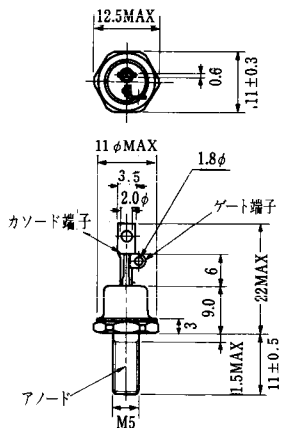


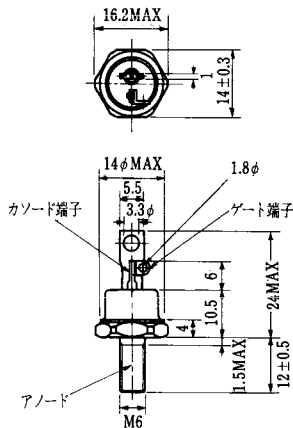
| SG300 <sup>1</sup> R, U, W, EX <sub>1</sub> 11<br>SG300 <sup>1</sup> R, U, W, EX <sub>1</sub> 12<br>○チョップパ、インバータ用 |  | ■外形図番号 SG300G <sup>1</sup> 11: T-40 (13-28A1A)<br>SG300G <sup>1</sup> 12: T-41 (13-28A2A) |                      | ■電気的特性                 |      |      |                  |
|---|--|---|----------------------|------------------------|------|------|------------------|
| <b>■最大定格</b>  |  |   |                      |                        |      |      |                  |
| 記号  | SG300R11<br>SG300R12   | SG300U11<br>SG300U12  | SG300W11<br>SG300W12 | SG300EX11<br>SG300EX12 | 単位   |      |                  |
| $V_{RRM}$   | 15   |   |                      | V                      |      |      |                  |
| $V_{DRM}$   | 1300   | 1600  | 1800                 | 2500                   | V    |      |                  |
| $I_{TQRM}$  | 300 ( $V_D = \frac{1}{2} V_{DRM}$ , $V_{DM} = \frac{2}{5} V_{DRM}$ , $C_s = 1 \mu F$ , $R_s = 20 \Omega$ , $T_j = 125^\circ C$ ) |   |                      |                        |      |      | A                |
| $I_{T(RMS)}$  | 120 ( $T_j = 70^\circ C$ )   |   |                      |                        |      |      | A                |
| $I_{TSM}$   | 2000/2200 (50Hz/60Hz, 正弦半波1サイクル)   |   |                      |                        |      |      | A                |
| $I^2 \cdot t$   |  |   |                      |                        |      |      | A <sup>2</sup> S |
| $di/dt$   | 200 ( $I_{GP} = 7 A$ , $t_r = 1 \mu s$ , $V_D = \frac{1}{2} V_{DRM}$ , $I_{TM} = 300 A$ , $f = 50 Hz$ , $T_j = 125^\circ C$ )    |   |                      |                        |      |      | A/ $\mu s$       |
| $I_{GFM}$   | 20 (パルス幅: max. 20 $\mu s$ , duty: max. 20%)  |   |                      |                        |      |      | A                |
| $P_{GFAV}$  | 4  |   |                      |                        |      |      | W                |
| $I_{GR(RMS)}$   | 20   |   |                      |                        |      |      | A                |
| $P_{GRM}$   | 2000 (パルス幅: max. 20 $\mu s$ , duty: max. 2%)   |   |                      |                        |      |      | W                |
| $V_{GRM}$   | 15   |   |                      |                        |      |      | V                |
| $T_j$   | 125  |   |                      |                        |      |      | °C               |
| $T_{HB}$  | -40~125  |   |                      |                        |      |      | °C               |
| 記号  | 測定条件   |   |                      | Min                    | Typ  | Max  | 単位               |
| $I_{RRM}$   | $T_j = 125^\circ C$ , $V_D = V_{RRM}$  |   |                      |                        |      | 10   | A                |
| $I_{DRM}$   | $T_j = 125^\circ C$ , $V_D = V_{DRM}$ , $R_{GK} = 20 \Omega$   |   |                      |                        |      | 10   | mA               |
| $I_{CRM}$   | $T_j = 125^\circ C$ , $V_D = V_{CRM}$  |   |                      |                        |      | 10   | mA               |
| $V_{TM}$  | $T_j = 25^\circ C$ , $I_{TM} = 300 A$  |   |                      |                        |      | 2.4  | V                |
| $V_{GT}$  | $T_j = 25^\circ C$ , $V_D = 12 V$  |   |                      |                        | 0.75 | 1.0  | V                |
| $I_{GT}$  | $R_L = 0.5 \Omega$   |   |                      |                        | 200  | 500  | mA               |
| $V_{GD}$  | $T_j = 125^\circ C$ , $V_D = \frac{1}{2} V_{DRM}$  |   |                      | 0.3                    |      |      | V                |
| $I_{GD}$  |  |   |                      | 5                      |      |      | mA               |
| $t_d$   | $T_j = 25^\circ C$ , $V_D = \frac{1}{2} V_{DRM}$   |   |                      |                        |      | 2.5  | $\mu s$          |
| $t_{st}$  | $I_{TM} = 300 A$   |   |                      |                        |      | 7.6  | $\mu s$          |
|   | $di/dt = 200 A/\mu s$  |   |                      |                        |      | 7.0  |                  |
|   | $I_{GP} = 7 A$ , $t_r = 1 \mu s$   |   |                      |                        |      | 6.8  |                  |
|   |  |   |                      |                        |      | 6.0  |                  |
| $dv/dt$   | $T_j = 125^\circ C$ , $V_D = \frac{1}{2} V_{DRM}$  |   |                      | 600                    |      |      | V/ $\mu s$       |
| $I_H$   | $T_j = 25^\circ C$ , $R_L = 0.5 \Omega$  |   |                      |                        | 10   |      | A                |
| $t_s$   | $T_j = 120^\circ C$ , $I_{TM} = 300 A$   |   |                      |                        |      | 12   | $\mu s$          |
| $t_{ex}$  | $V_D = \frac{1}{2} V_{DRM}$  |   |                      |                        |      | 14   | $\mu s$          |
|   | $V_{DM} = \frac{2}{5} V_{DRM}$   |   |                      |                        |      | 62   |                  |
|   | $C_s = 1 \mu F$  |   |                      |                        |      | 58   |                  |
| $t_{hol}$   | $R_s = 20 \Omega$  |   |                      |                        |      | 56   | $\mu s$          |
|   | $dig/dt = -12 A/\mu s$   |   |                      |                        |      | 50   |                  |
|   |  |   |                      |                        |      | 80   |                  |
| $I_{GR}$  |  |   |                      |                        |      | 110  | A                |
| $R_{th}$  | 接合-フィン間, DC  |   |                      |                        |      | 0.13 | °C/W             |

