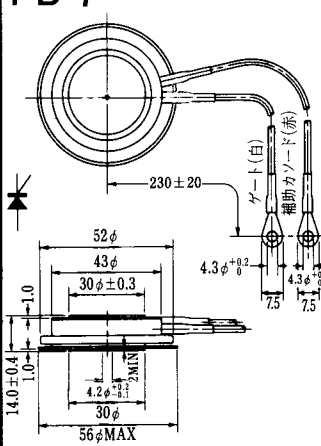
FD-5



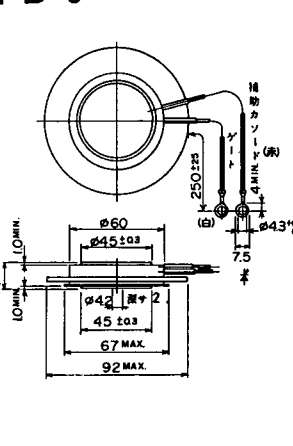
FD-6



FD-7



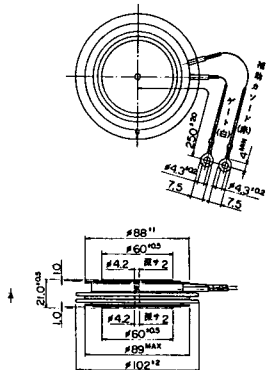
FD-8



FD-9



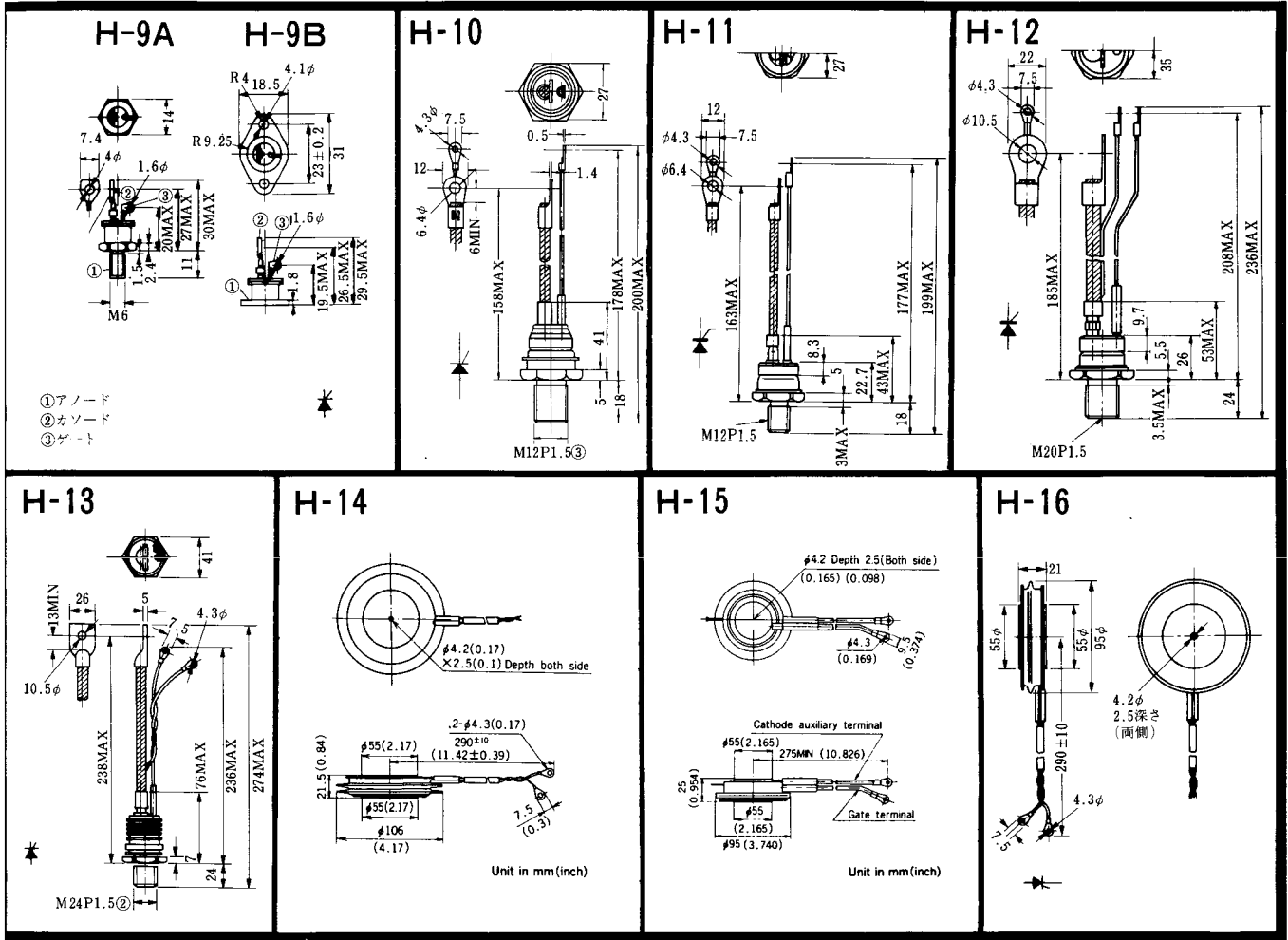
FD-10



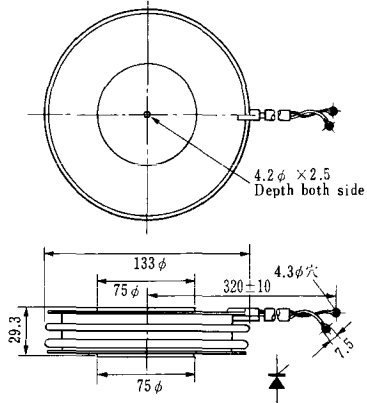
FD-11

FD-12

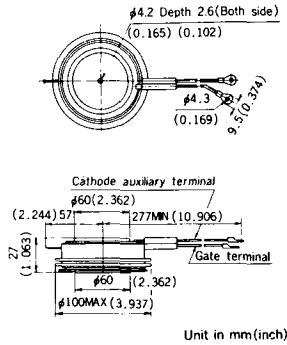




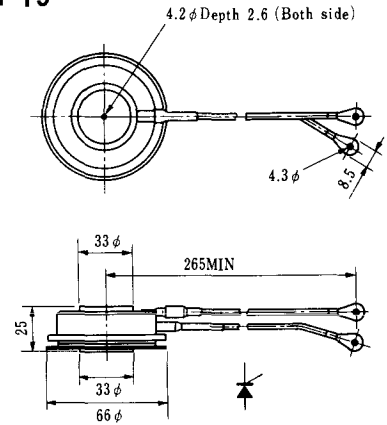
H-17



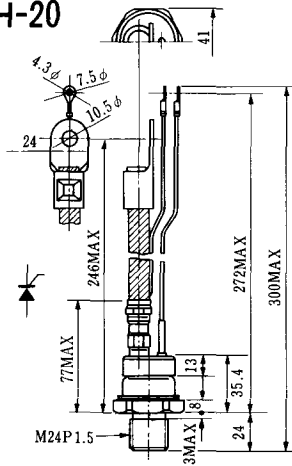
H-18



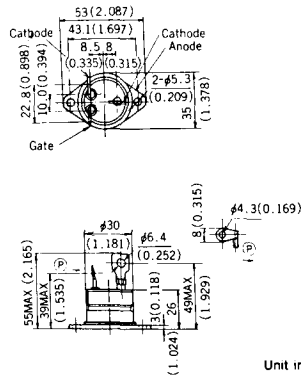
H-19



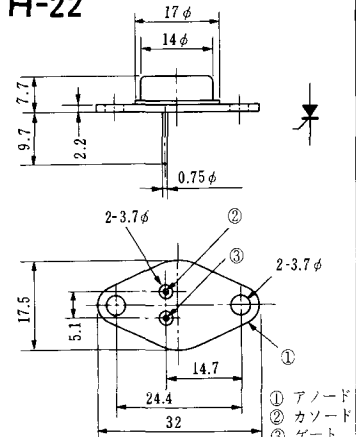
H-20



H-21



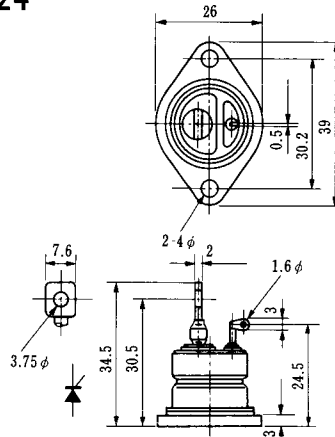
H-22



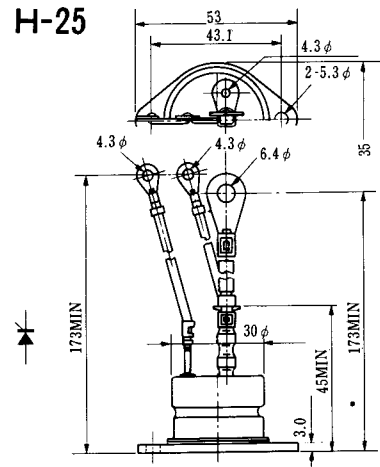
### H-23



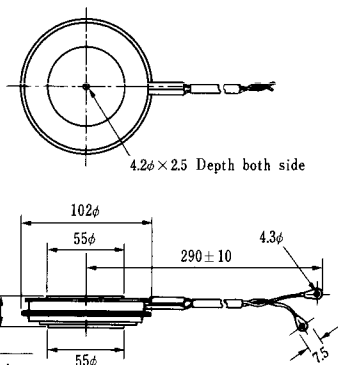
### H-24



### H-25



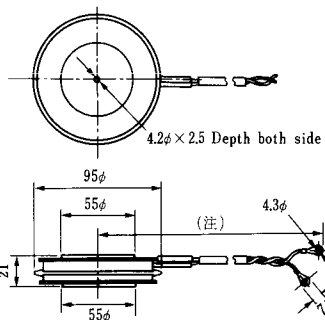
### H-26



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

CA12	
------	--

### H-27

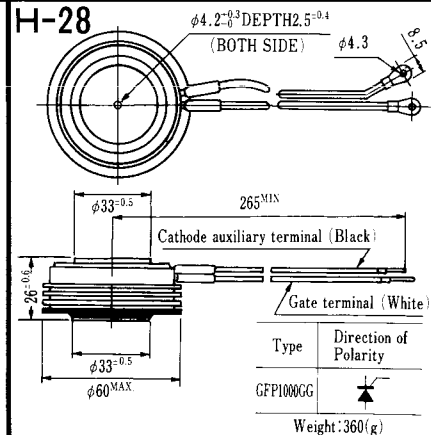


Type	Direction of polarity
------	-----------------------

CF11V	
-------	--

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

### H-28

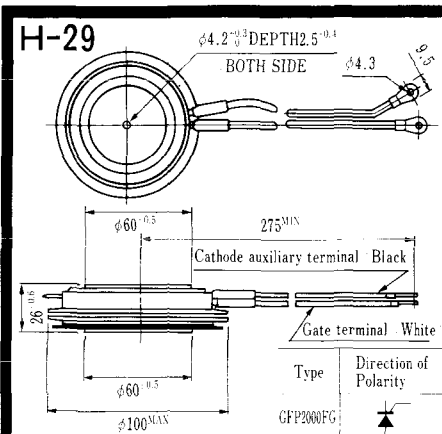


Type	Direction of Polarity
------	-----------------------

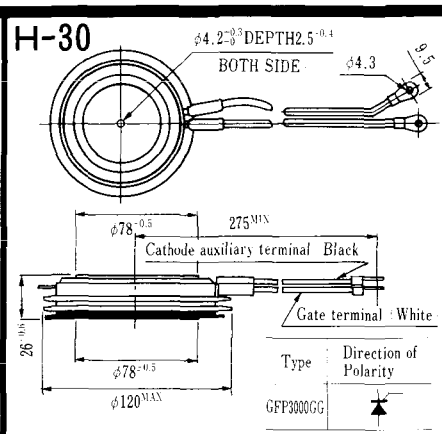
GFP100GG	
----------	--

Weight: 360(g)

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



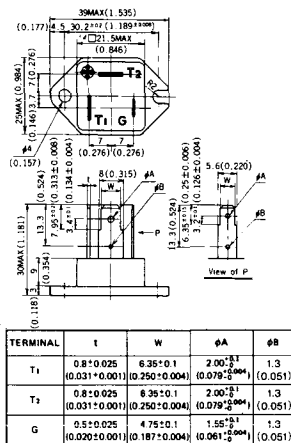
Note : The thickness is a dimension in press at the rated mounting force. Weight: 870(g)



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

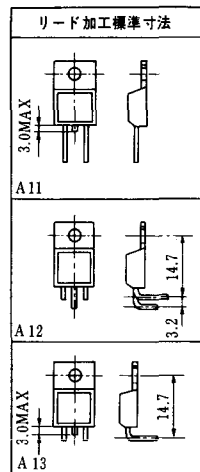
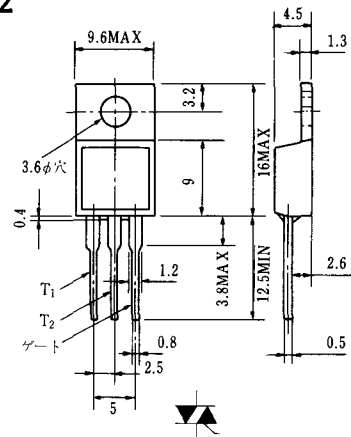


# HT-1

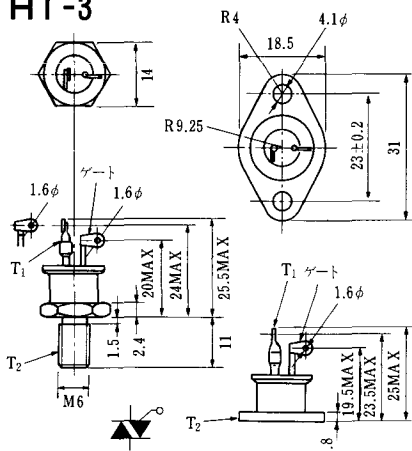


Unit in mm (inch)

