

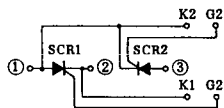
サイリスタ・モジュール

東芝

MSG60「G, L, Q, U」43

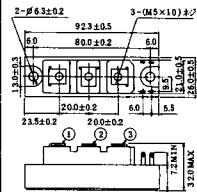
○絶縁形: AC 2000V (MSG60「G, L」43)  
AC 2500V (MSG60「Q, U」43)

■接続図



G1, K1, G2 および K2 端子: フェストンφ110

■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				

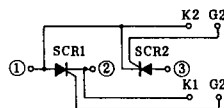
■電気的特性 ( $T_c = 25^\circ\text{C}$ )

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「G, L, Q, U」43

○絶縁形: AC 2000V (MSG100「G, L」43)  
AC 2500V (MSG100「Q, U」43)

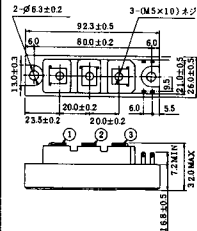
■接続図



G1, K1, G2 および K2 端子: フェストンφ110

東芝

■外形図



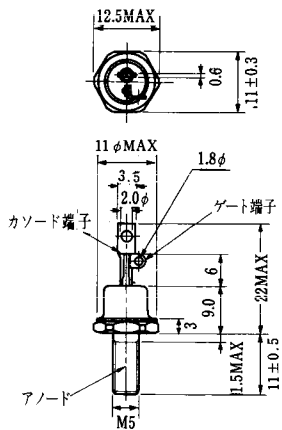
■最大定格

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				

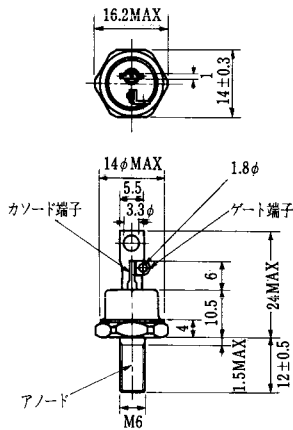
■電気的特性 ( $T_c = 25^\circ\text{C}$ )

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	$^\circ\text{C}/\text{W}$

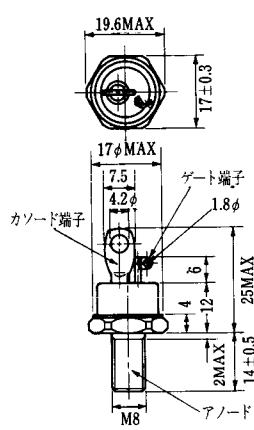
FD-1



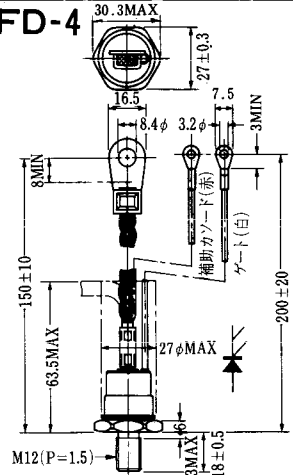
FD-2



FD-3



FD-4



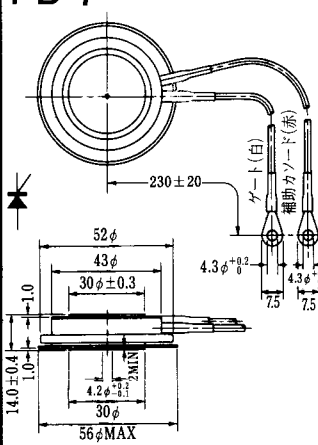
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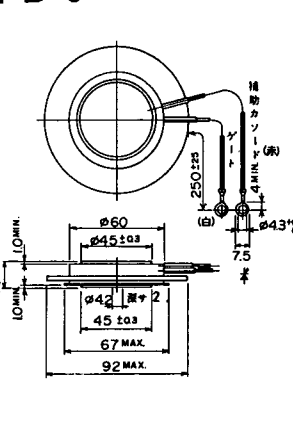
FD-6



FD-7



FD-8



FD-9



FD-10



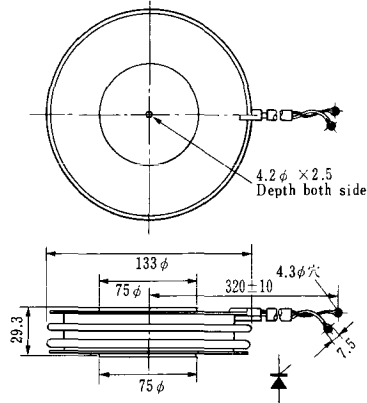
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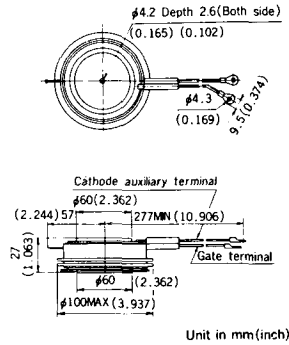


《寸法図単位：mm》

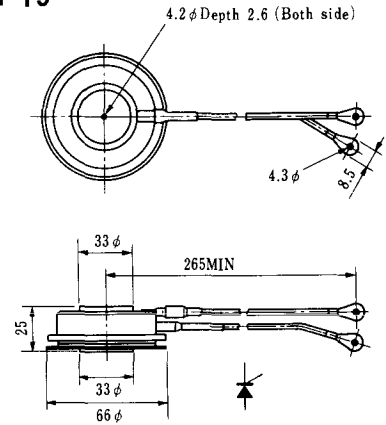
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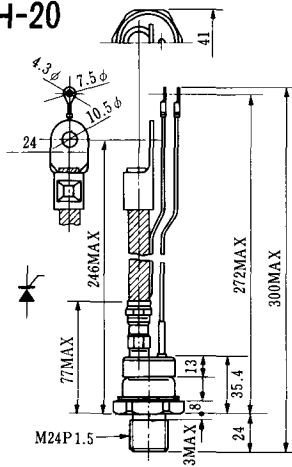
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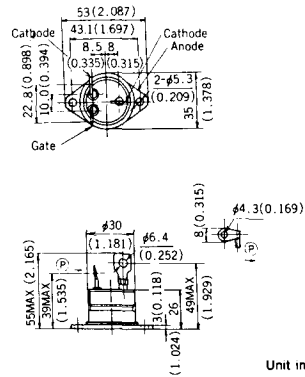
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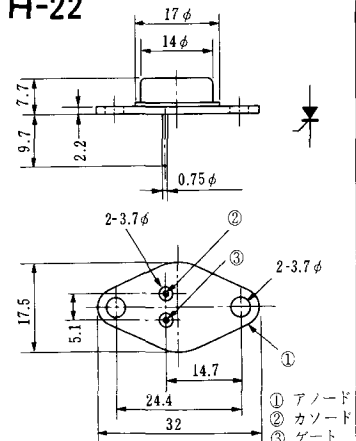
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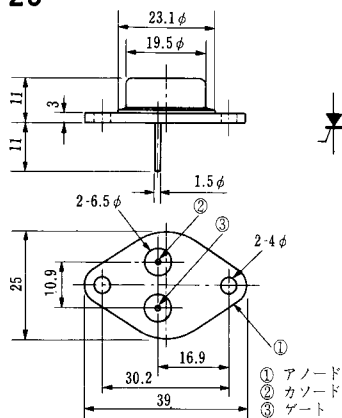
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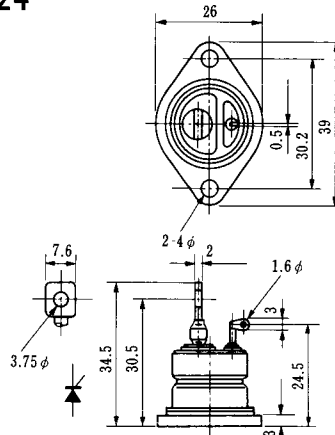
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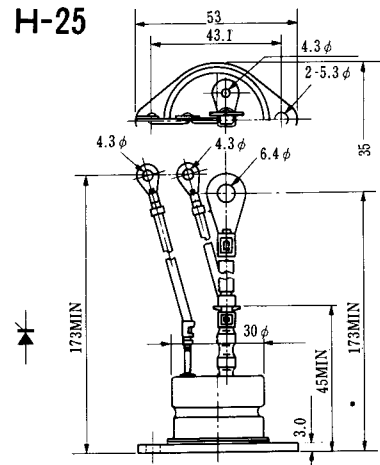
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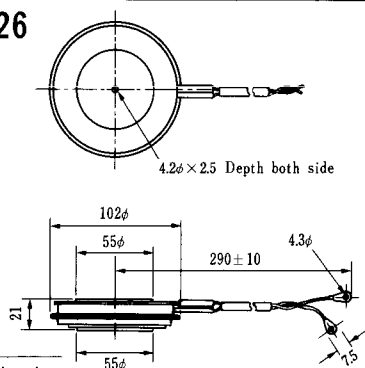
### H-24



### H-25



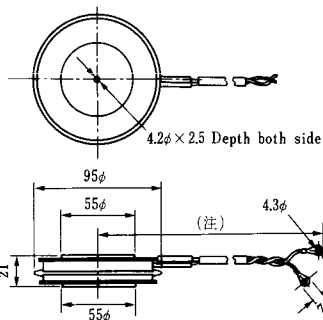
### H-26



Type	Direction of polarity
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CA12	
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### H-27

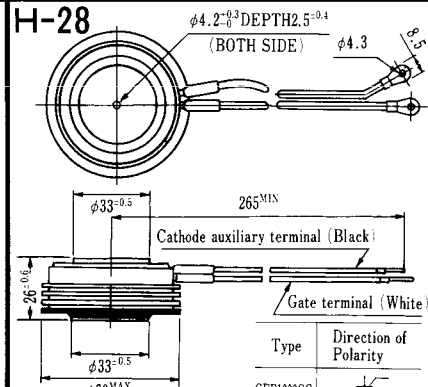


Type	Direction of polarity
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CF11V	
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(注) CC11V : 400 ± 10  
CF11V : 250 ± 10

### H-28



Type	Direction of Polarity
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GFP100GG	
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Weight: 360(g)