| SG400 <sup>1</sup> R, U, W, EX <sub>1</sub> 11<br>○チョップパ、インバータ用 |  | ■外形図番号 T-40 (13-28A1A) |          | ■電気的特性    |      |      |                  |
|---|--|------------------------|----------|-----------|------|------|------------------|
| <b>■最大定格</b>  |  |                        |          |           |      |      |                  |
| 記号  | SG400R11   | SG400U11               | SG400W11 | SG400EX11 | 単位   |      |                  |
| $V_{RRM}$   | 15   |                        |          | V         |      |      |                  |
| $V_{DRM}$   | 1300   | 1600                   | 1800     | 2500      | V    |      |                  |
| $I_{TQRM}$  | 400 ( $V_D = \frac{1}{2} V_{DRM}$ , $V_{DM} = \frac{2}{5} V_{DRM}$ , $C_s = 1 \mu F$ , $R_s = 20 \Omega$ , $T_j = 125^\circ C$ ) |                        |          |           |      |      | A                |
| $I_{T(RMS)}$  | 150 ( $T_j = 70^\circ C$ )   |                        |          |           |      |      | A                |
| $I_{TSM}$   | 2600/2860 (50Hz/60Hz, 正弦半波1サイクル)   |                        |          |           |      |      | A                |
| $I^2 \cdot t$   |  |                        |          |           |      |      | A <sup>2</sup> S |
| $di/dt$   | 200 ( $I_{GP} = 7 A$ , $t_r = 1 \mu s$ , $V_D = \frac{1}{2} V_{DRM}$ , $I_{TM} = 400 A$ , $f = 50 Hz$ , $T_j = 125^\circ C$ )    |                        |          |           |      |      | A/ $\mu s$       |
| $I_{GFM}$   | 20 (パルス幅: max. 20 $\mu s$ , duty: max. 20%)  |                        |          |           |      |      | A                |
| $P_{GFAV}$  | 4  |                        |          |           |      |      | W                |
| $I_{GR(RMS)}$   | 20   |                        |          |           |      |      | A                |
| $P_{GRM}$   | 4000 (パルス幅: max. 20 $\mu s$ , duty: max. 2%)   |                        |          |           |      |      | W                |
| $V_{GRM}$   | 15   |                        |          |           |      |      | V                |
| $T_j$   | 125  |                        |          |           |      |      | °C               |
| $T_{HB}$  | -40~125  |                        |          |           |      |      | °C               |
| 記号  | 測定条件   |                        |          | Min       | Typ  | Max  | 単位               |
| $I_{RRM}$   | $T_j = 125^\circ C$ , $V_D = V_{RRM}$  |                        |          |           |      | 10   | A                |
| $I_{DRM}$   | $T_j = 125^\circ C$ , $V_D = V_{DRM}$ , $R_{GK} = 20 \Omega$   |                        |          |           |      | 10   | mA               |
| $I_{CRM}$   | $T_j = 125^\circ C$ , $V_D = V_{CRM}$  |                        |          |           |      | 10   | mA               |
| $V_{TM}$  | $T_j = 25^\circ C$ , $I_{TM} = 400 A$  |                        |          |           |      | 2.4  | V                |
| $V_{GT}$  | $T_j = 25^\circ C$ , $V_D = 12 V$  |                        |          |           | 0.75 | 1.0  | V                |
| $I_{GT}$  | $R_L = 0.5 \Omega$   |                        |          |           | 200  | 500  | mA               |
| $V_{GD}$  | $T_j = 125^\circ C$ , $V_D = \frac{1}{2} V_{DRM}$  |                        |          | 0.3       |      |      | V                |
| $I_{GD}$  |  |                        |          | 5         |      |      | mA               |
| $t_d$   | $T_j = 25^\circ C$ , $V_D = \frac{1}{2} V_{DRM}$   |                        |          |           |      | 2.5  | $\mu s$          |
| $t_{st}$  | $I_{TM} = 400 A$   |                        |          |           |      | 7.6  | $\mu s$          |
|   | $di/dt = 200 A/\mu s$  |                        |          |           |      | 7.0  |                  |
|   | $I_{GP} = 7 A$ , $t_r = 1 \mu s$   |                        |          |           |      | 6.8  |                  |
|   |  |                        |          |           |      | 6.0  |                  |
| $dv/dt$   | $T_j = 125^\circ C$ , $V_D = \frac{1}{2} V_{DRM}$  |                        |          | 600       |      |      | V/ $\mu s$       |
| $I_H$   | $T_j = 25^\circ C$ , $R_L = 0.5 \Omega$  |                        |          |           | 10   |      | A                |
| $t_s$   | $T_j = 120^\circ C$ , $I_{TM} = 400 A$   |                        |          |           |      | 13   | $\mu s$          |
| $t_{ex}$  | $V_D = \frac{1}{2} V_{DRM}$  |                        |          |           |      | 15   | $\mu s$          |
|   | $V_{DM} = \frac{2}{5} V_{DRM}$   |                        |          |           |      | 62   |                  |
|   | $C_s = 1 \mu F$  |                        |          |           |      | 58   |                  |
| $t_{hol}$   | $R_s = 20 \Omega$  |                        |          |           |      | 56   | $\mu s$          |
|   | $dig/dt = -12 A/\mu s$   |                        |          |           |      | 50   |                  |
|   |  |                        |          |           |      | 95   |                  |
| $I_{GR}$  |  |                        |          |           |      | 125  | A                |
| $R_{th}$  | 接合-ケース間, DC  |                        |          |           |      | 0.13 | °C/W             |