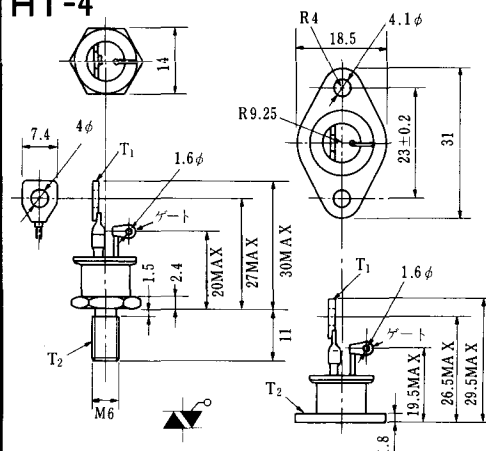
# HT-2



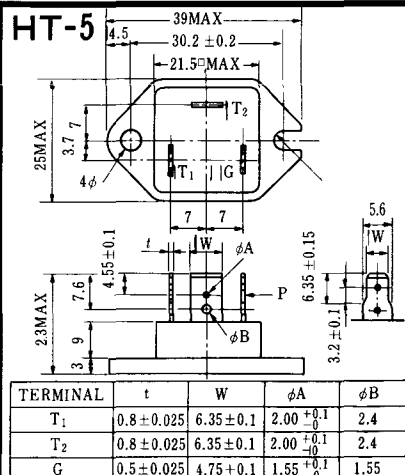
# HT-3



# HT-4



# HT-5



### M-1



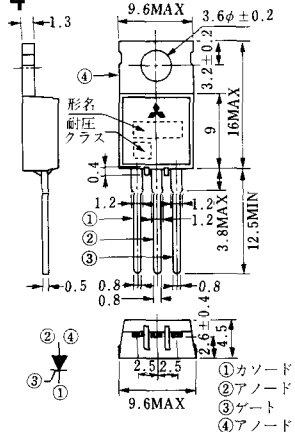
### M-2



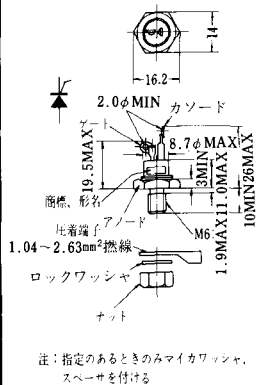
### M-3



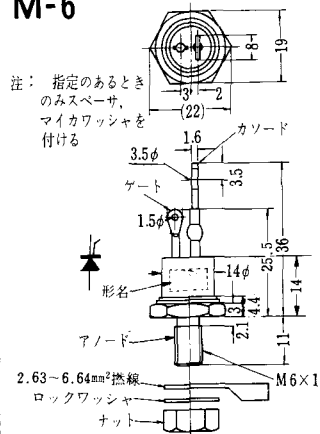
### M-4



### M-5



### M-6



### M-7



### M-8



M-9



M-10



M-11



M-12



M-13



M-14



M-15

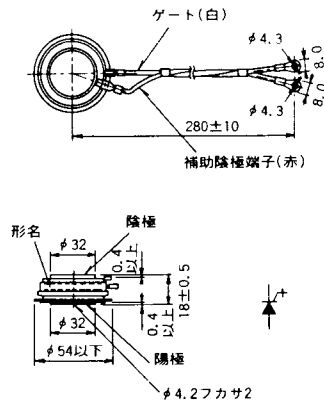


M-16





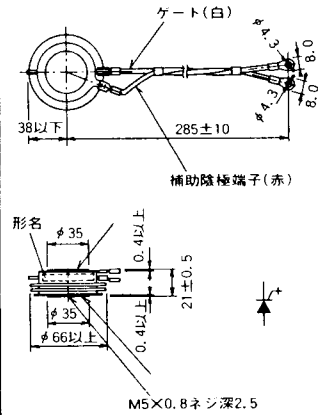
M-25



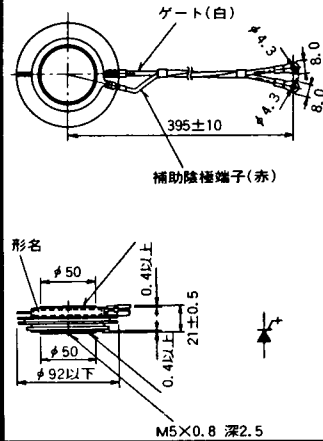
M-26



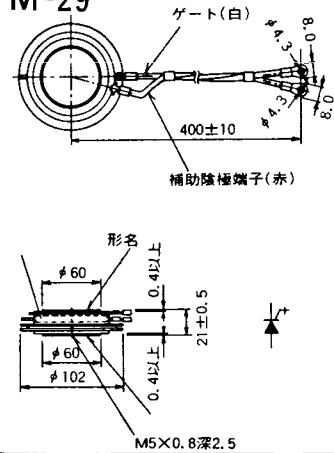
M-27



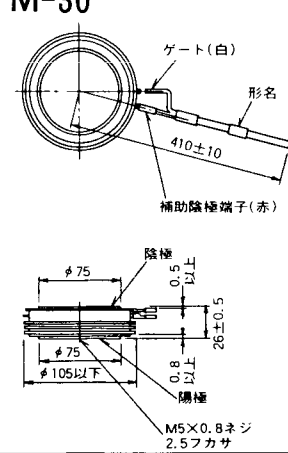
M-28



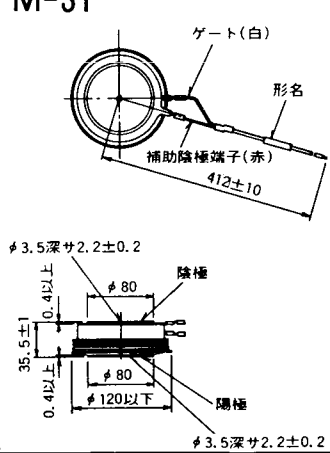
M-29



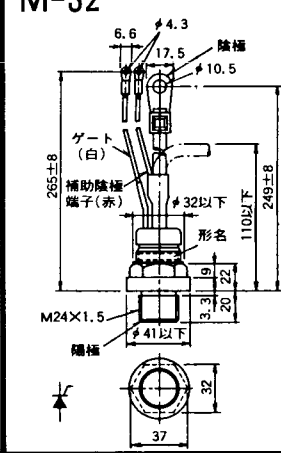
M-30



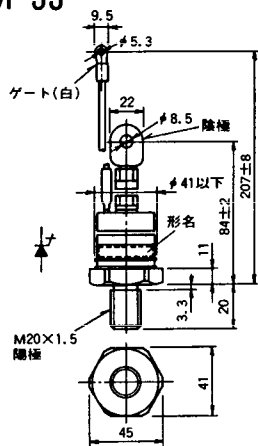
M-31



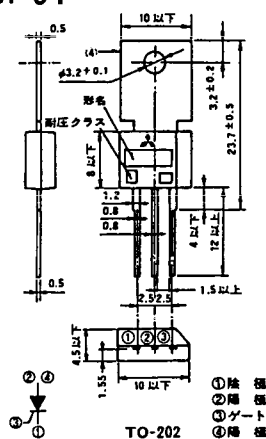
M-32



### M-33



### M-34



TO-202

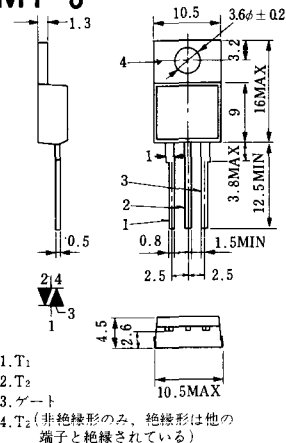
### MT-1



### MT-2



### MT-3



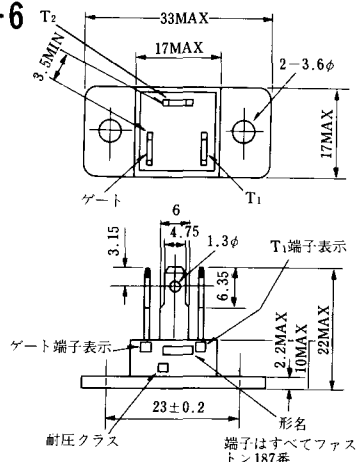
### MT-4



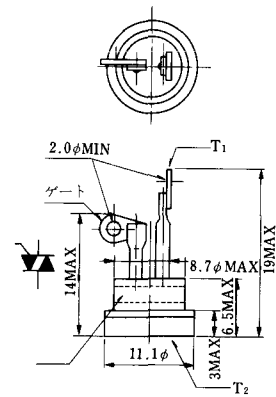
### MT-5



### MT-6



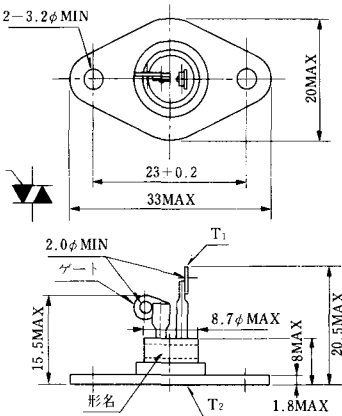
### MT-7



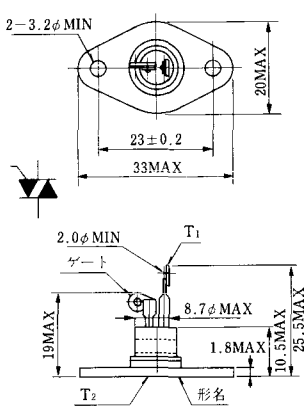
MT-8



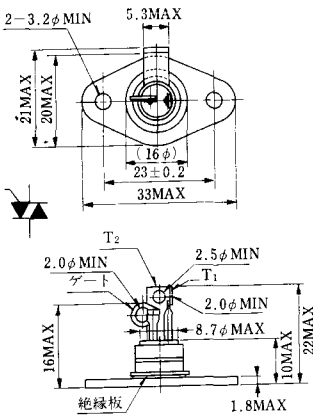
MT-9



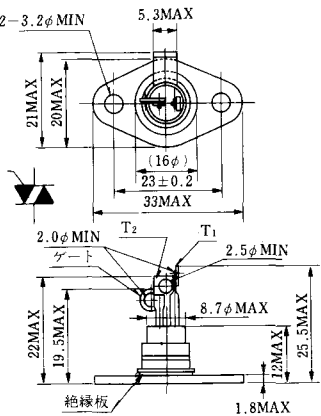
MT-10



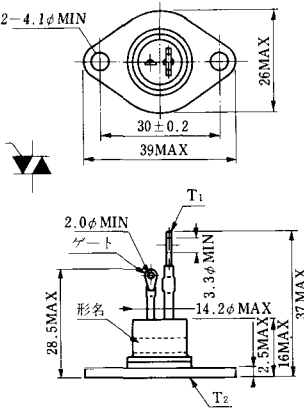
MT-11



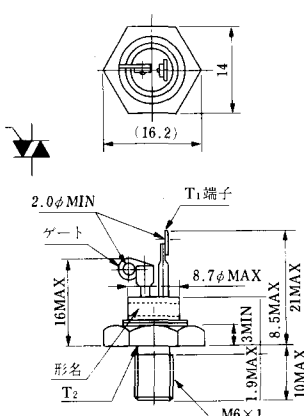
MT-12



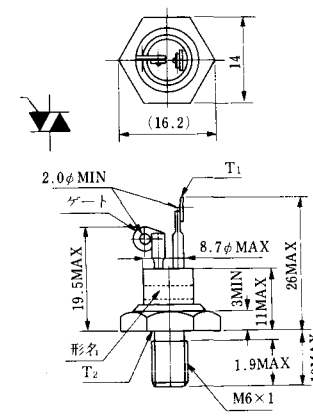
MT-13



MT-14



MT-15

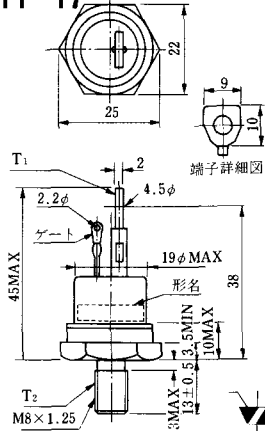




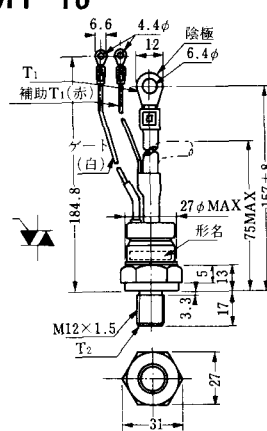
MT-16



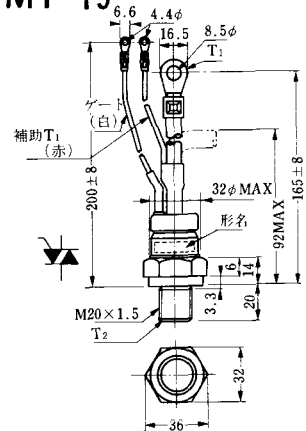
MT-17



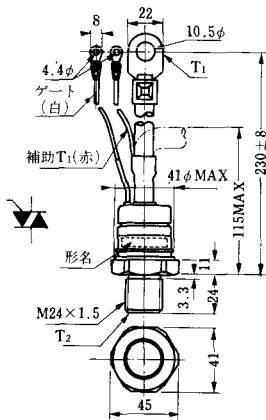
MT-18



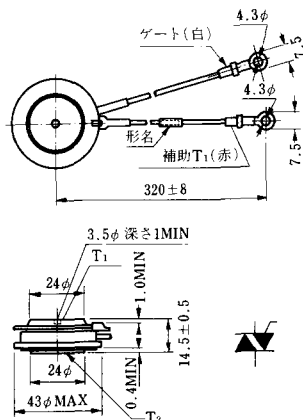
MT-19



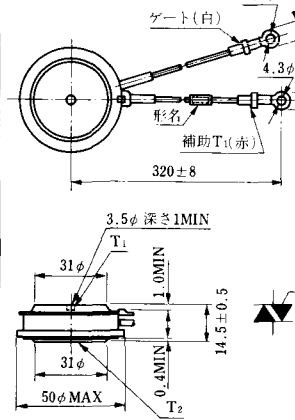
MT-20



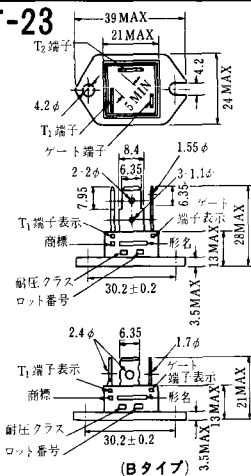
MT-21



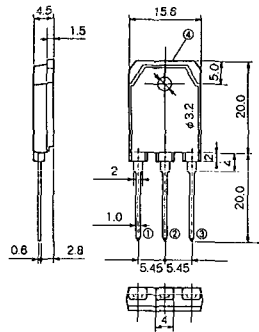
MT-22



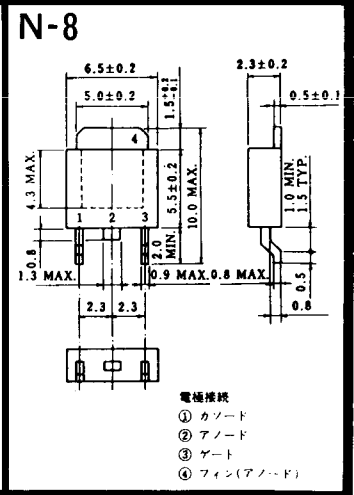
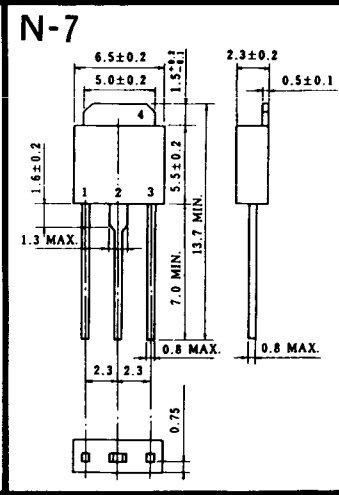
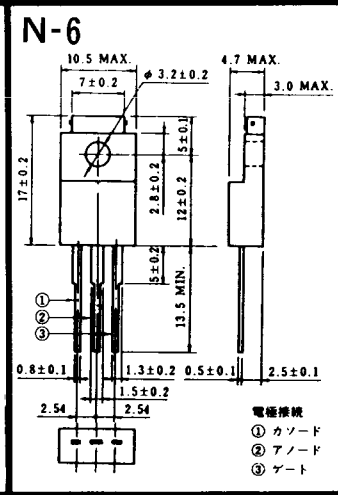
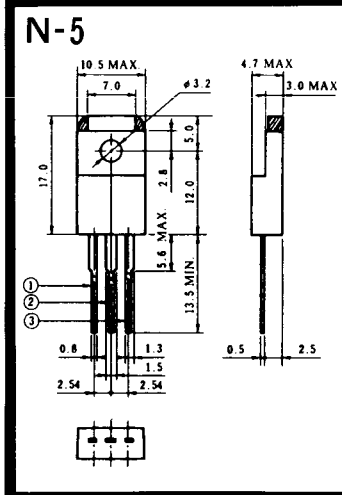
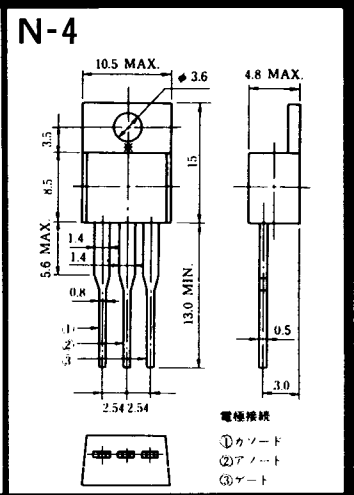
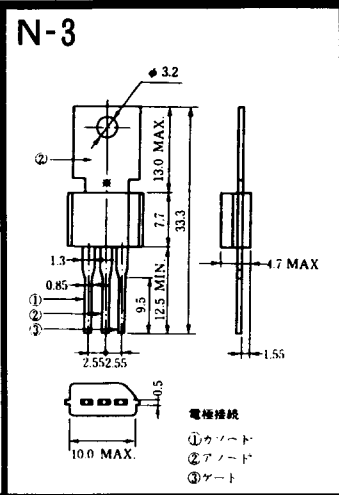
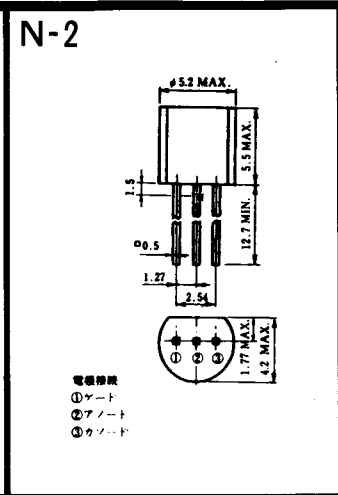
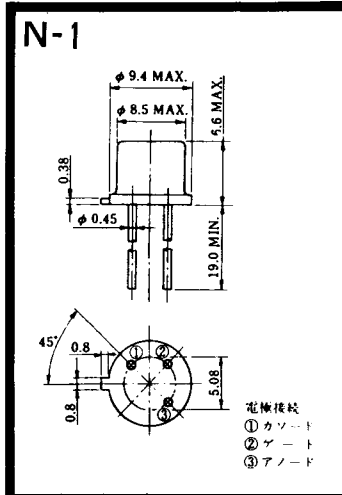
MT-23



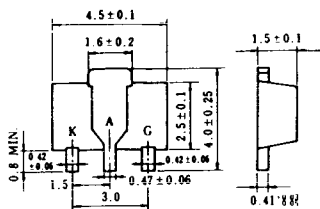
# MT-24



- 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