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



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



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





### M-1



### M-2



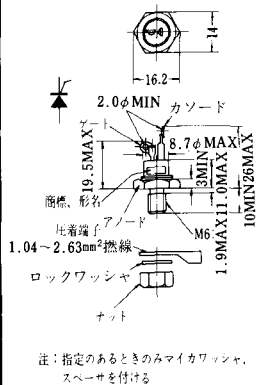
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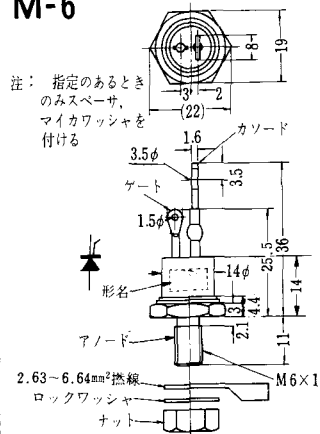
### M-4



### M-5



### M-6



### M-7



### M-8



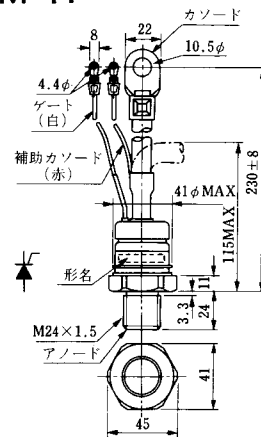
M-9



M-10



M-11



M-12



M-13



M-14



M-15

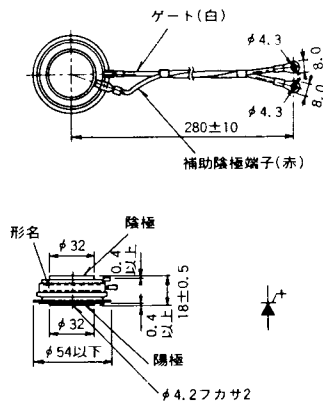


M-16

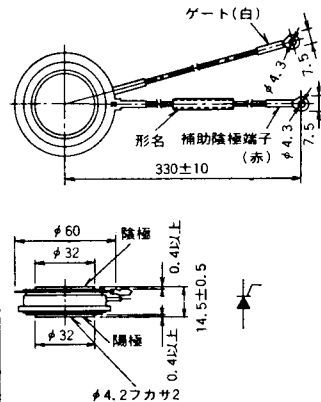




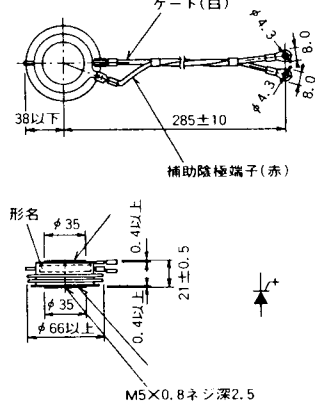
M-25



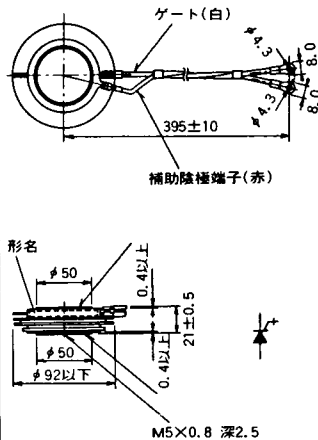
M-26



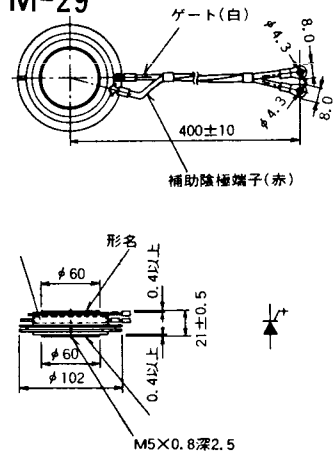
M-27



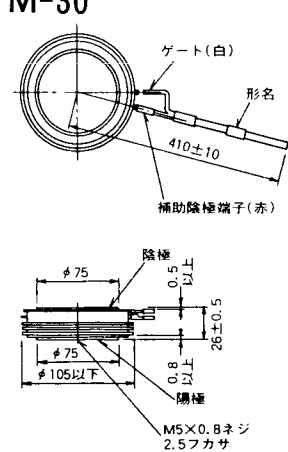
M-28



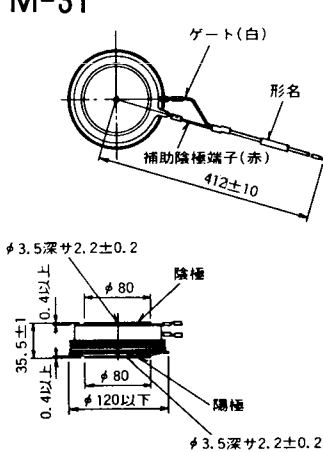
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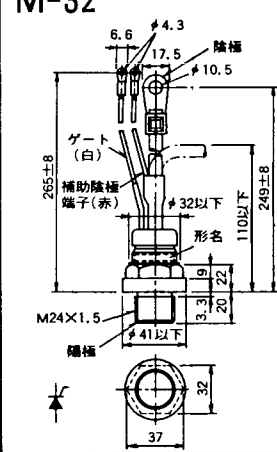
M-30



M-31



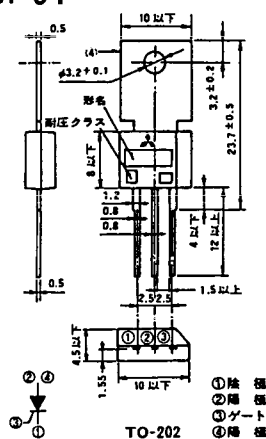
M-32



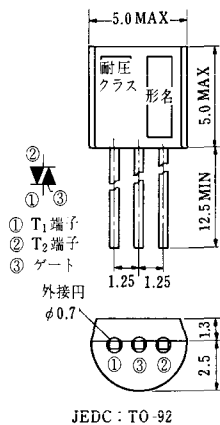
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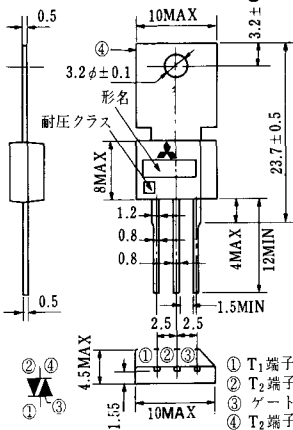
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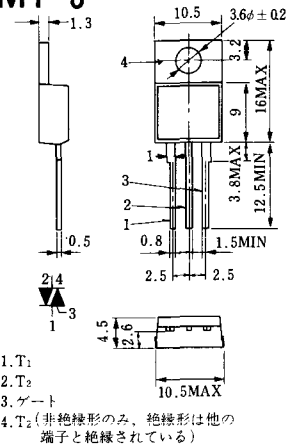
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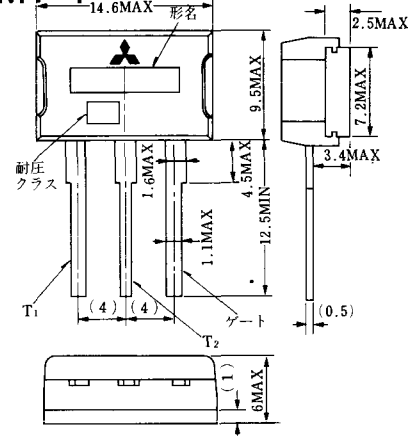
### MT-2



### MT-3



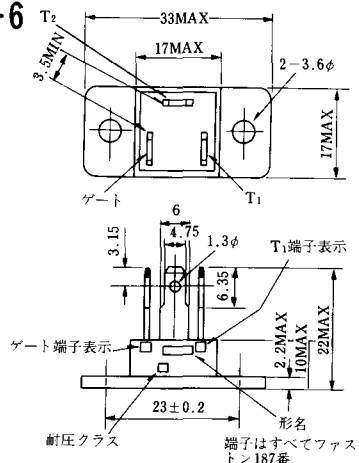
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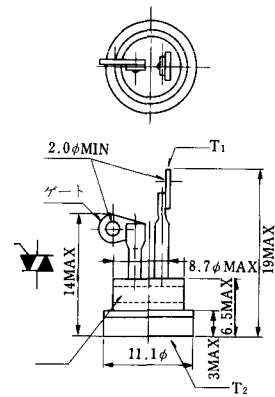
### MT-5



### MT-6



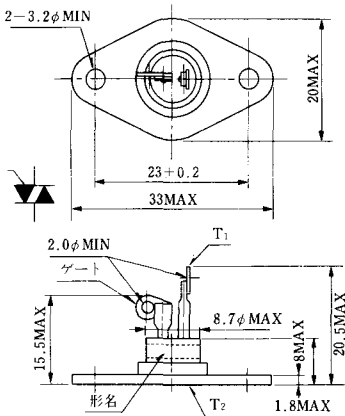
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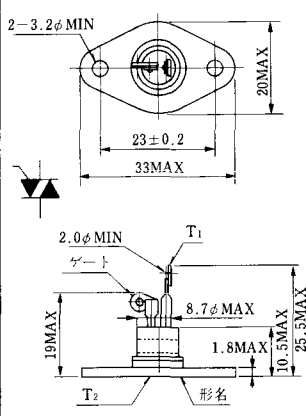
MT-8



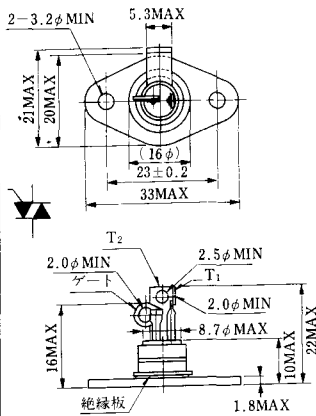
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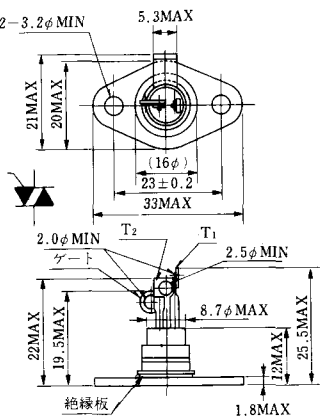
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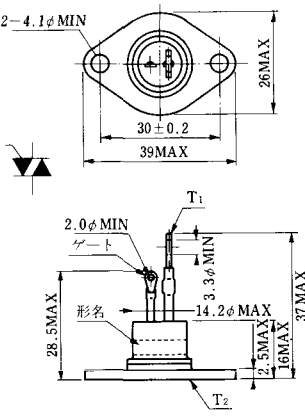
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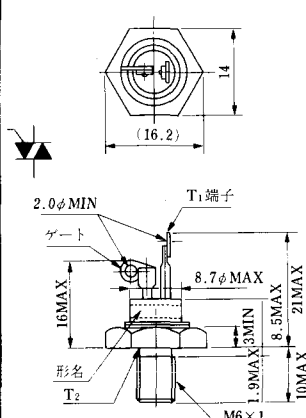
MT-12



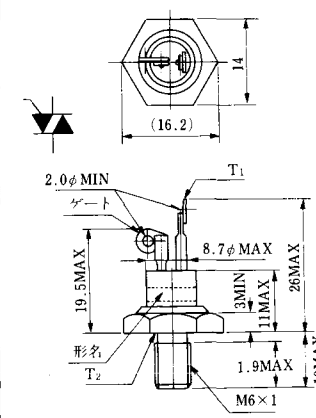
MT-13



MT-14



MT-15

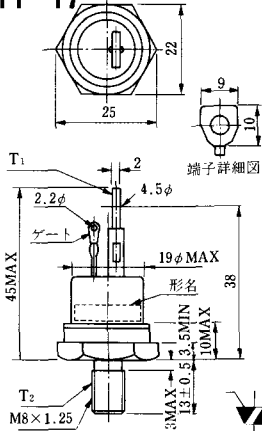




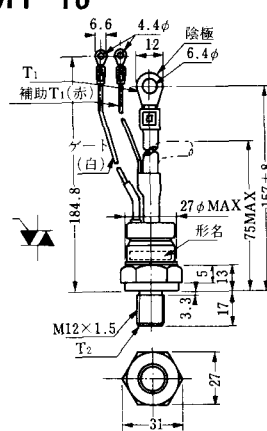
MT-16



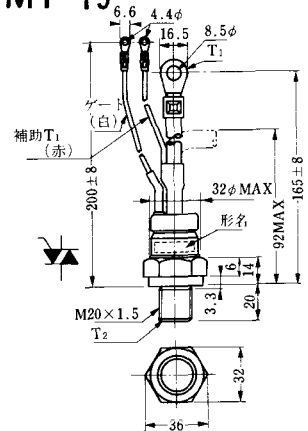
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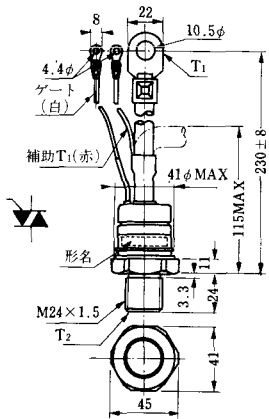
MT-18



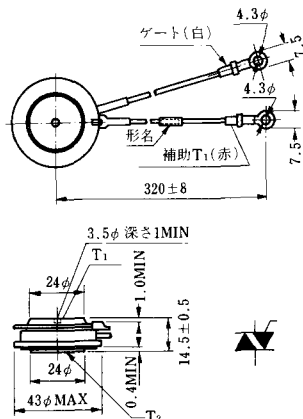
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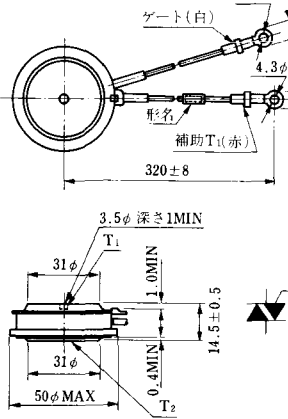
MT-20



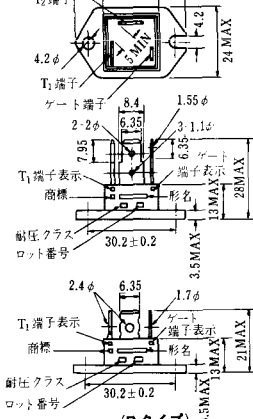
MT-21



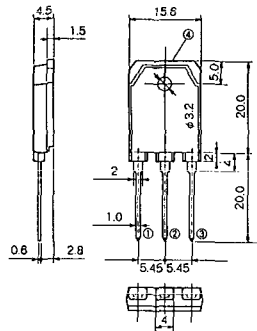
MT-22



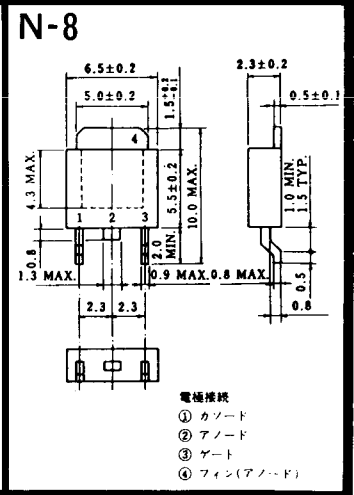
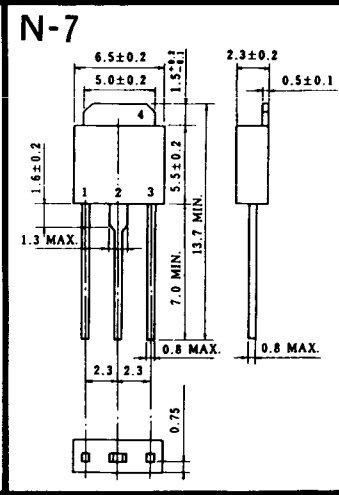
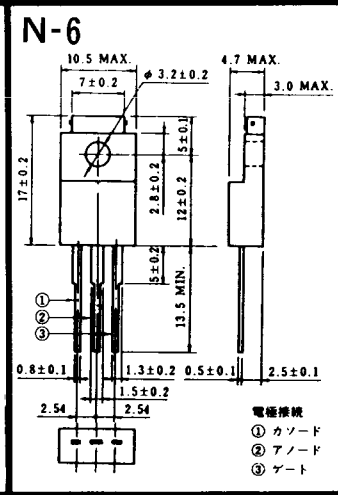
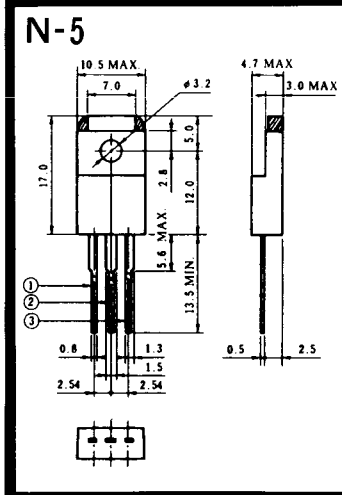
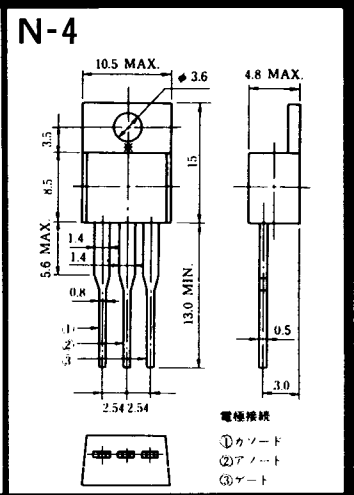
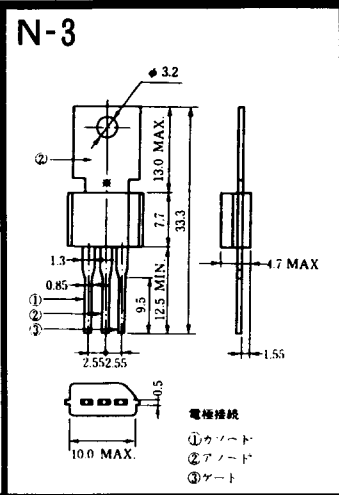
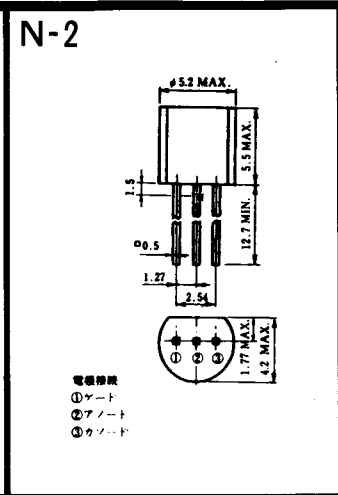
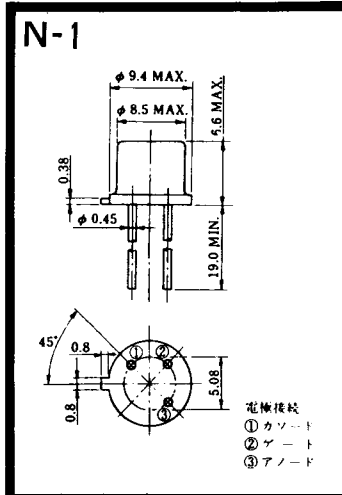
MT-23



# MT-24



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















NI-24

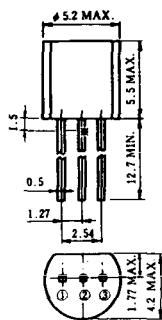
2001PGB<sup>r</sup> JE



NI-25

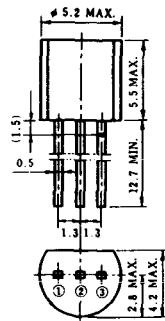
NI-26

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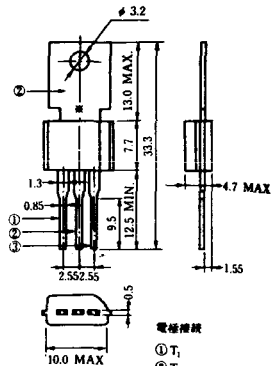
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① T<sub>1</sub>  
② ゲート  
③ T<sub>2</sub>

### NT-2



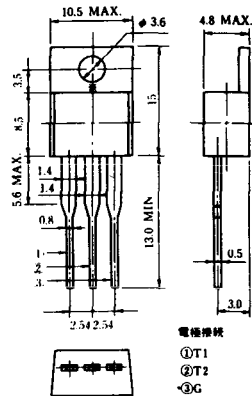
電極接続  
① T<sub>1</sub>  
② ゲート  
③ T<sub>2</sub>

### NT-3



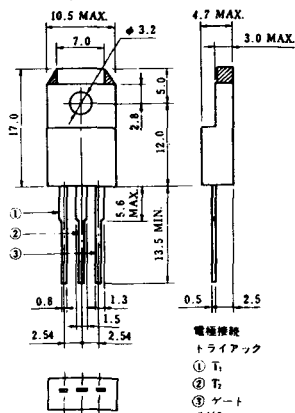
電極接続  
① T<sub>1</sub>  
② T<sub>2</sub>  
③ ゲート