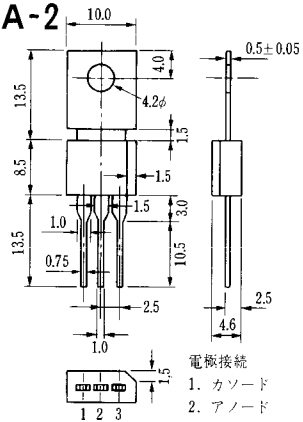


電極接続

1. ゲート
2. アノード
3. カソード

JEDEC: TO-92

### NA-2

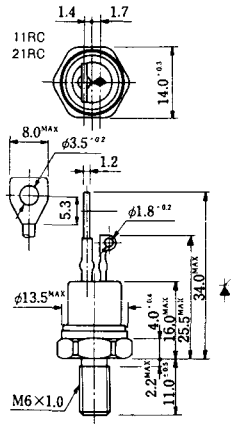


電極接続

1. カソード
2. アノード
3. ゲート

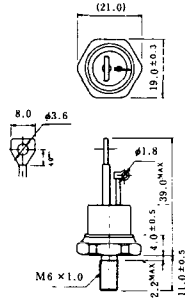
JEDEC: TO-202AA

### NI-1



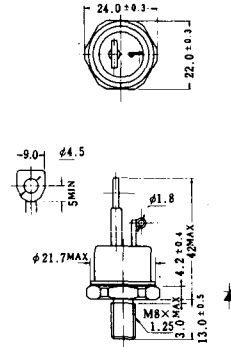
### NI-2

29RD



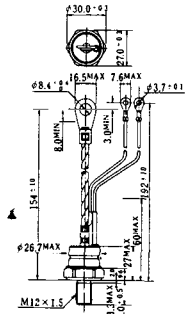
### NI-3

39RC  
59RC  
39RF  
59RF



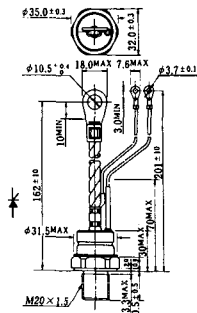
### NI-4

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



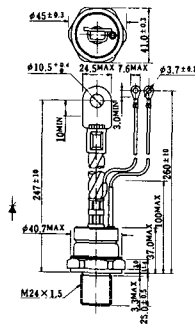
### NI-5

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



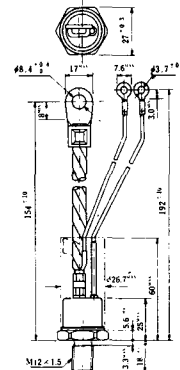
### NI-6

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



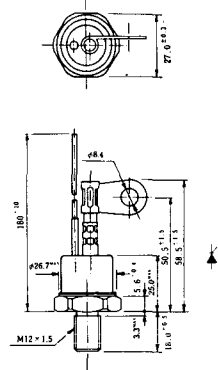
### NI-7

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



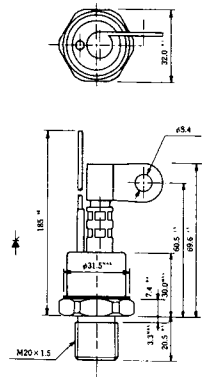
### NI-8

89RW  
129RW



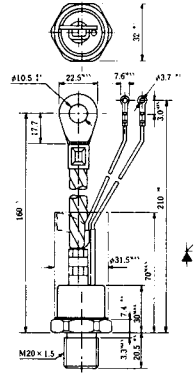
### NI-9

259RW  
309RW



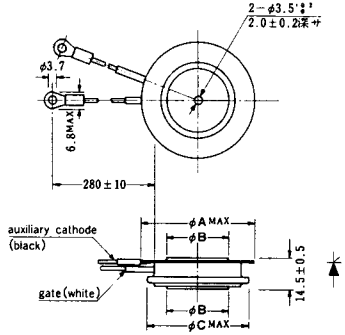
### NI-10

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



### NI-11

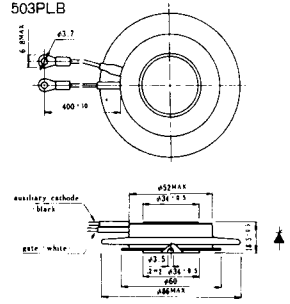
103PA  
253PA  
503PA  
553PA  
803PA  
103PLE  
103PLG  
103PLH  
203PLG  
253PLE  
253PLH  
353PLG  
403PLE  
403PLH



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

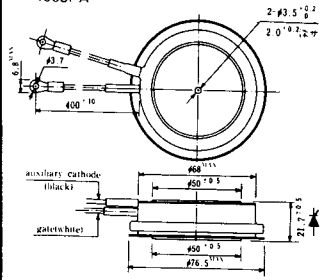
### NI-12

403PAB  
503PAB  
503PLB



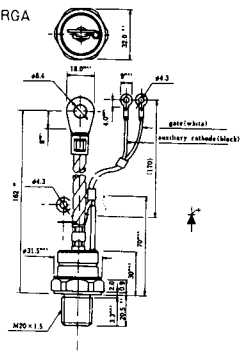
### NI-13

1003PA  
1003PAB  
1003PLF  
1003PLH  
1503PA



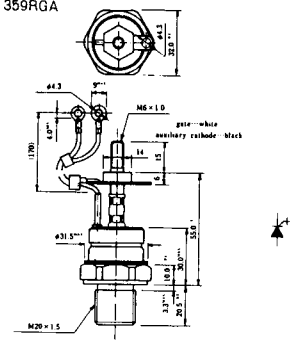
### NI-14

358RGA



### NI-15

359RGA







NI-24

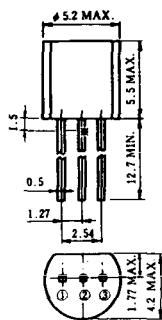
2001PGB<sup>r</sup> JE



NI-25

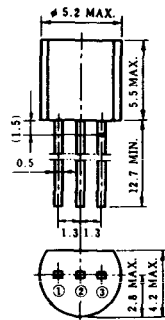
NI-26

### NT-1



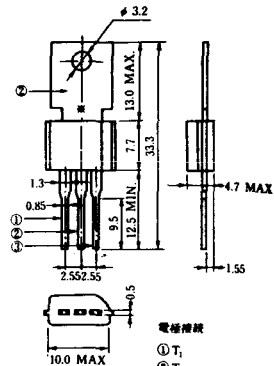
電極接続  
① T<sub>1</sub>  
② ゲート  
③ T<sub>2</sub>

### NT-2



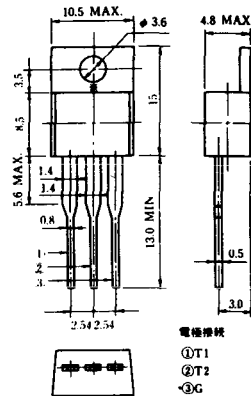
電極接続  
① T<sub>1</sub>  
② ゲート  
③ T<sub>2</sub>

### NT-3



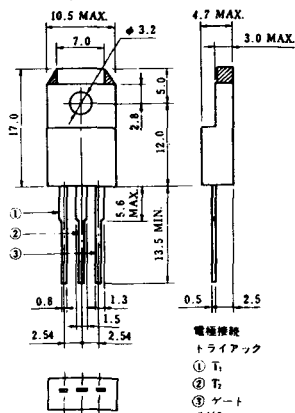
電極接続  
① T<sub>1</sub>  
② T<sub>2</sub>  
③ ゲート

### NT-4



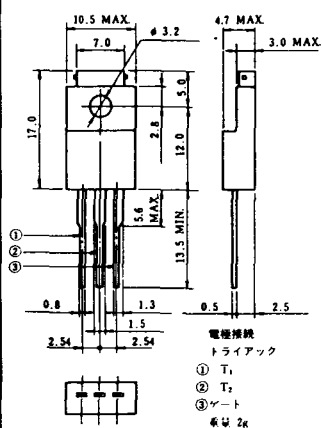
電極接続  
① T<sub>1</sub>  
② T<sub>2</sub>  
③ G

### NT-5



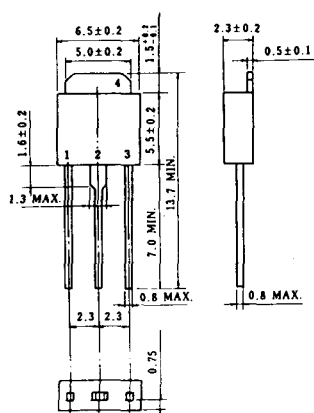
電極接続  
トライアック  
① T<sub>1</sub>  
② T<sub>2</sub>  
③ ゲート  
④ G