### NT-4



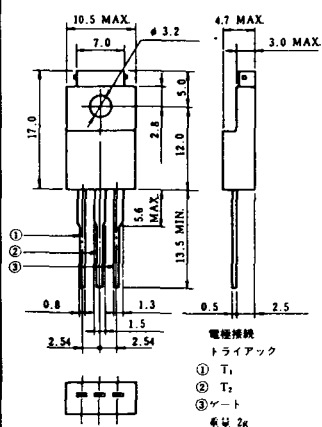
電極接続  
① T<sub>1</sub>  
② T<sub>2</sub>  
③ G

### NT-5



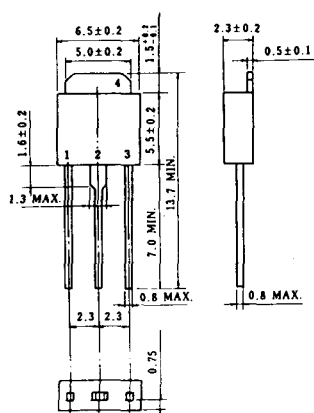
電極接続  
トライアック  
① T<sub>1</sub>  
② T<sub>2</sub>  
③ ゲート  
④ G

### NT-6

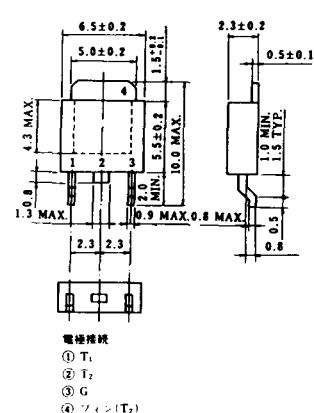


電極接続  
トライアック  
① T<sub>1</sub>  
② T<sub>2</sub>  
③ ゲート  
④ G

### NT-7



### NT-8



電極接続  
① T<sub>1</sub>  
② T<sub>2</sub>  
③ G  
④ シェン(T<sub>2</sub>)



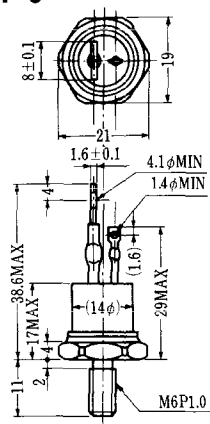
SA-1



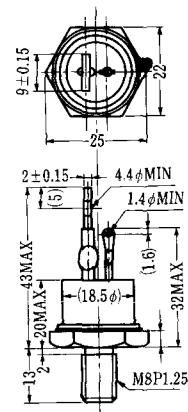
SA-2



SA-3



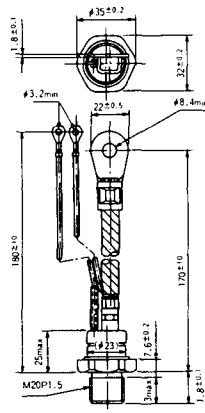
SA-4



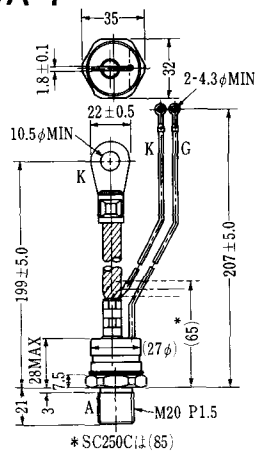
SA-5



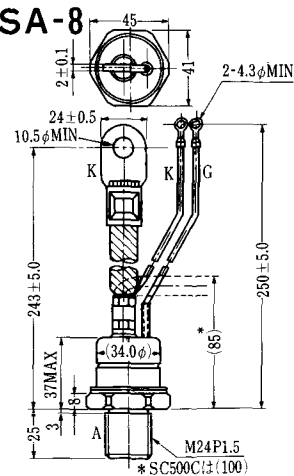
SA-6



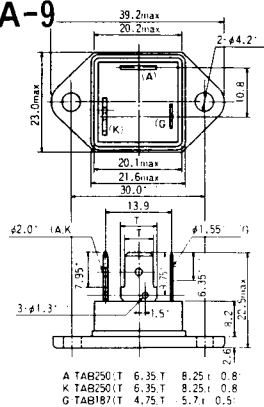
SA-7



SA-8



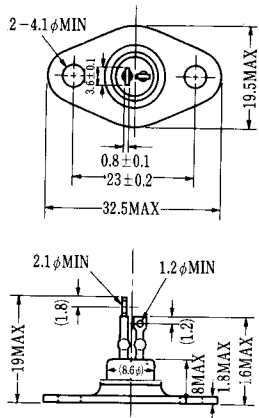
### SA-9



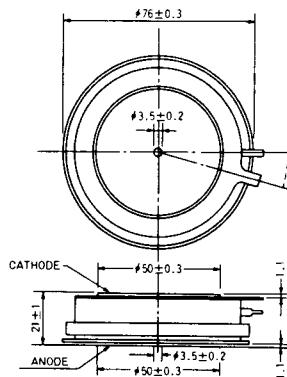
A TAB250(T) 6.35 T 8.25 I 0.8  
 K TAB250(T) 6.35 T 8.25 I 0.8  
 G TAB187(T) 4.75 T 5.7 I 0.5



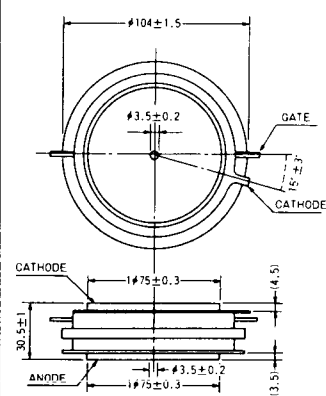
### SA-10



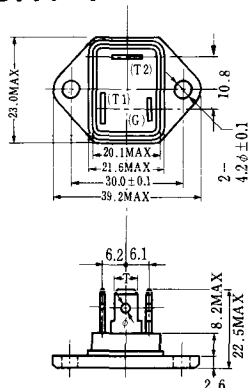
### SA-11



### SA-12

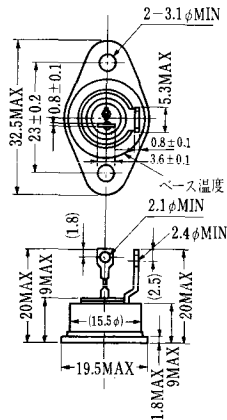


### SAT-1

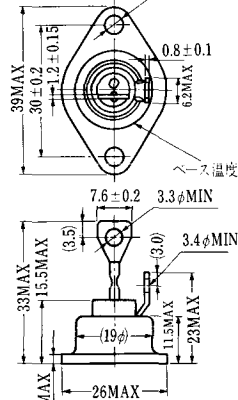


T1 端子: フラスト > 250 (T=6.35, t=0.8, φ=1.65)  
 T2 端子: フラスト > 250 (T=6.35, t=0.8, φ=1.65)  
 G 端子: フラスト > 187 (T=4.75, t=0.5, φ=1.3)

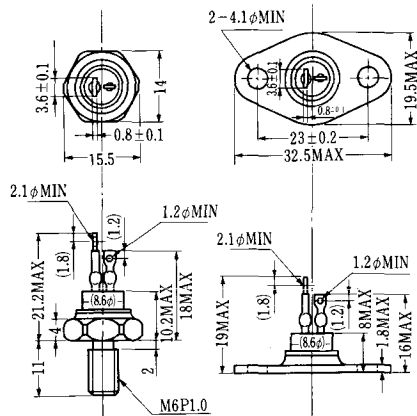
### SAT-2



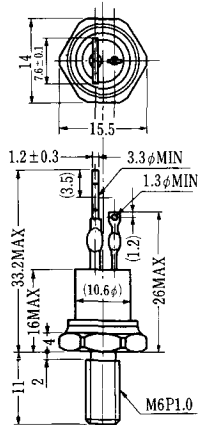
### SAT-3



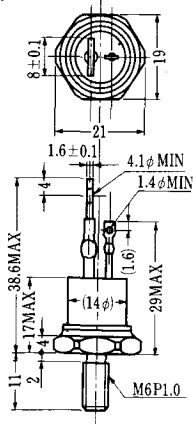
### SAT-4



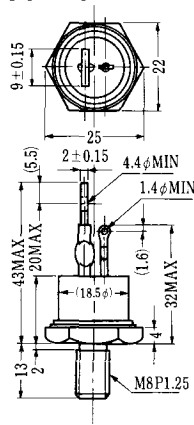
### SAT-5



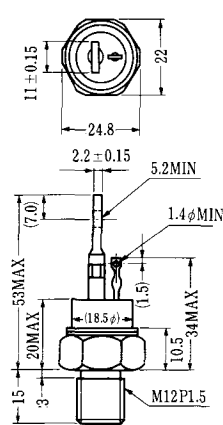
### SAT-6



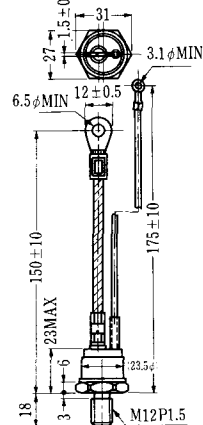
### SAT-7



### SAT-8



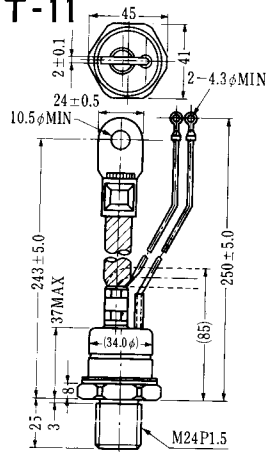
### SAT-9



SAT-10



SAT-11

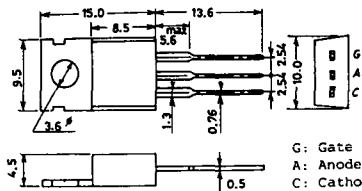


### SY-1 (1096A)



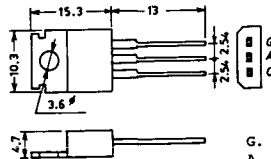
C: Cathode  
A: Anode  
G: Gate

### 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



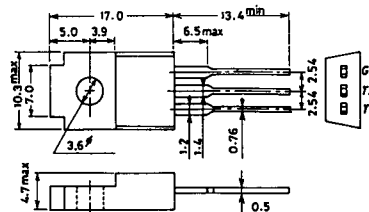
1141



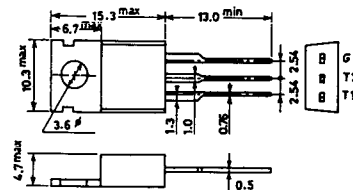
1142



1144



1155

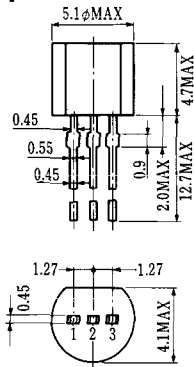


1192A



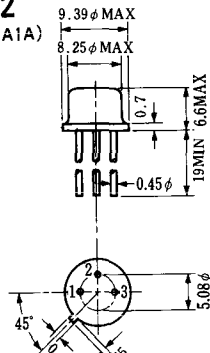
G: Gate

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



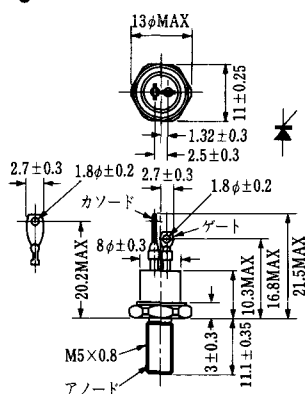
- 1 ゲート
- 2 アノード
- 3 カソード

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



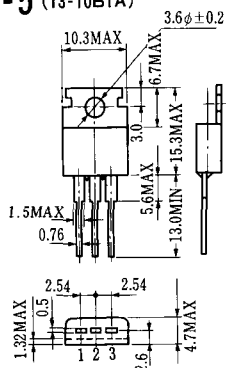
1. カソード
2. ゲート
3. アノード(ケース)

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



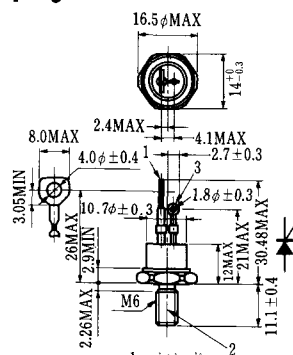
- 1 カソード
- 2 アノード
- 3 ゲート

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



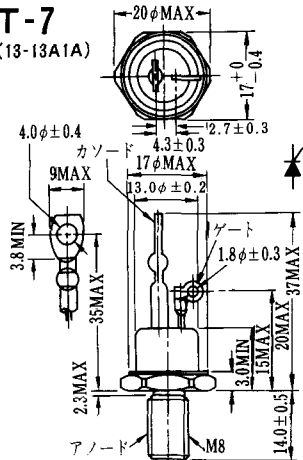
- 1 カソード
- 2 アノード
- 3 ゲート

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

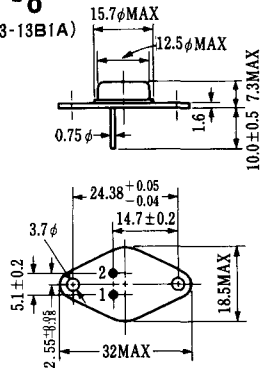


- 1 カソード
- 2 アノード
- 3 ゲート

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



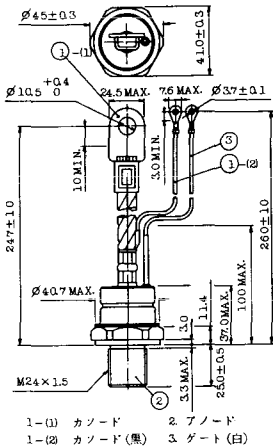
**T-8 (13-13B1A)**



1. ゲート
2. カソード
3. アノード(ケース)



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



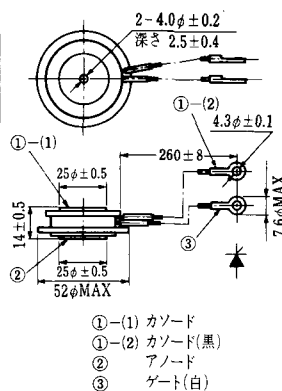
**T-18 (13-45D1A)**



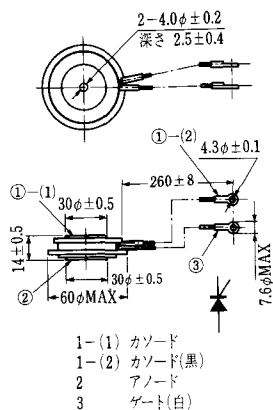
**T-19 (13-52B1A)**



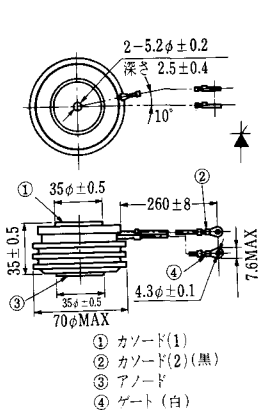
**T-20 (13-52C1A)**



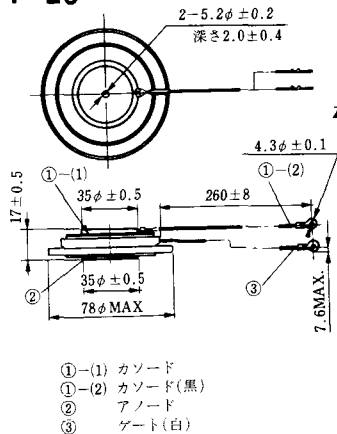
**T-21 (13-60A1A)**



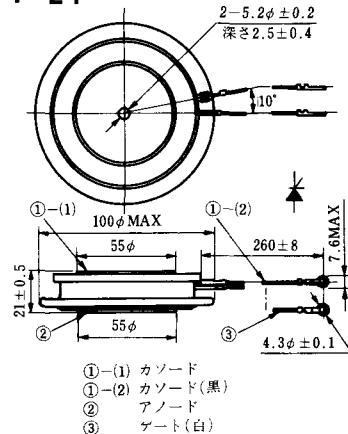
**T-22 (13-70C1A)**



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

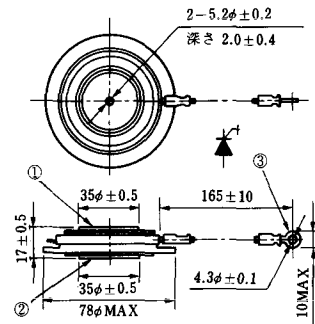


**T-24 (13-100C1A)**



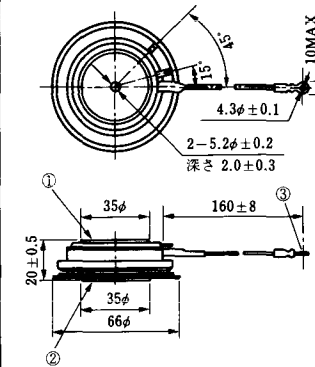


**T-33** (13-78B1A)



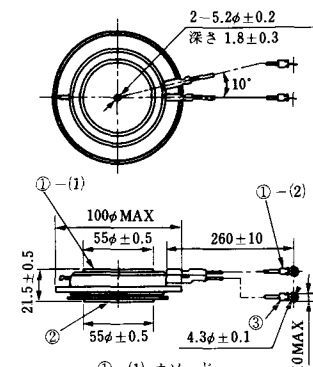
- ① カソード
- ② アノード
- ③ ゲート

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



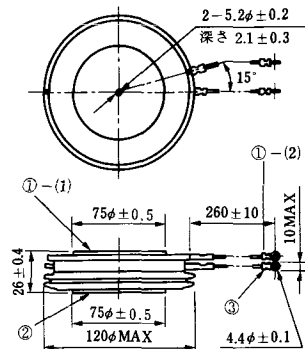
- ① カソード
- ② アノード
- ③ ゲート

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



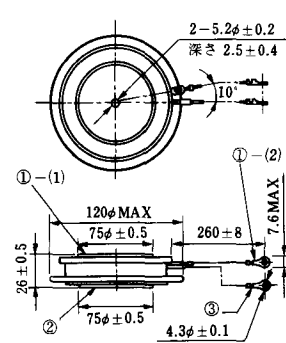
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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



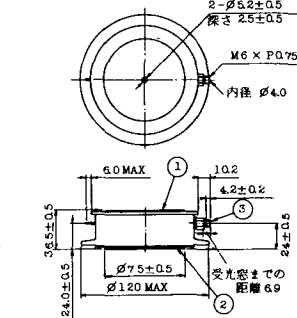
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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



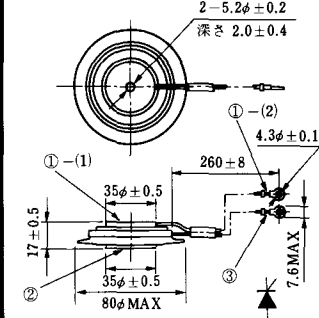
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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



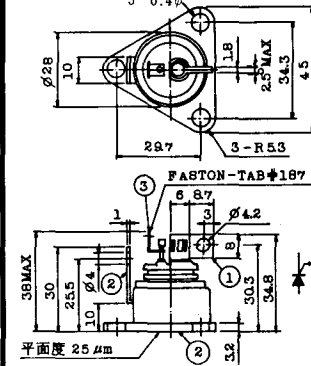
- ① カソード
- ② アノード
- ③ ゲート

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



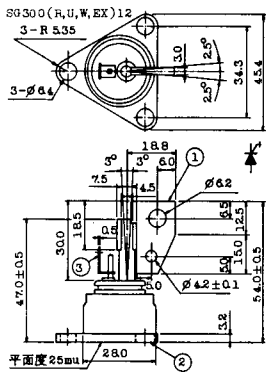
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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



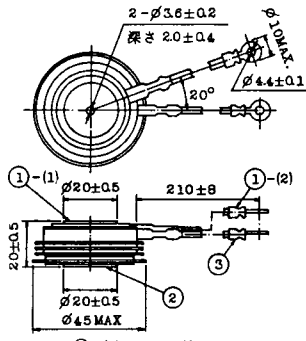
- 1. カソード
- 2. アノード
- 3. ゲート

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



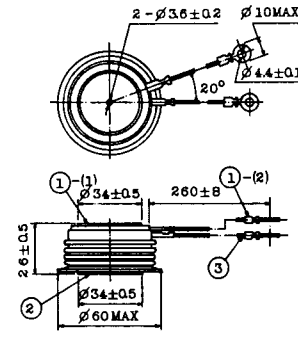
- 1 カソード
- 2 アノード
- 3 ゲート

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



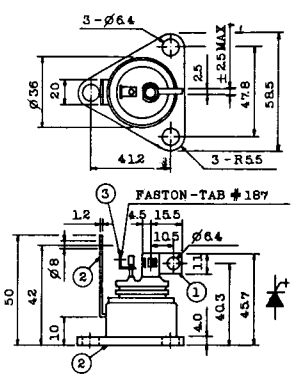
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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