### NT-6

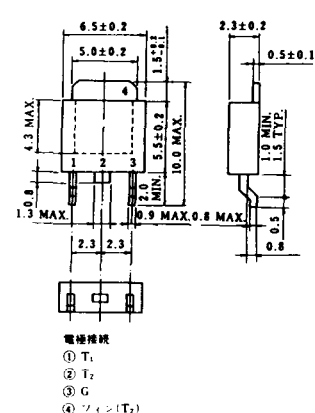


電極接続  
トライアック  
① T<sub>1</sub>  
② T<sub>2</sub>  
③ ゲート  
④ G

### NT-7

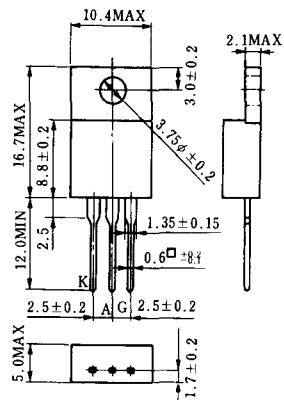


### NT-8



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



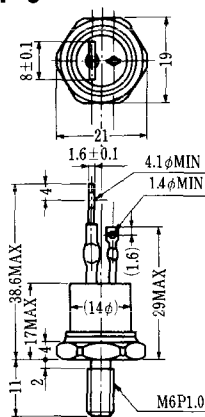
SA-1



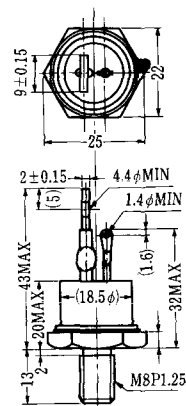
SA-2



SA-3



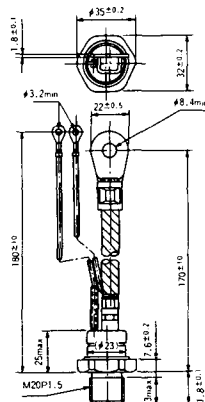
SA-4



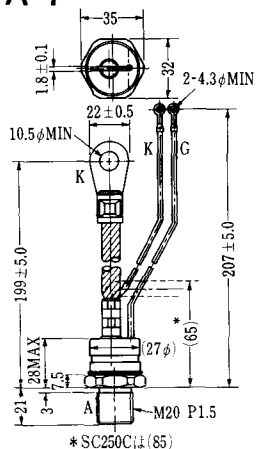
SA-5



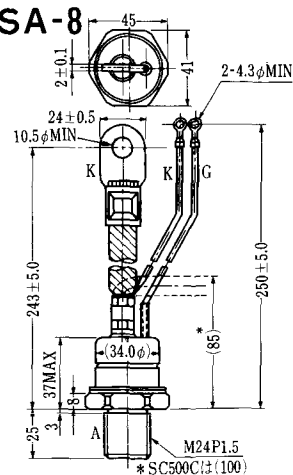
SA-6



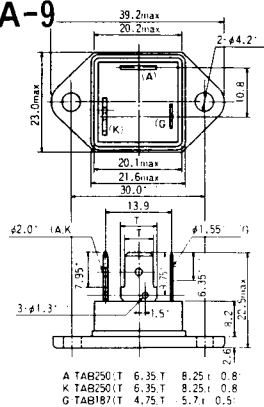
SA-7



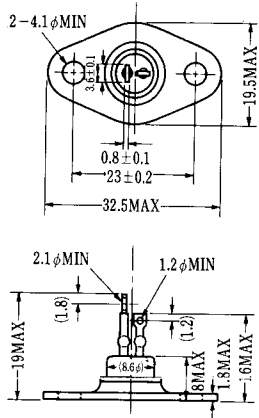
SA-8



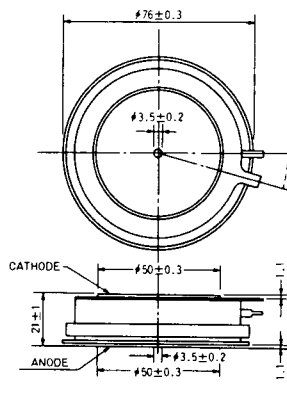
SA-9



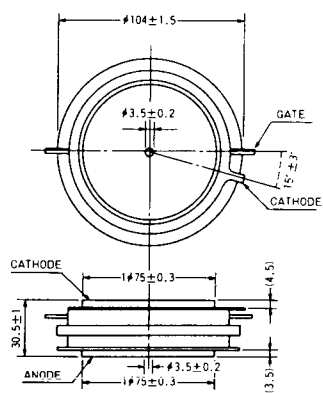
SA-10



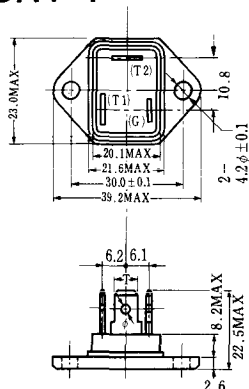
SA-11



SA-12

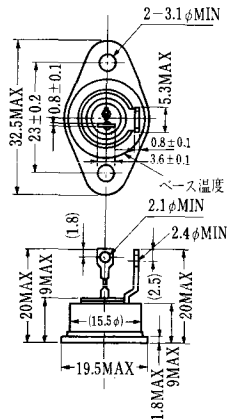


SAT-1



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

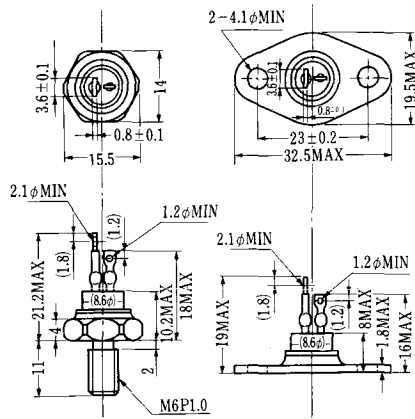
SAT-2



SAT-3



SAT-4



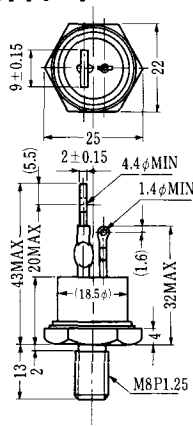
SAT-5



SAT-6



SAT-7



SAT-8



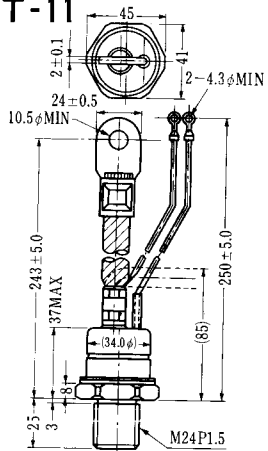
SAT-9



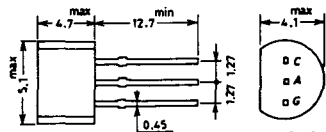
SAT-10



SAT-11

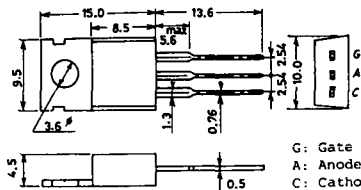


### SY-1 (1096A)



C: Cathode  
A: Anode  
G: Gate

### SY-2 (1151)



G: Gate  
A: Anode  
C: Cathode

### SY-3 (1104)



G: Gate  
A: Anode  
C: Cathode

### SY-4 (1150)



G: Gate  
A: Anode  
C: Cathode



1097A



G: Gate

1102



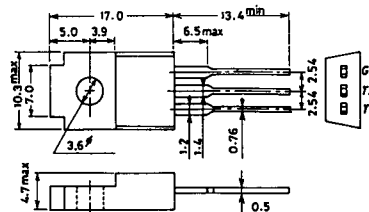
1141



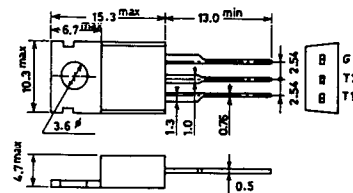
1142



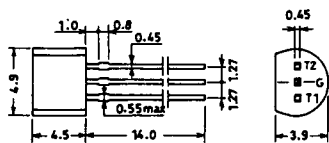
1144



1155

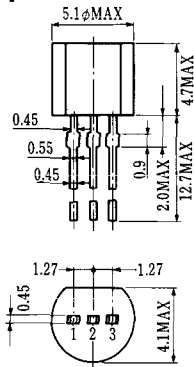


1192A



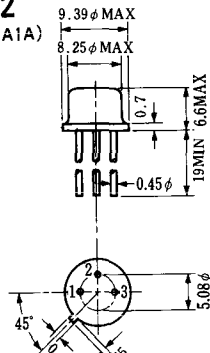
G: Gate

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



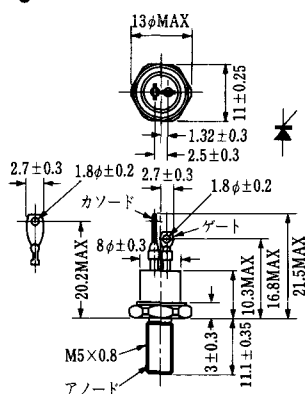
- 1 ゲート
- 2 アノード
- 3 カソード

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



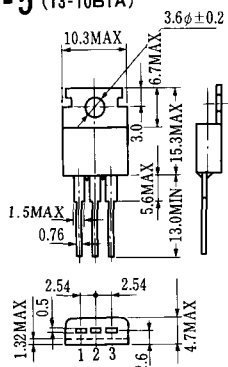
1. カソード
2. ゲート
3. アノード(ケース)

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



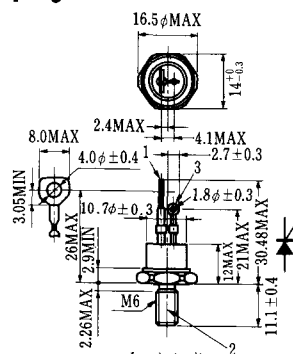
- 1 カソード
- 2 アノード
- 3 ゲート

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



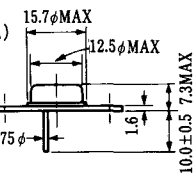
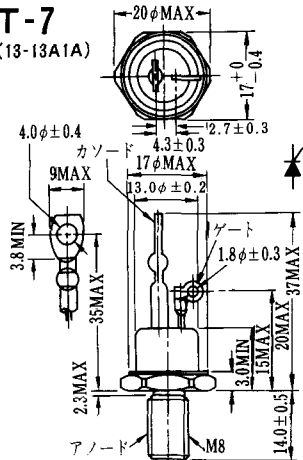
- 1 カソード
- 2 アノード
- 3 ゲート

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



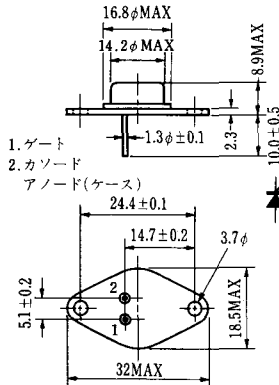
- 1 カソード
- 2 アノード
- 3 ゲート

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



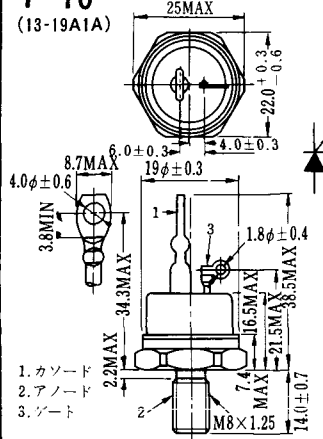
1. ゲート
2. カソード
3. アノード(ケース)

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



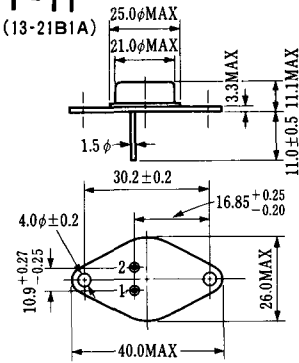
1. ゲート
2. カソード
- アノード(ケース)

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



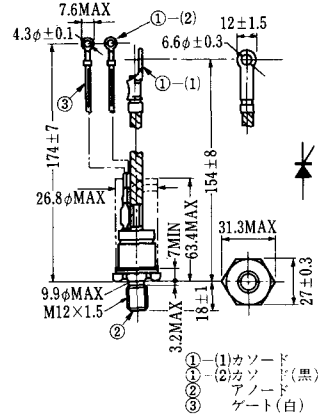
1. カソード
2. アノード
3. ゲート

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



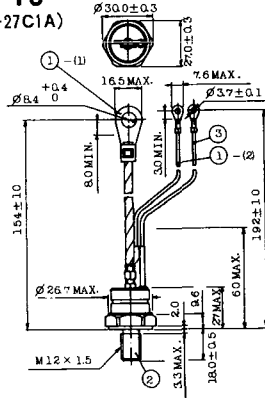
1. ゲート
2. カソード
- アノード(ケース)

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



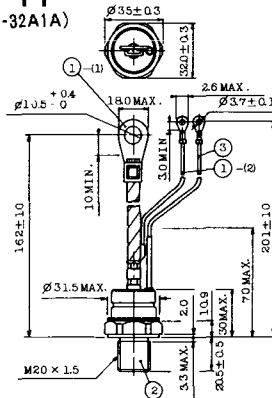
- ① (1) カソード
- ① (2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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



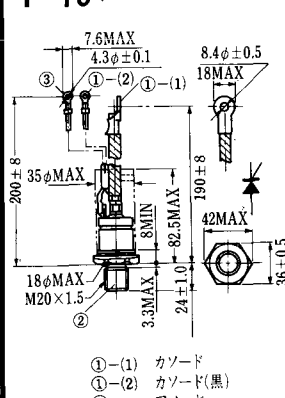
- 1-(1) カソード
- 1-(2) カソード(黒)
- 2 アノード
- 3 ゲート(白)

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



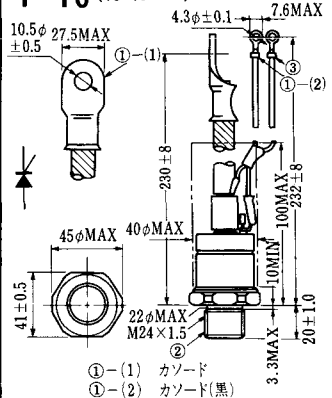
- 1-(1) カソード
- 1-(2) カソード(黒)
- 2 アノード
- 3 ゲート(白)

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



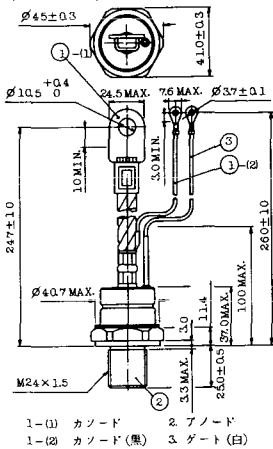
- ① (1) カソード
- ① (2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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



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

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



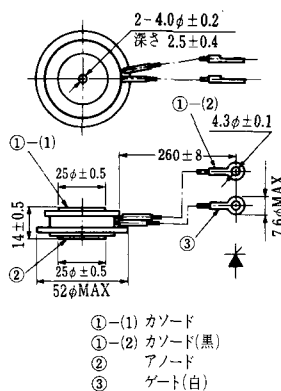
**T-18 (13-45D1A)**



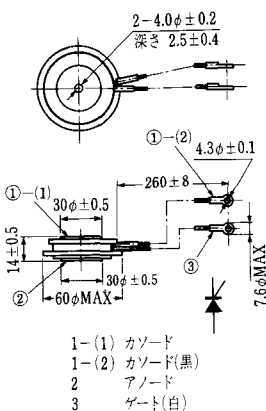
**T-19 (13-52B1A)**



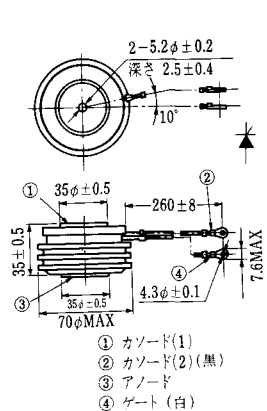
**T-20 (13-52C1A)**



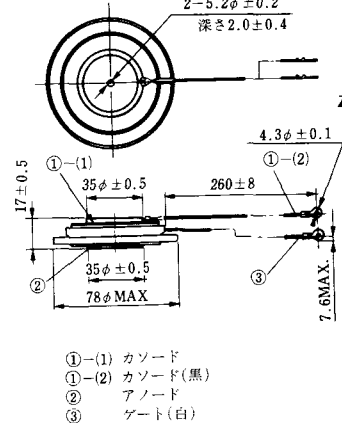
**T-21 (13-60A1A)**



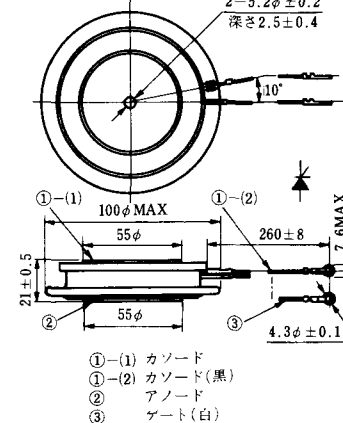
**T-22 (13-70C1A)**



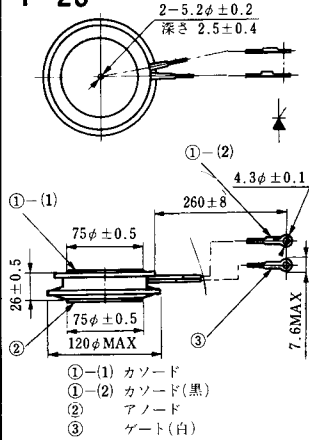
**T-23 (13-78A1A)**



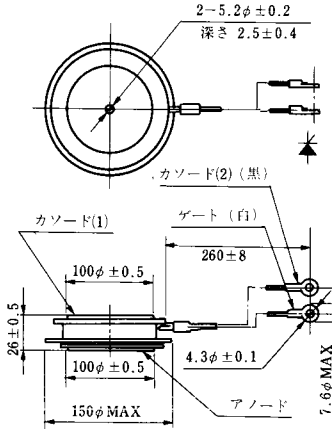
**T-24 (13-100C1A)**



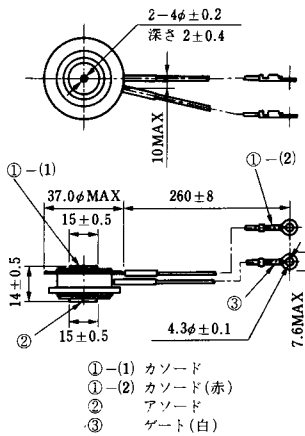
**T-25** (13-120A2A)