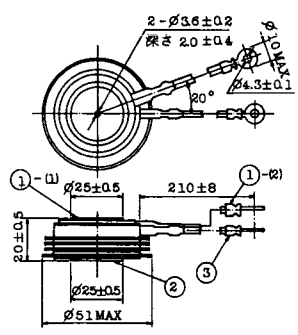
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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



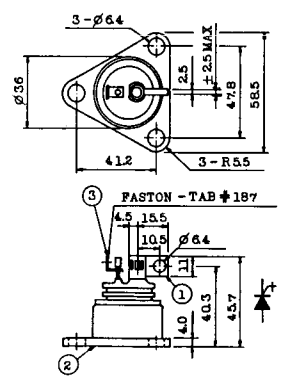
- 1 カソード
- 2 アノード
- 3 ゲート

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



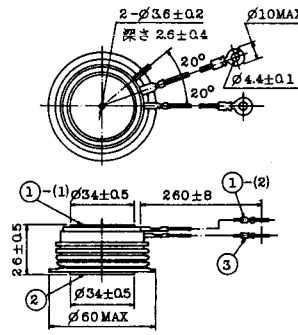
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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



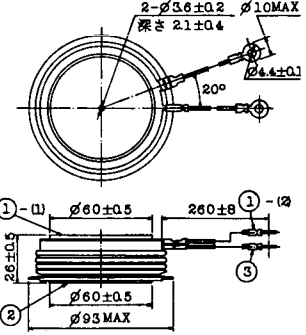
- 1 カソード
- 2 アノード
- 3 ゲート

### 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)

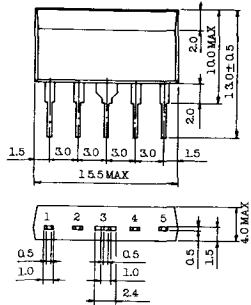


- ①-(1) カソード
- ①-(2) カソード(黒色)
- ② アノード
- ③ ゲート(白色)



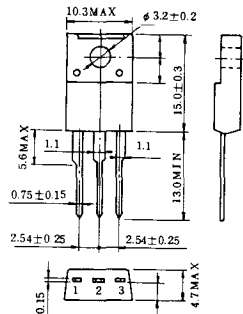


T-57 (12-16C1A)



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)



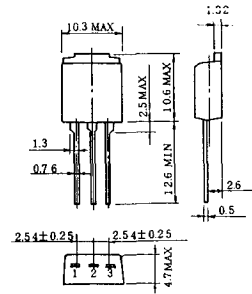
1. カソード
2. アノード
3. ゲート

T-59 (13-120A1A)



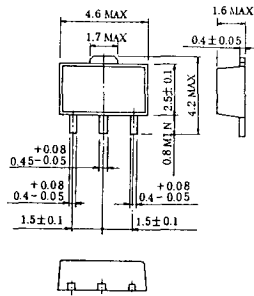
- 1-(1) カソード
- 1-(2) カソード (黒)
2. アノード
3. ゲート (白)

T-60



1. カソード
2. アノード
3. ゲート

T-61 (13-5B1A)



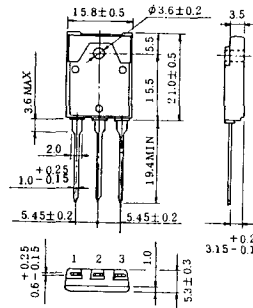
1. ゲート
2. アノード
3. カソード

T-62 (13-10H1A)



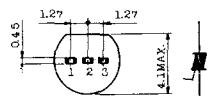
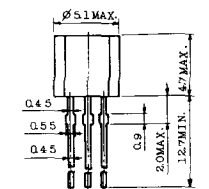
1. カソード
2. アノード
3. ゲート

T-63 (13-16A1B)



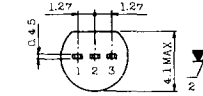
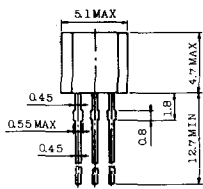
1. カソード
2. アノード
3. ゲート

TT-1



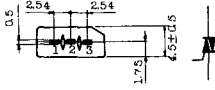
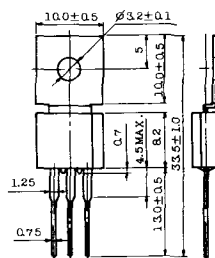
- 1 ゲート
- 2 T<sub>2</sub>
- 3 T<sub>1</sub>

TT-2



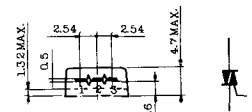
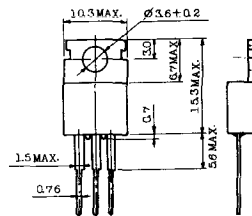
- 1 T<sub>1</sub>
- 2 ゲート
- 3 T<sub>2</sub>

TT-3



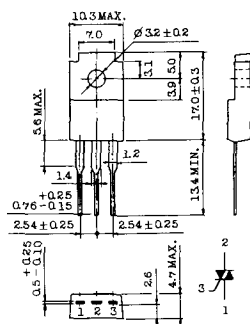
- 1 T<sub>1</sub>
- 2 T<sub>2</sub>
- 3 ゲート

TT-4



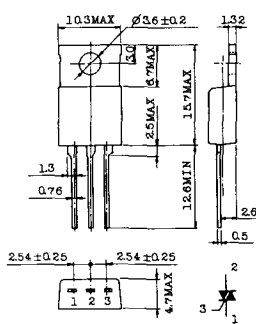
- 1 T<sub>1</sub>
- 2 T<sub>2</sub>
- 3 ゲート

TT-5



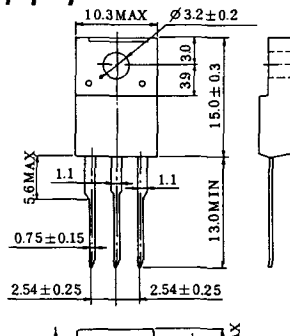
- 1 T<sub>1</sub>
- 2 T<sub>2</sub>
- 3 ゲート

TT-6



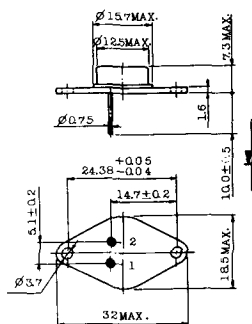
- 1 T<sub>1</sub>
- 2 T<sub>2</sub> (放熱板)
- 3 ゲート

TT-7



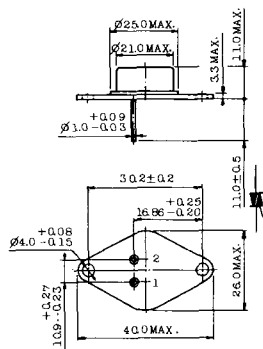
- 1 T<sub>1</sub>
- 2 T<sub>2</sub>
- 3 ゲート

TT-8



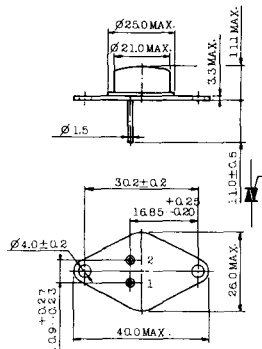
- 1 ゲート
- 2 T<sub>1</sub>
- T<sub>2</sub> (ケース)

TT-9



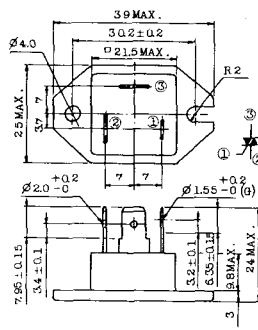
1. ゲート
2. T<sub>1</sub>
3. T<sub>2</sub> (ケース)

TT-10



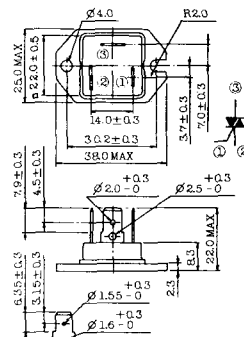
1. ゲート
2. T<sub>1</sub>
3. T<sub>2</sub> (ケース)

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)

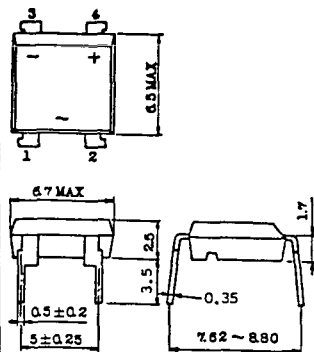
TT-12



ゲート端子詳細

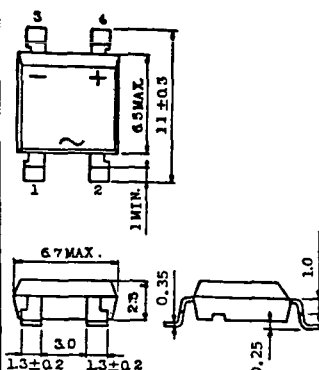
- ① ゲート (フーストン端子 # 187)
- ② T<sub>1</sub> ( " # 250)
- ③ T<sub>2</sub> ( " # 250)

TT-13



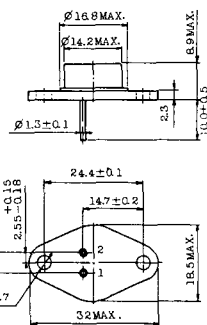
- 1, 2: T<sub>2</sub>
- 3: GATE
- 4: T<sub>1</sub>

TT-14



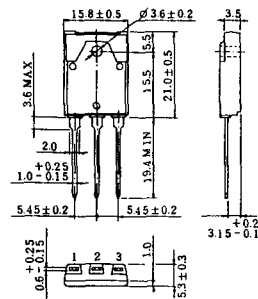
- 1, 2: T<sub>2</sub>
- 3: GATE
- 4: T<sub>1</sub>

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)