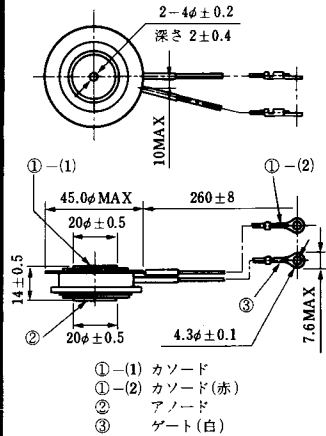
**T-26** (13-150A1A)



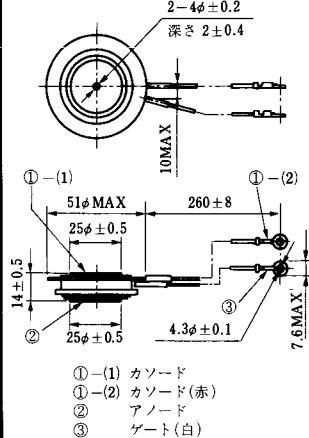
**T-27** (13-37A1A)



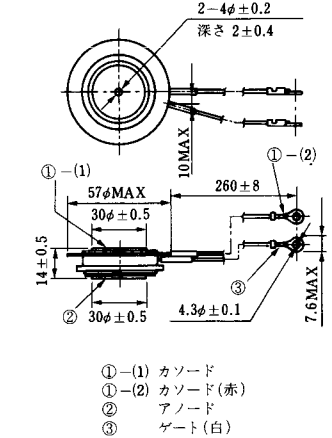
**T-28** (13-45E1A)



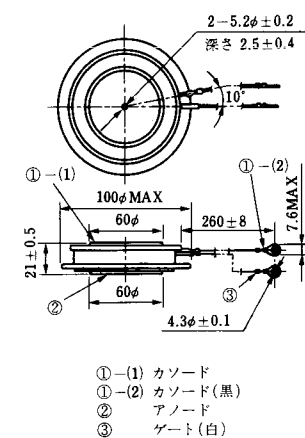
**T-29** (13-51A1A)



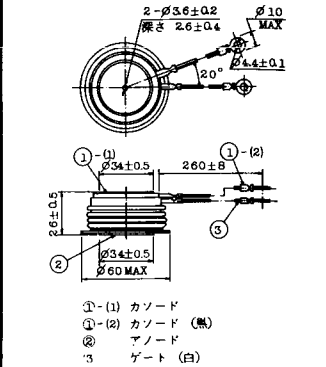
**T-30** (13-57A1A)



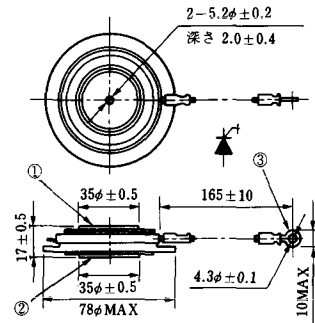
**T-31** (13-100E1A)



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

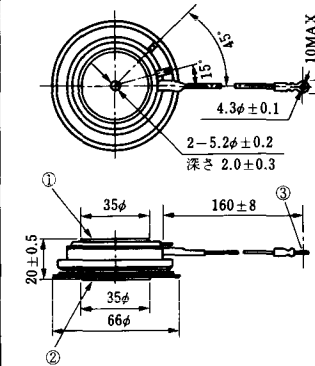


**T-33 (13-78B1A)**



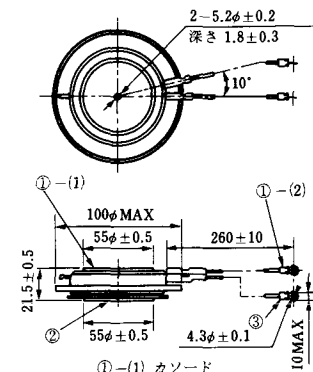
- ① カソード
- ② アノード
- ③ ゲート

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



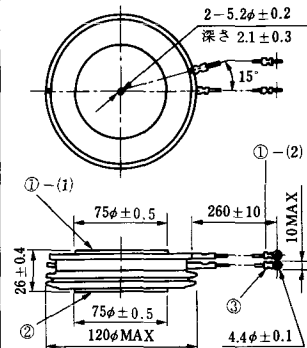
- ① カソード
- ② アノード
- ③ ゲート

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



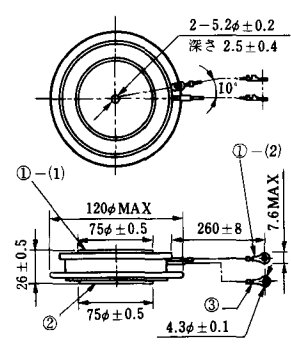
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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



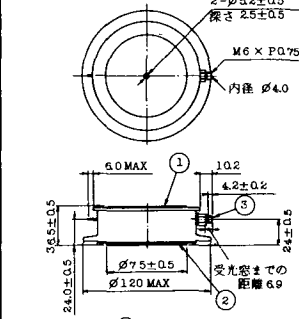
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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



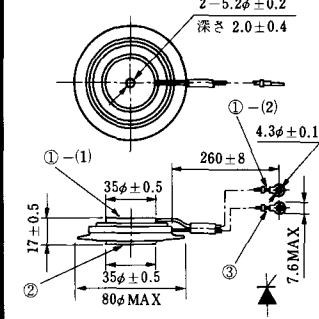
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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



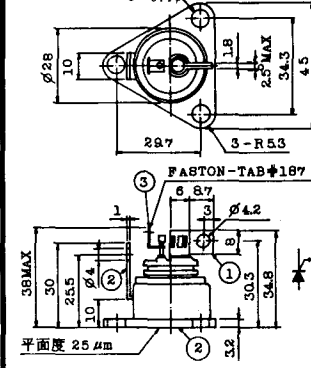
- ① カソード
- ② アノード
- ③ ゲート

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



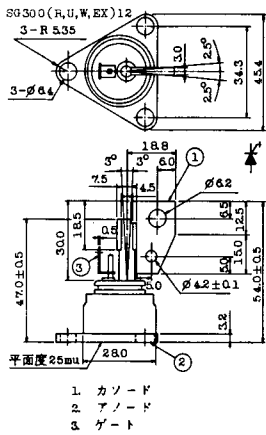
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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

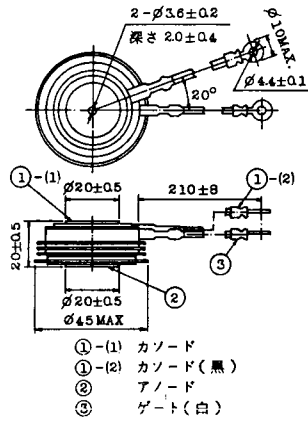


- 1. カソード
- 2. アノード
- 3. ゲート

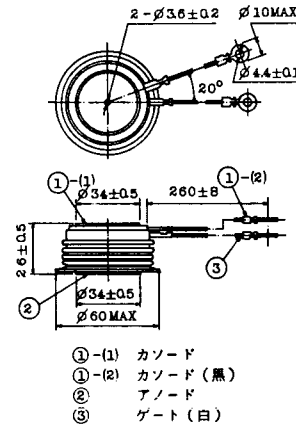
### T-41 (13-28A2A)



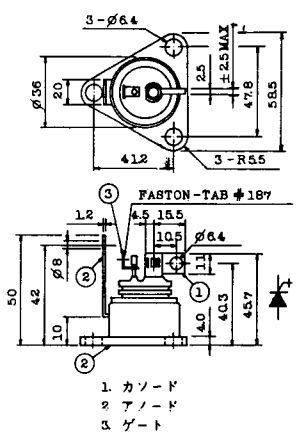
### T-42 (13-45F1A)



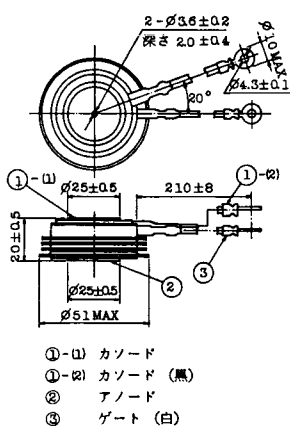
### T-43 (13-60E2A)



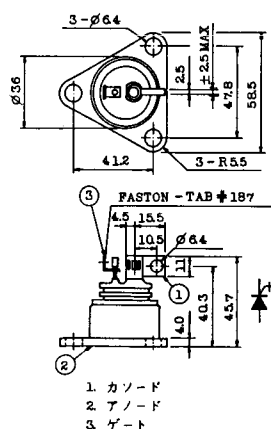
### T-44 (13-36A1A)



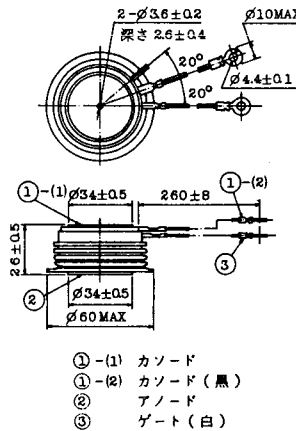
### T-45 (13-51B1A)



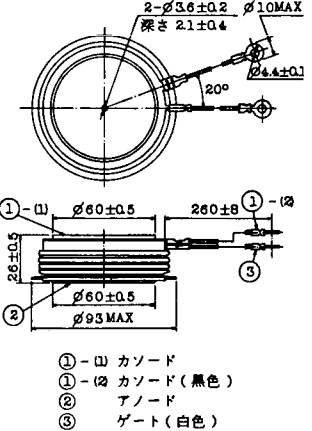
### T-46 (13-36B1A)



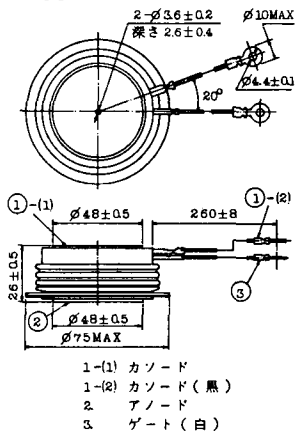
### T-47 (13-60E1A)



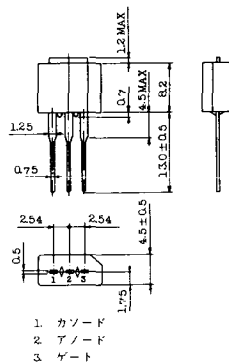
### T-48 (13-93C1A)



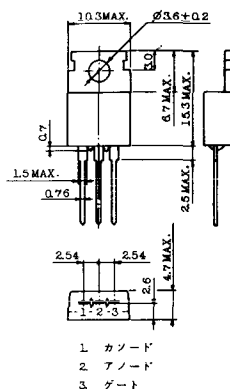
T-49 (13-75A1A)



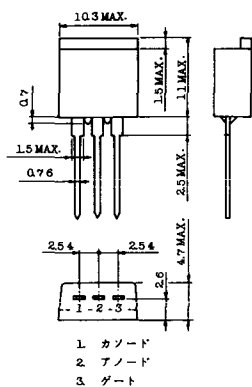
T-50 (13-10A3A)



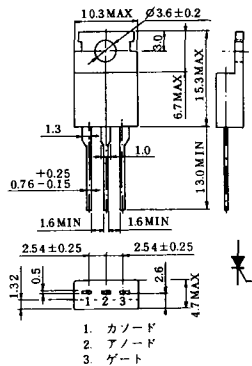
T-51 (13-10D1A)



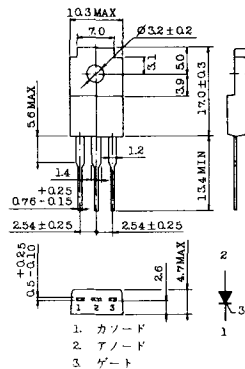
T-52 (13-10D2A)



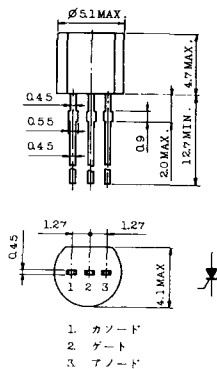
T-53 (13-10E1B)



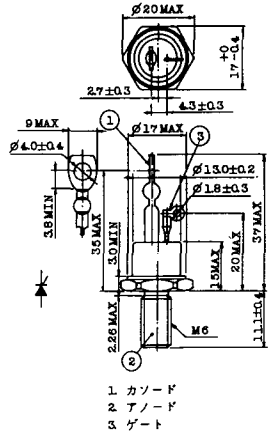
T-54 (13-10F1B)



T-55 (13-5A1D)

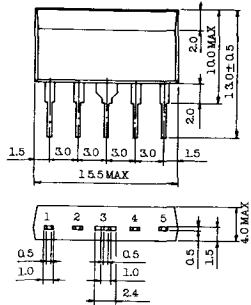


T-56 (13-13C1A)



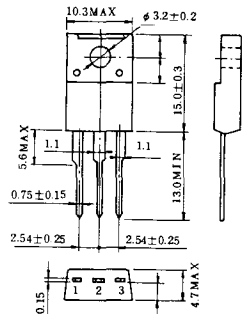


T-57 (12-16C1A)



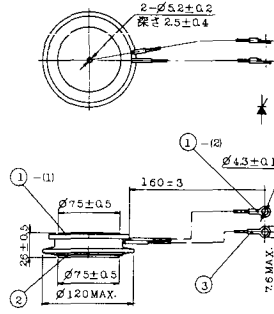
- 1. アノード (主)
- 2. ゲート (主)
- 3. カソード (共通)
- 4. ゲート (補助)
- 5. アノード (補助)

T-58 (13-10H1B)



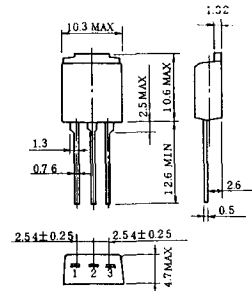
- 1. カソード
- 2. アノード
- 3. ゲート

T-59 (13-120A1A)



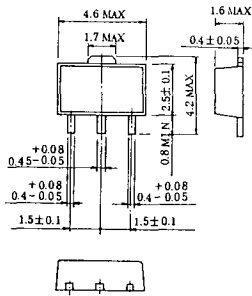
- 1-(1) カソード
- 1-(2) カソード (黒)
- 2 アノード
- 3 ゲート (白)

T-60



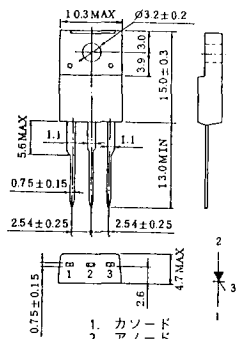
- 1. カソード
- 2. アノード
- 3. ゲート

T-61 (13-5B1A)



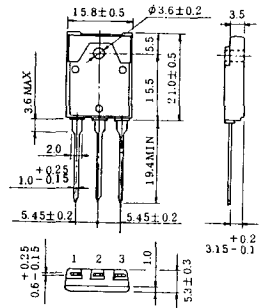
- 1. ゲート
- 2. アノード
- 3. カソード

T-62 (13-10H1A)



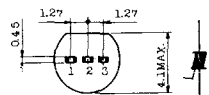
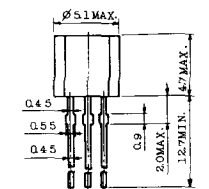
- 1. カソード
- 2. アノード
- 3. ゲート

T-63 (13-16A1B)