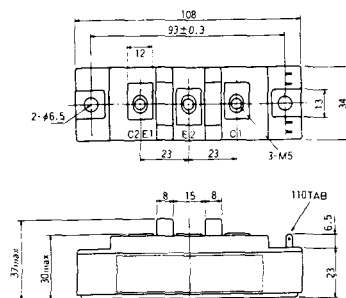




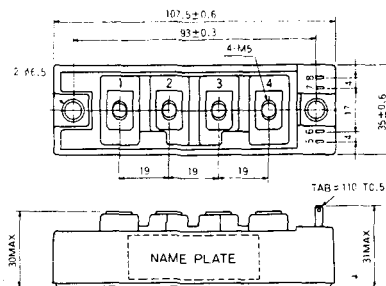
S-108B1A



S-108B1B



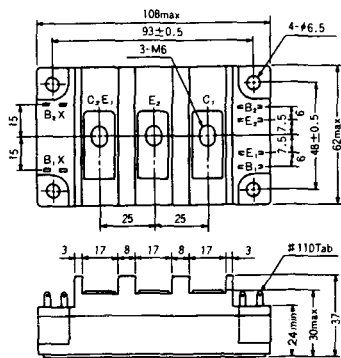
S-108B1C



S-108B2A



S-108B2B





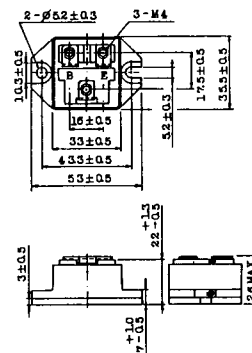
### 2-22B1A



### 2-27A4A



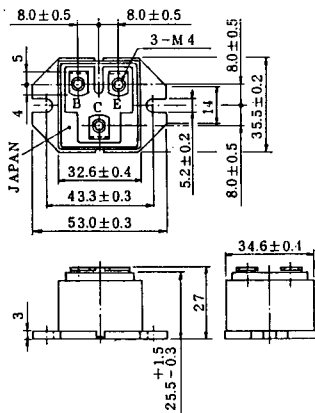
### 2-33C1A



### 2-33D1A



### 2-33F1A



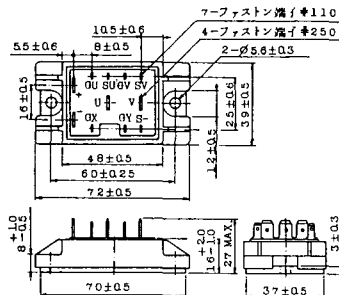
### 2-37A1A



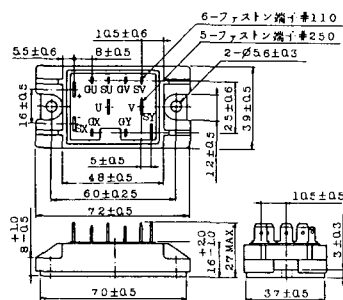
2-48A3A



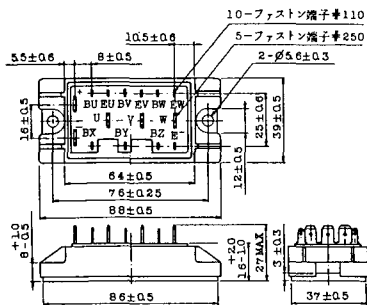
2-48A3B



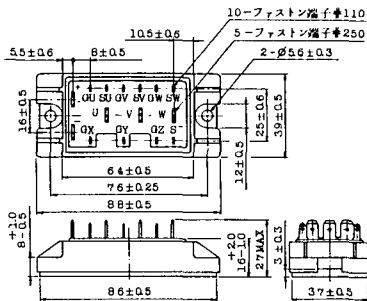
2-48A4A



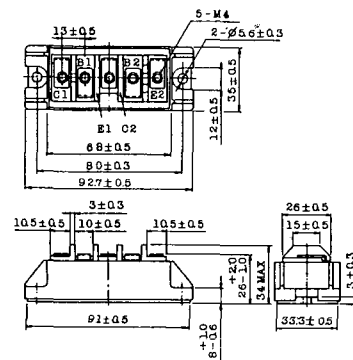
2-64A2A



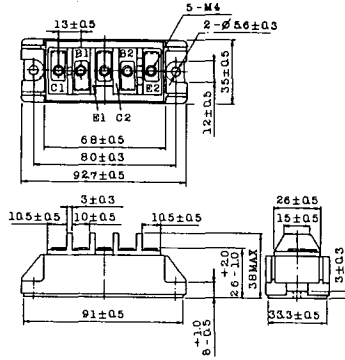
2-64A2B



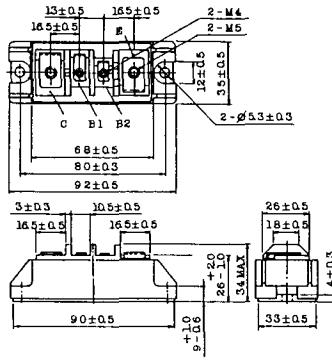
2-68A2A



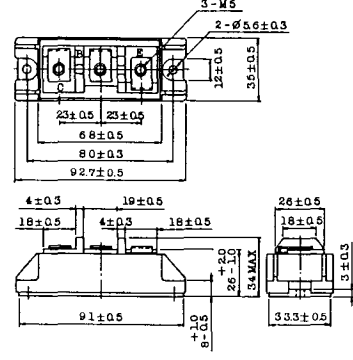
2-68B2A



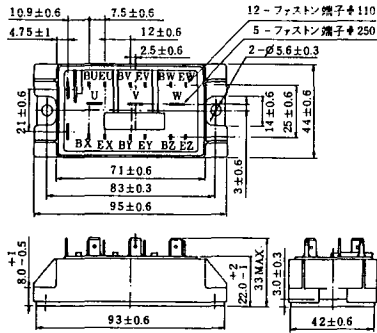
2-68C1A



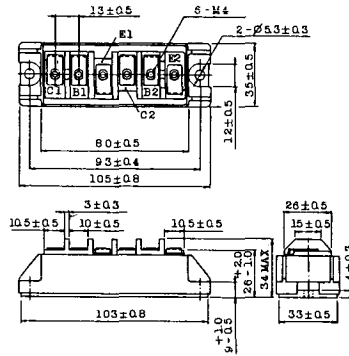
2-68D2A



2-72A3A



2-80A1A



2-80B1A





### 2-94D1A



### 2-96A3A



### 2-96A4A



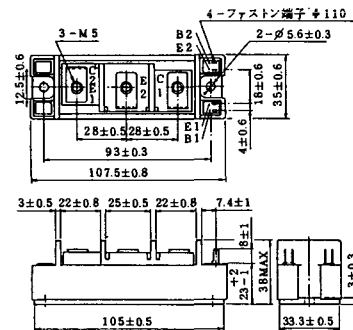
### 2-98B1A



### 2-98C2A



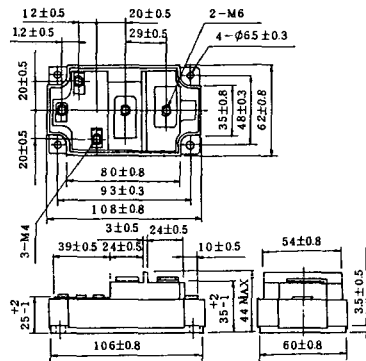
### 2-108A2A



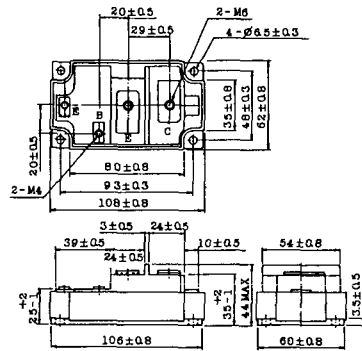
### 2-108B1A



### 2-109A3A



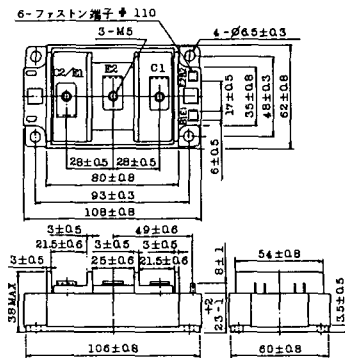
### 2-109A4A



### 2-109B3A

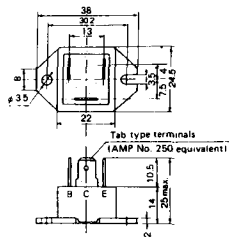


### 2-109B4A

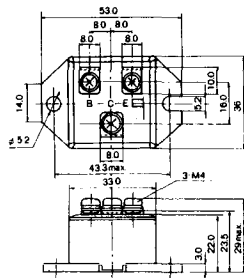




M-101



M-102



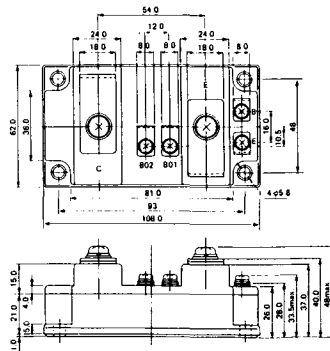
M-103



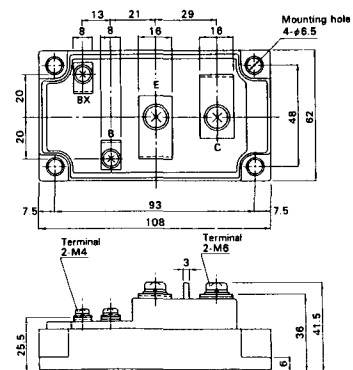
M-104



M-105



M-106

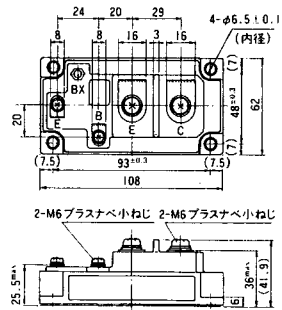




### M-107



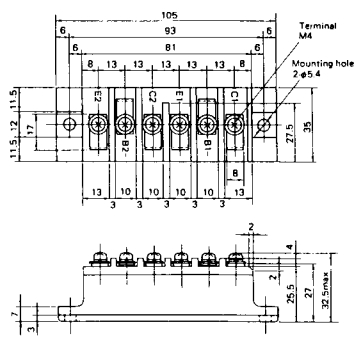
### M-116



M-201



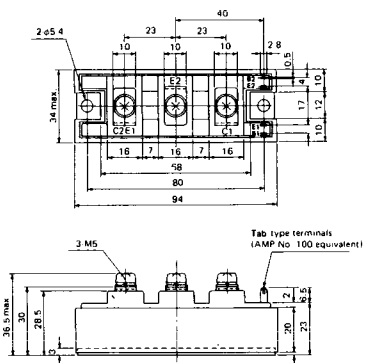
M-202



M-203



M-204



M-205



M-206



M-207



M-208



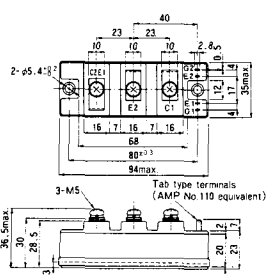
M-209



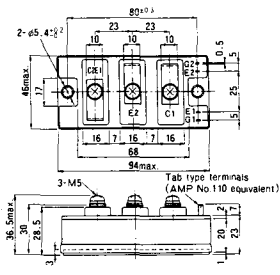
M-210



M-211



M-212



M-213

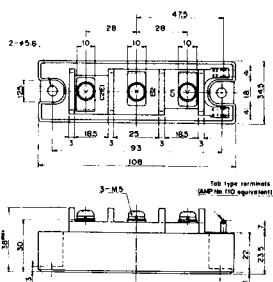


M-214

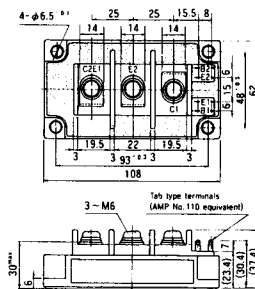
M-215



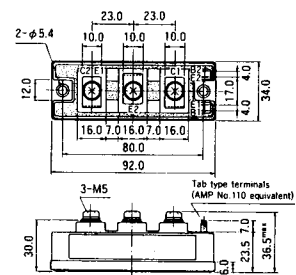
M-216



M-217



M-218



M-219

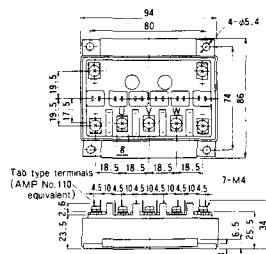




M-607



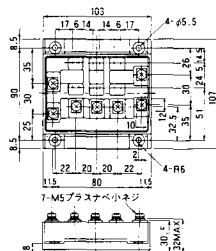
M-608



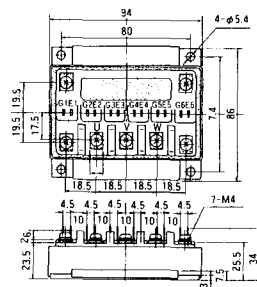
M-609



M-610



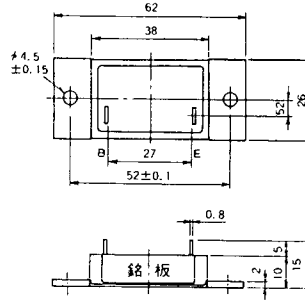
M-616



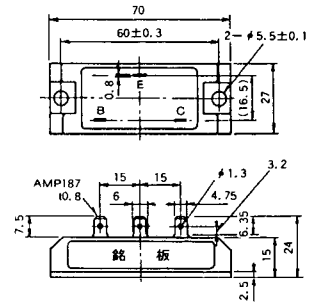
M-1A1A



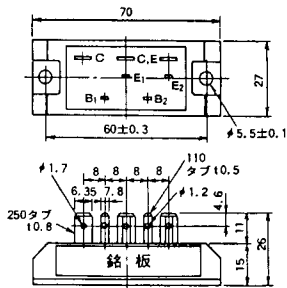
M-2A1A



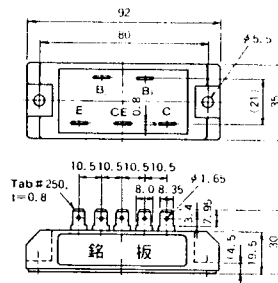
M-2B1A



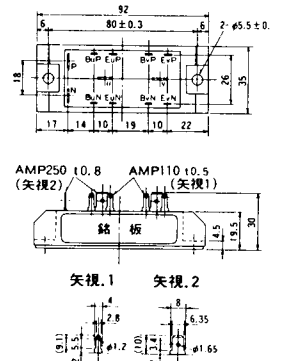
M-2B2A



M-2C2A



M-2D4A







M-3C1A



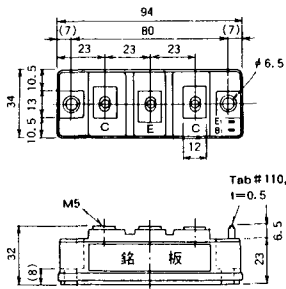
M-3D6A



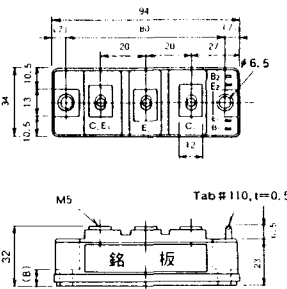
M-3E6A



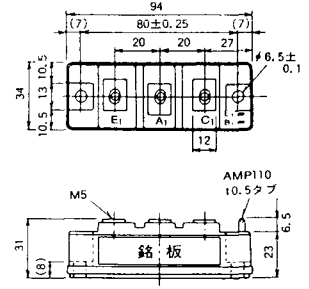
M-4A1A



M-4A2A



M-4A1B



M-4A2B



M-4B2A



M-5A1A



M-5A1B



M-5A2A



M-5B2A



### M-5C2A



### M-5D2A



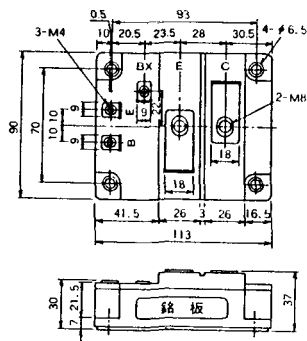
### M-6A1A



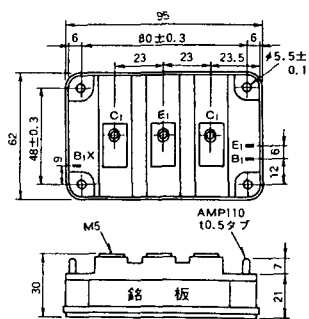
### M-7A1A



### M-7B1A

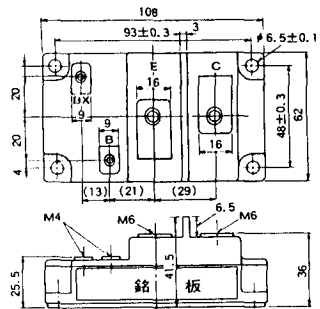


### M-8A1A

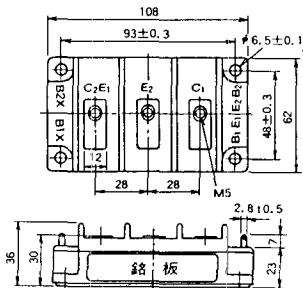




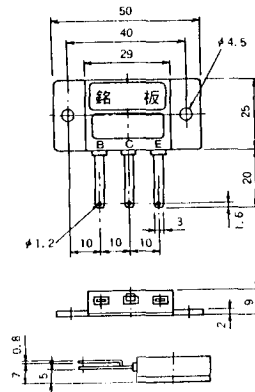
M-9B1A



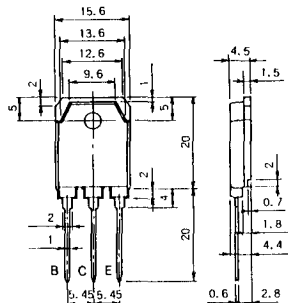
M-9C2A



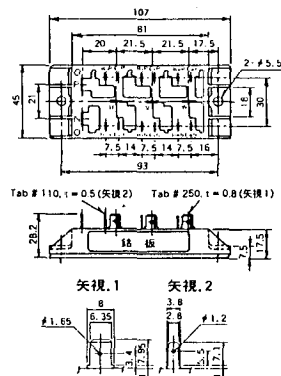
M-1A1B



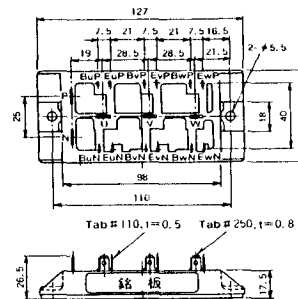
M-1A1C



M-2E6B



M-2E6C

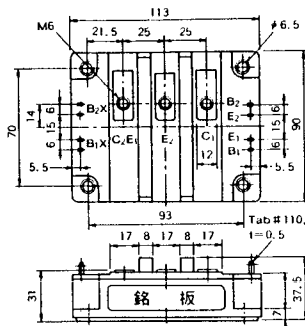




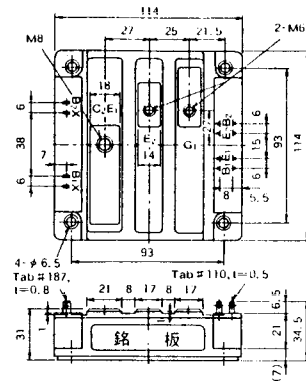
M-10A2A



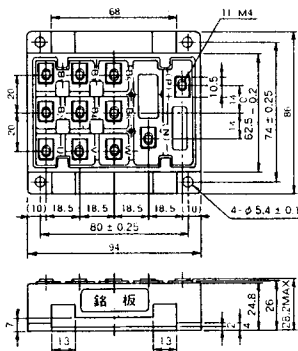
M-10A2B



M-11A2A



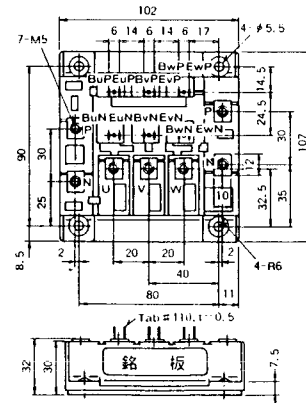
M-12A6A



M-12B6A



M-12B6B







M-9D2B



M-10A2C

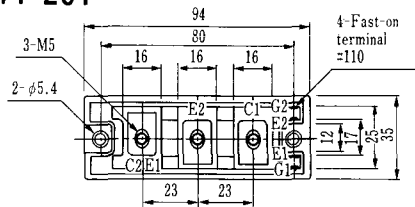


H-101



Weight :480g

### H-201



Weight: 200g

### H-202



Weight: 360g

### LF-J



### LF-K