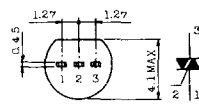
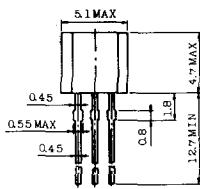
- 1. カソード
- 2. アノード
- 3. ゲート

TT-1



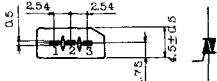
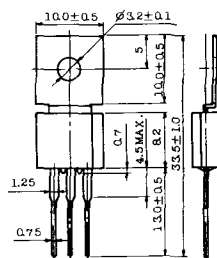
- 1 ゲート
- 2 T<sub>2</sub>
- 3 T<sub>1</sub>

TT-2



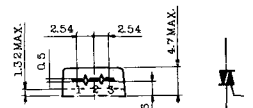
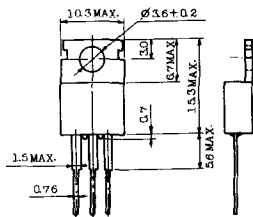
- 1 T<sub>1</sub>
- 2 ゲート
- 3 T<sub>2</sub>

TT-3



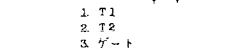
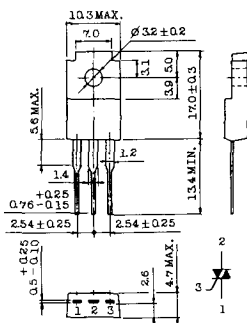
- 1 T<sub>1</sub>
- 2 T<sub>2</sub>
- 3 ゲート

TT-4



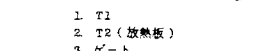
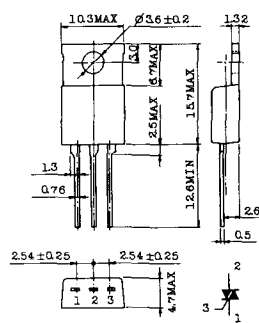
- 1 T<sub>1</sub>
- 2 T<sub>2</sub>
- 3 ゲート

TT-5



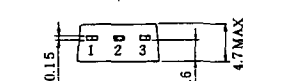
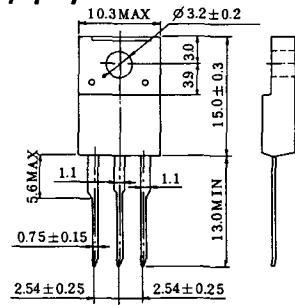
- 1 T<sub>1</sub>
- 2 T<sub>2</sub>
- 3 ゲート

TT-6



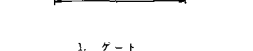
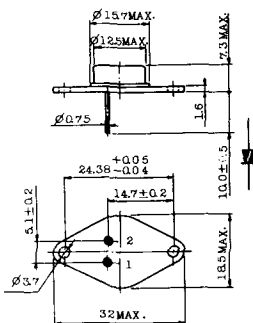
- 1 T<sub>1</sub>
- 2 T<sub>2</sub> (放熱板)
- 3 ゲート

TT-7



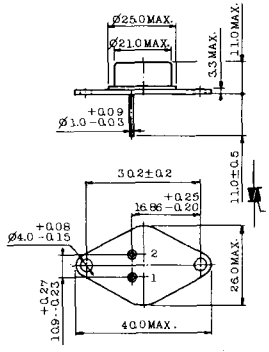
- 1 T<sub>1</sub>
- 2 T<sub>2</sub>
- 3 ゲート

TT-8



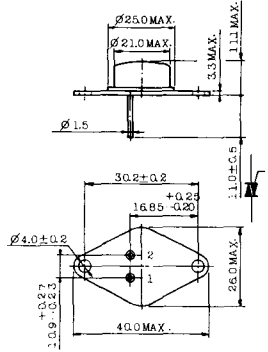
- 1 ゲート
- 2 T<sub>1</sub>
- T<sub>2</sub> (ケース)

TT-9



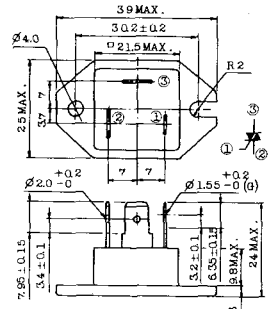
- 1. ゲート
- 2. T<sub>1</sub>
- 3. T<sub>2</sub> (ケース)

TT-10



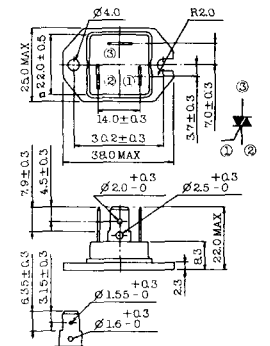
- 1. ゲート
- 2. T<sub>1</sub>
- 3. T<sub>2</sub> (ケース)

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)

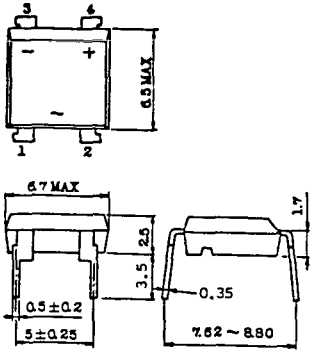
TT-12



ゲート端子詳細

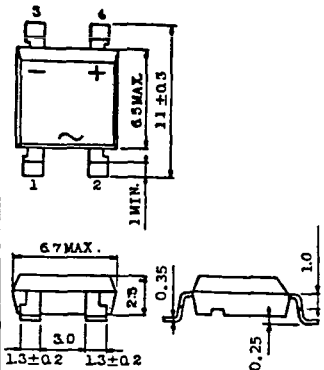
- ① ゲート (フーストン端子 # 187)
- ② T<sub>1</sub> ( " # 250)
- ③ T<sub>2</sub> ( " # 250)

TT-13



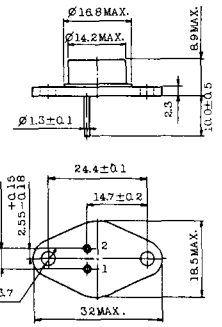
- 1, 2: T<sub>2</sub>
- 3: GATE
- 4: T<sub>1</sub>

TT-14



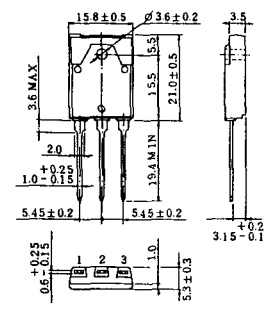
- 1, 2: T<sub>2</sub>
- 3: GATE
- 4: T<sub>1</sub>

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

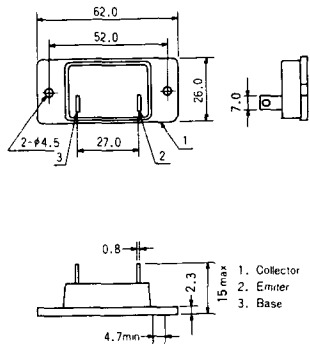


# TS-8

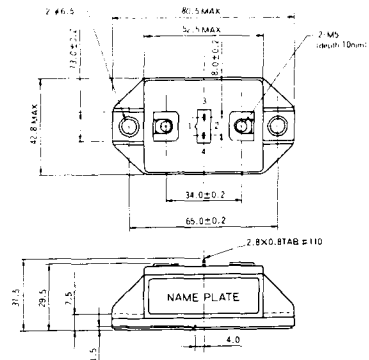


- 1. ベース
- 2. エミッタ  
コレクタ  
(ケース)

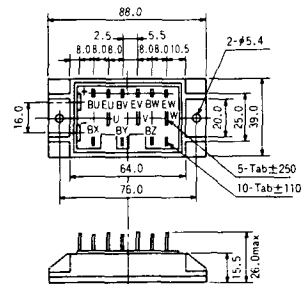
### S-62A1A



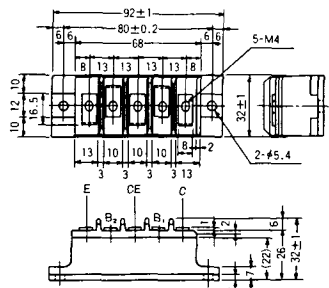
### S-80A1A



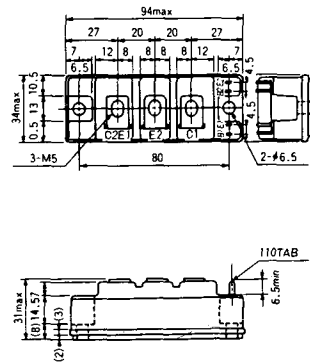
### S-88D1A



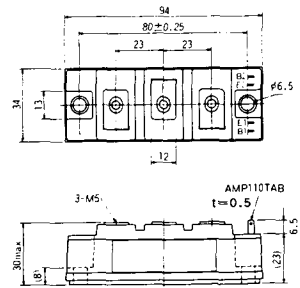
### S-92B1A



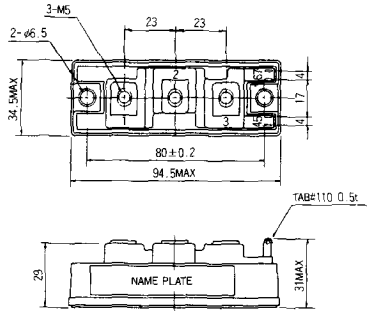
### S-94B1A



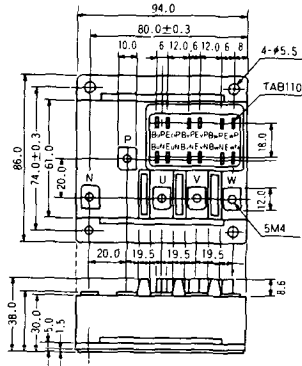
### S-94B1B



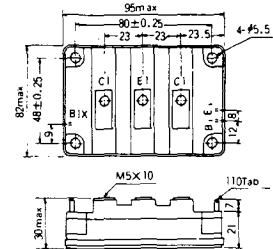
S-94B2A



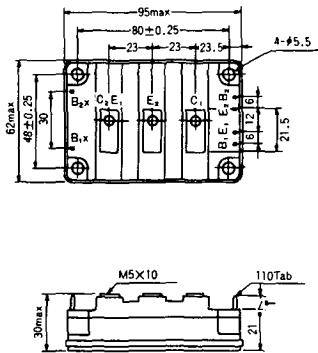
S-94D1A



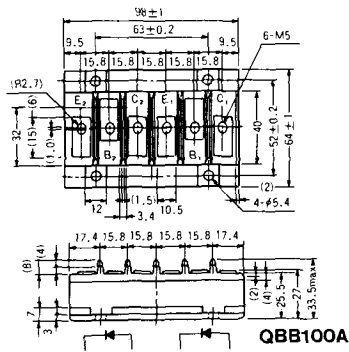
S-95A1A



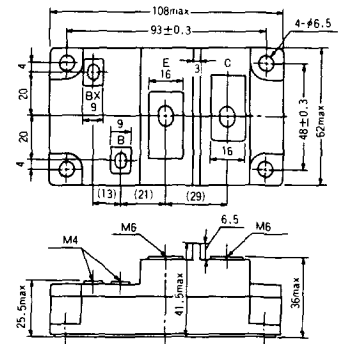
S-95B1A



S-98B1B



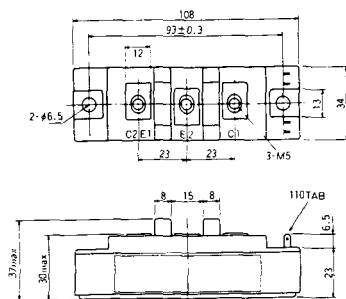
S-108A2A



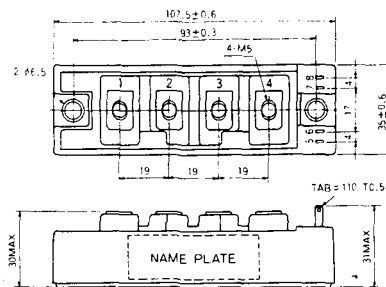
S-108B1A



S-108B1B



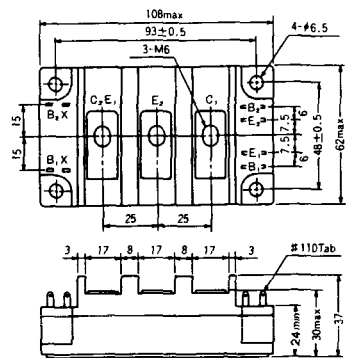
S-108B1C



S-108B2A



S-108B2B





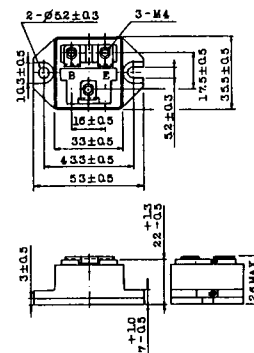
### 2-22B1A



### 2-27A4A



### 2-33C1A



### 2-33D1A



### 2-33F1A



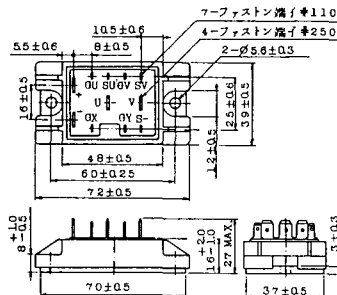
### 2-37A1A



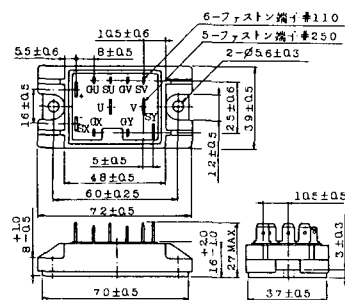
2-48A3A



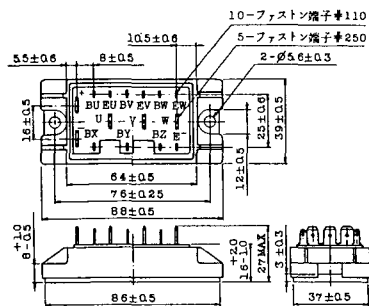
2-48A3B



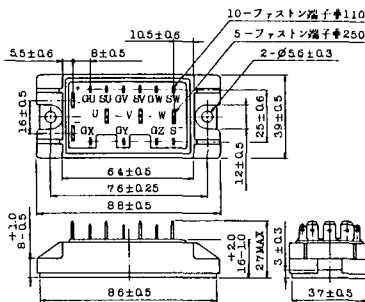
2-48A4A



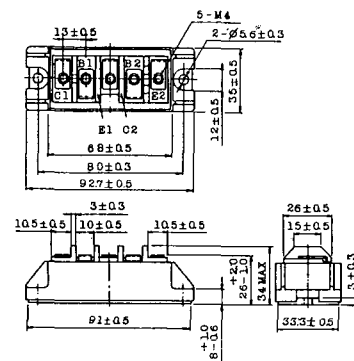
2-64A2A



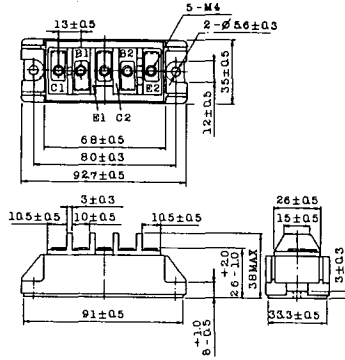
2-64A2B



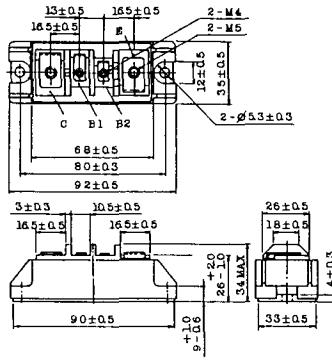
2-68A2A



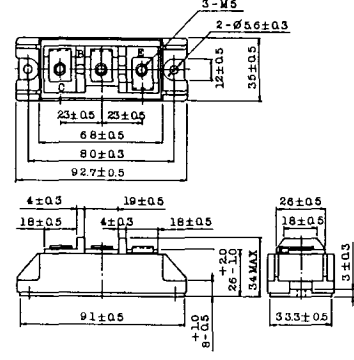
2-68B2A



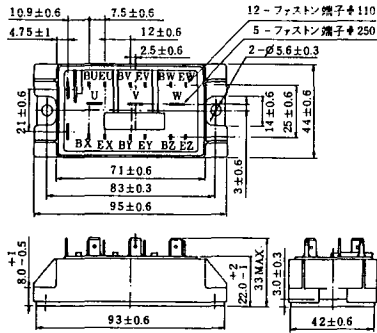
2-68C1A



2-68D2A



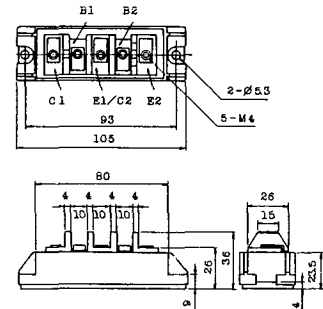
2-72A3A



2-80A1A



2-80B1A

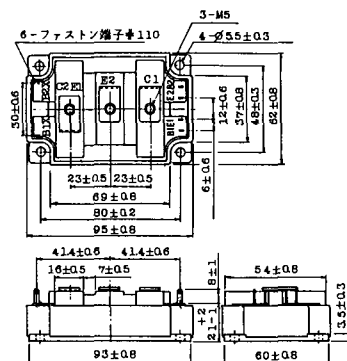




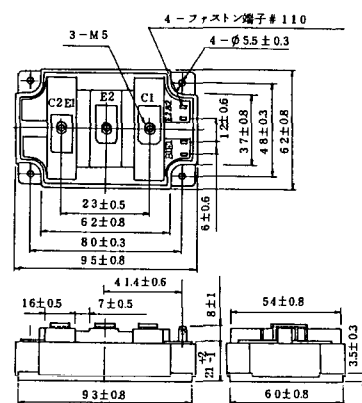
### 2-94D1A



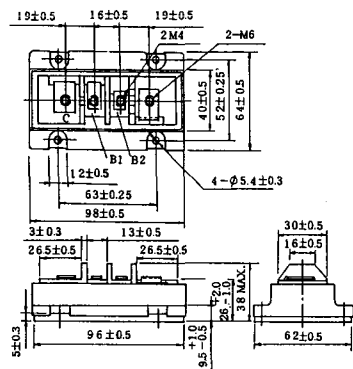
### 2-96A3A



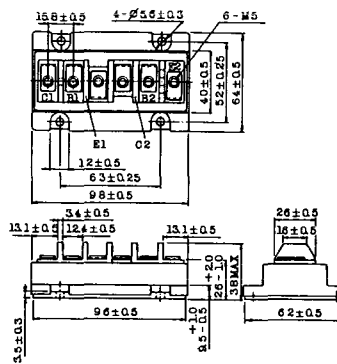
### 2-96A4A



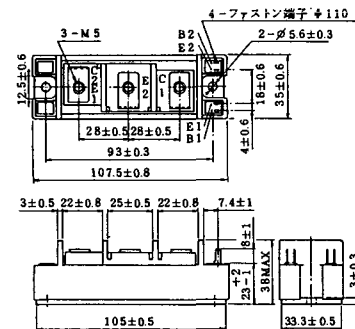
### 2-98B1A



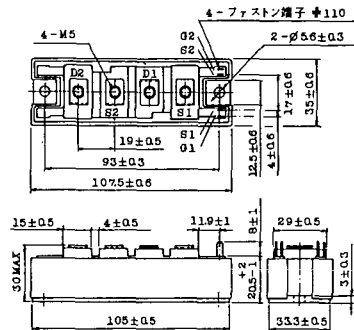
### 2-98C2A



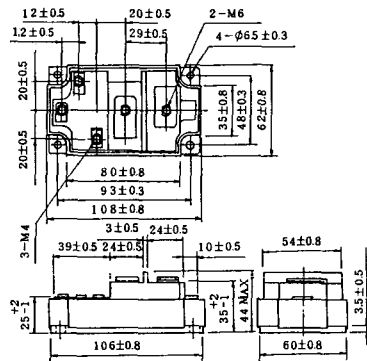
### 2-108A2A



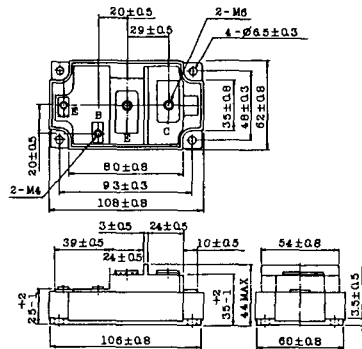
### 2-108B1A



### 2-109A3A



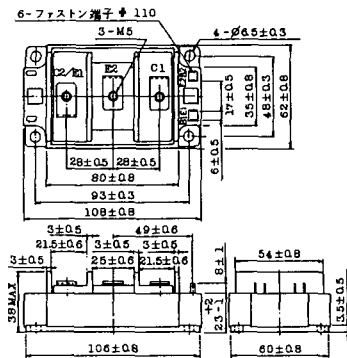
### 2-109A4A



### 2-109B3A

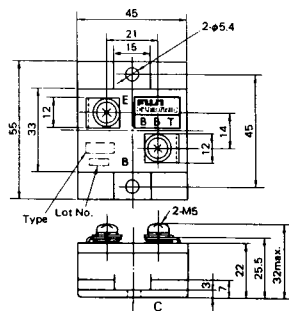


### 2-109B4A



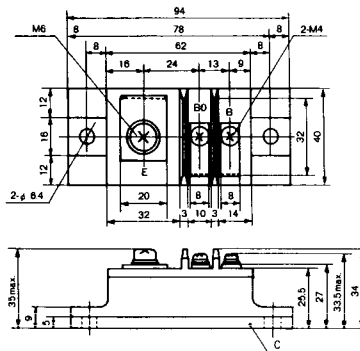
### BBT-II

BBTII  
1D200A-020



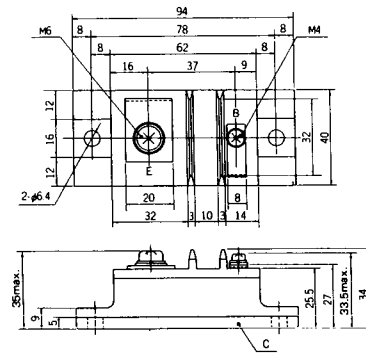
### BBT-III

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



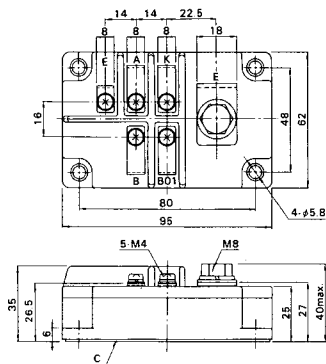
### BBT-III

BBTIII  
ETN01-055  
ET1257

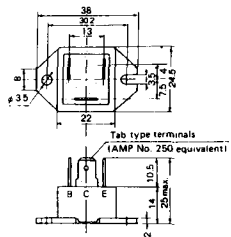


### BBT-IV

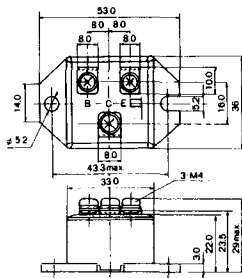
BBTIV  
1D500A-030



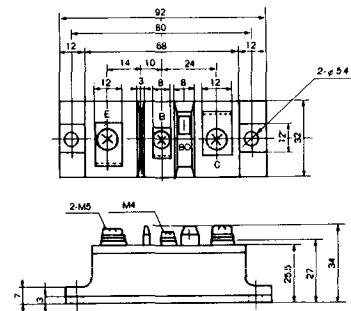
M-101



M-102



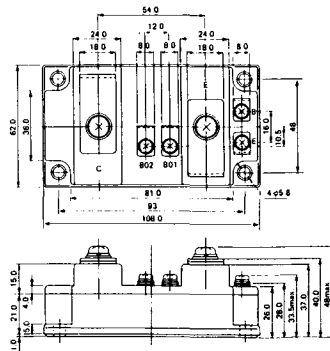
M-103



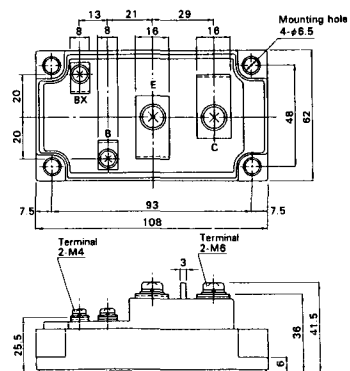
M-104



M-105

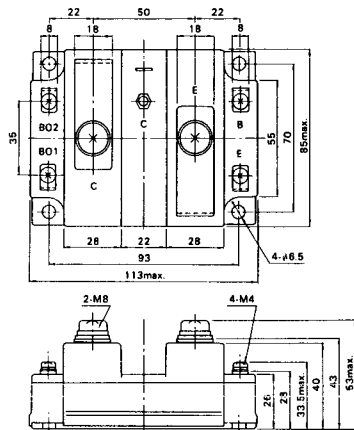


M-106

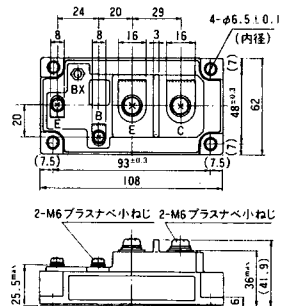




M-107



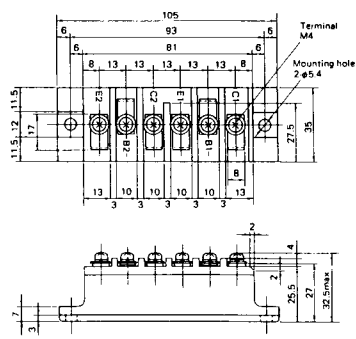
M-116



### M-201



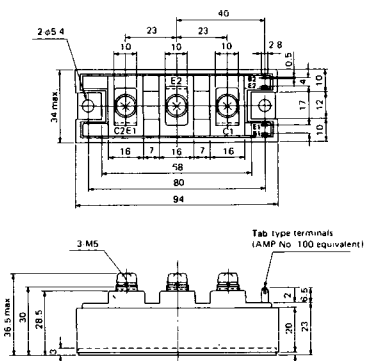
### M-202



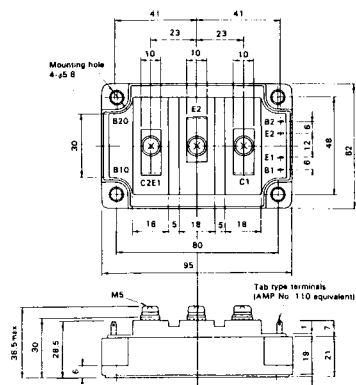
### M-203



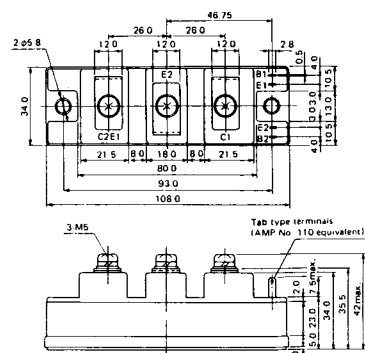
### M-204



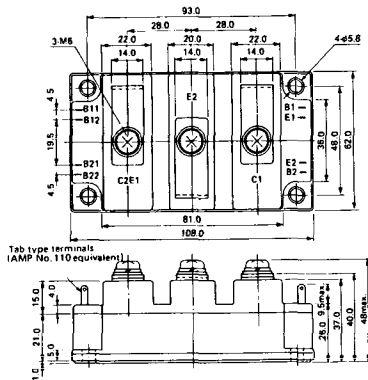
### M-205



### M-206



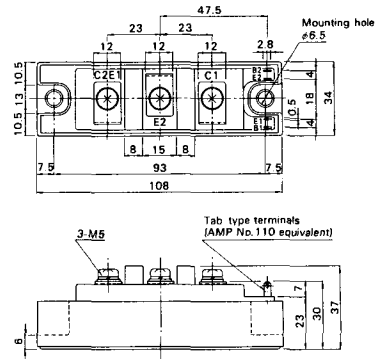
M-207



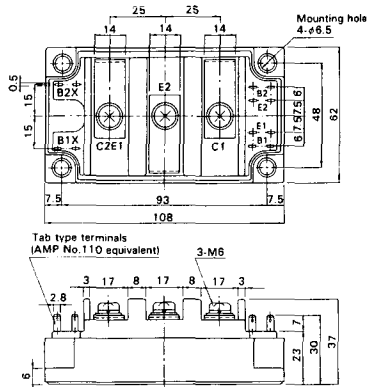
M-208



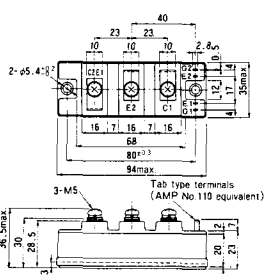
M-209



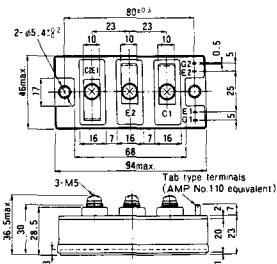
M-210



M-211



M-212



M-213

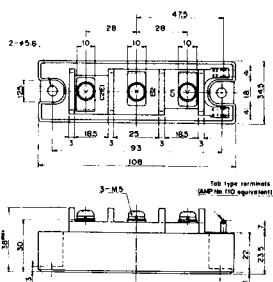


M-214

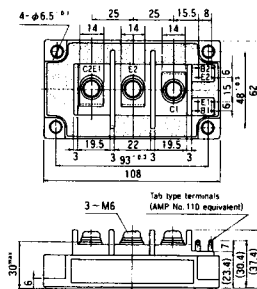
M-215



M-216



M-217



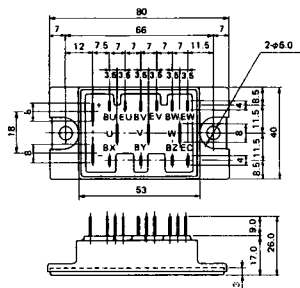
M-218



M-219



M-601



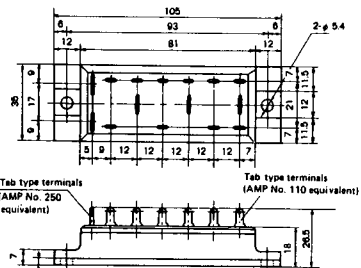
Tab type terminals  
(AMP No. 110 equivalent)



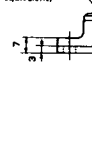
Tab type terminals  
(AMP No. 250 equivalent)



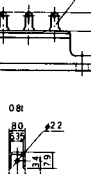
M-602



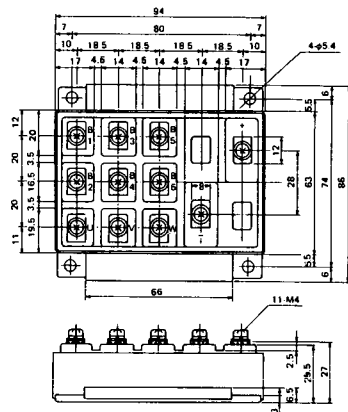
Tab type terminals  
(AMP No. 250 equivalent)



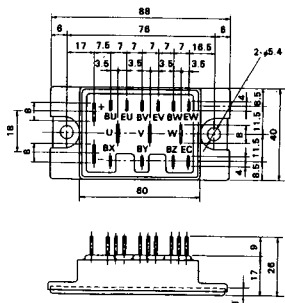
Tab type terminals  
(AMP No. 110 equivalent)



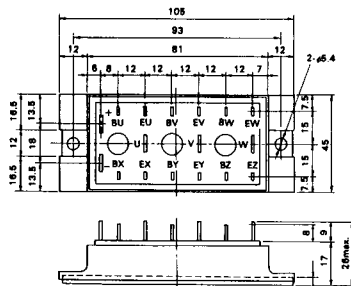
M-603



M-604



M-605



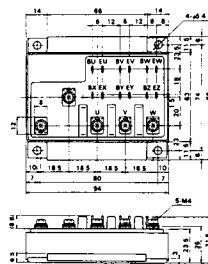
Tab type terminals  
(AMP No. 110 equivalent)



Tab type terminals  
(AMP No. 250 equivalent)



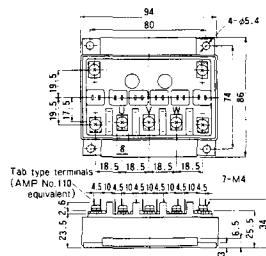
M-606



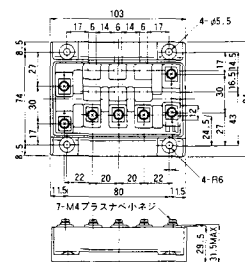
M-607



M-608



M-609



M-610



M-616









M-3C1A



M-3D6A



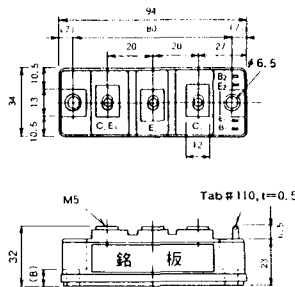
M-3E6A



M-4A1A



M-4A2A



M-4A1B



M-4A2B



M-4B2A



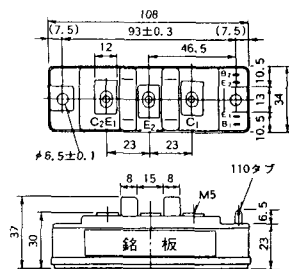
M-5A1A



M-5A1B



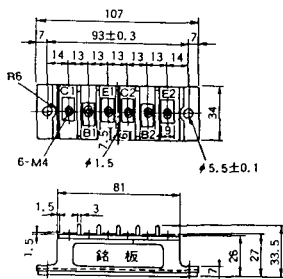
M-5A2A



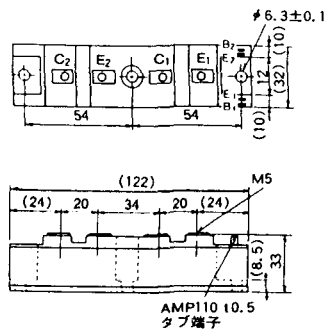
M-5B2A



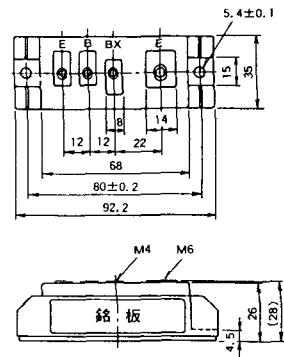
M-5C2A



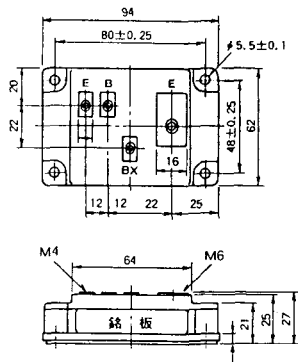
M-5D2A



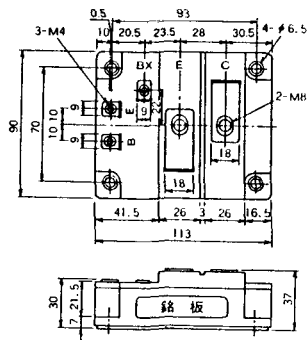
M-6A1A



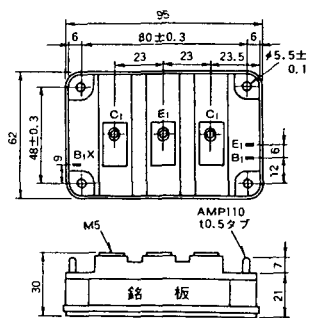
M-7A1A



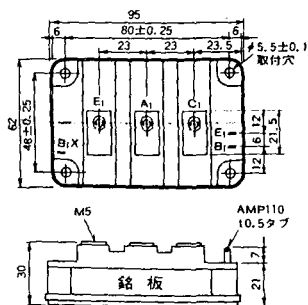
M-7B1A



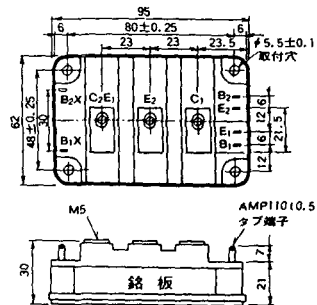
M-8A1A



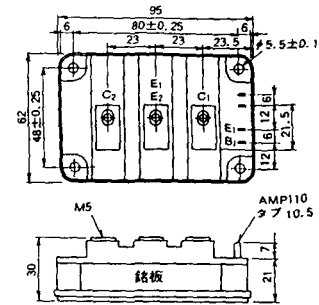
M-8A1B



M-8A2A



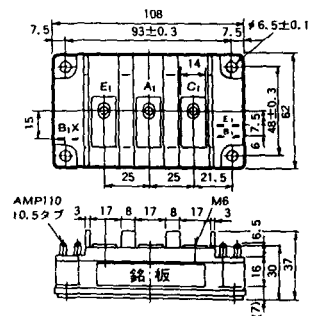
M-8A2B



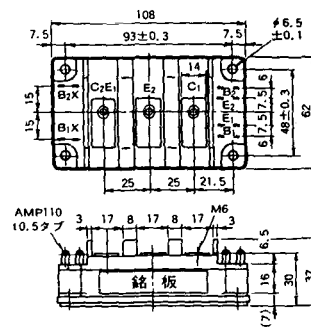
M-8B2A



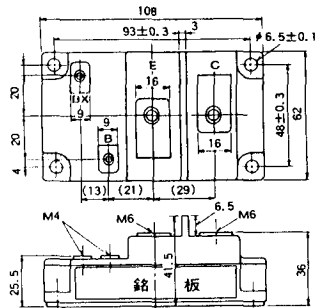
M-9A1A



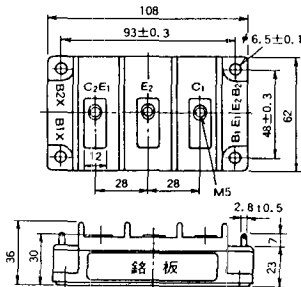
M-9A2A



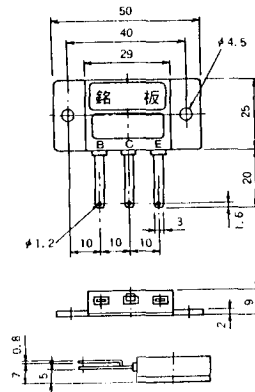
### M-9B1A



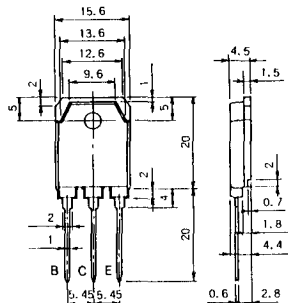
### M-9C2A



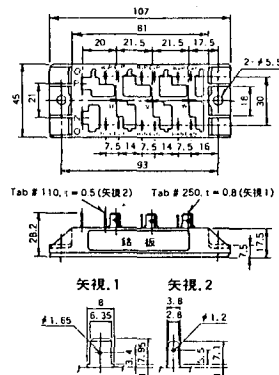
### M-1A1B



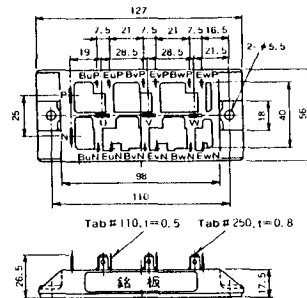
### M-1A1C



### M-2E6B



### M-2E6C

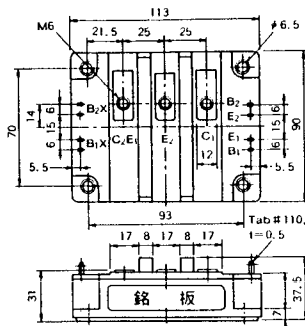




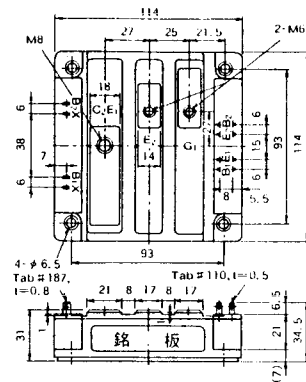
M-10A2A



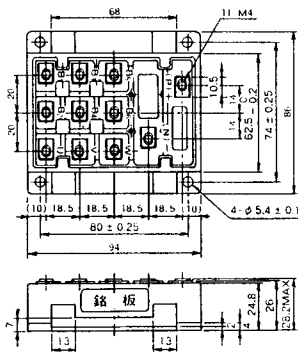
M-10A2B



M-11A2A



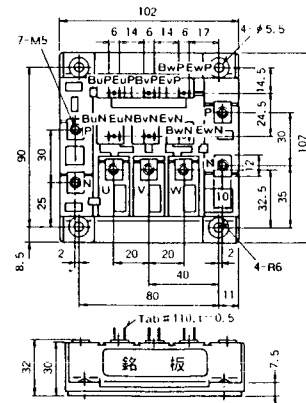
M-12A6A



M-12B6A

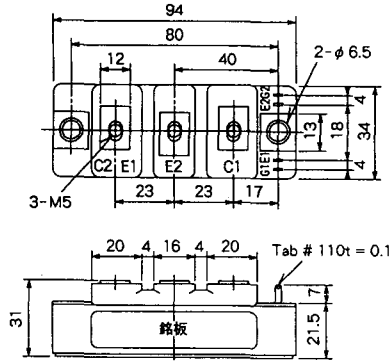


M-12B6B

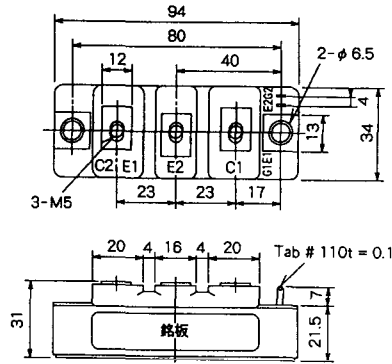




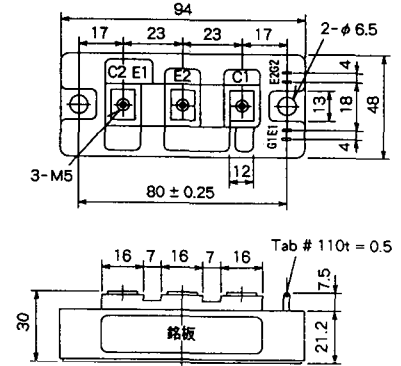
M-4A2D



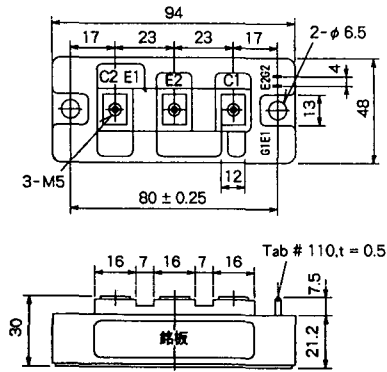
M-4A2E



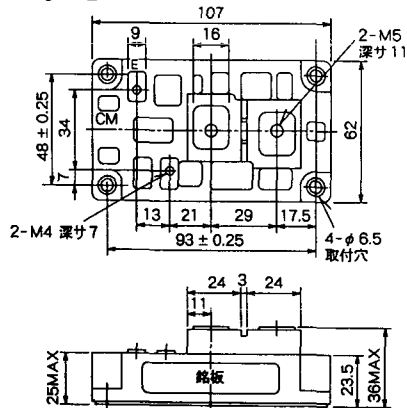
M-4C2A



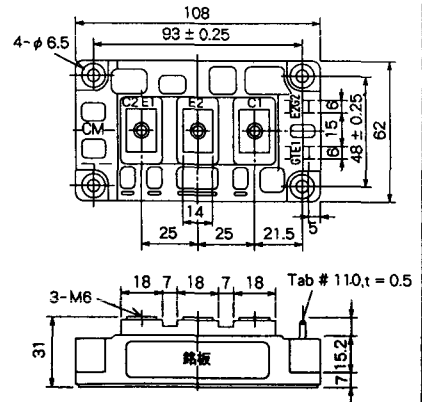
M-4C2B



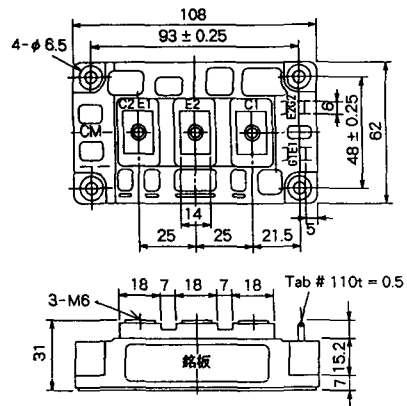
M-9B1C



M-9D2A



M-9D2B



M-10A2C

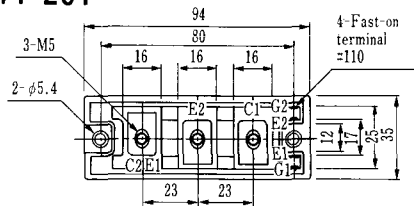


H-101



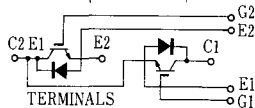
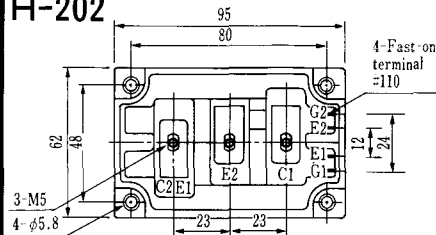
Weight :480g

### H-201



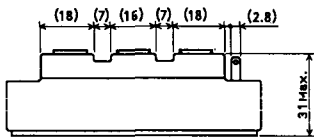
Weight: 200g

### H-202



Weight: 360g

### LF-J



### LF-K