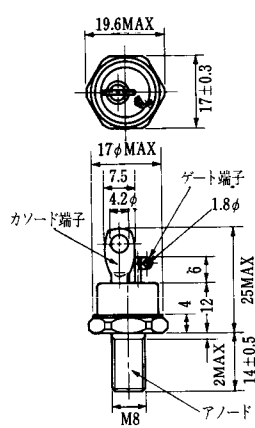
FD-1



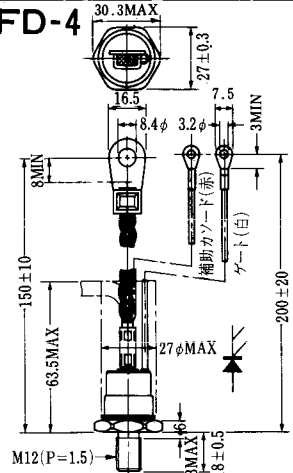
FD-2



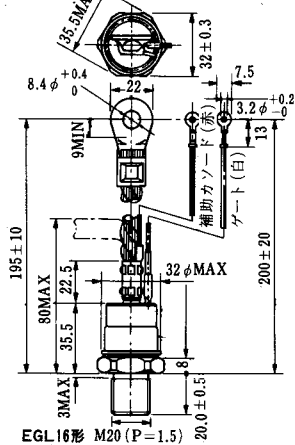
FD-3



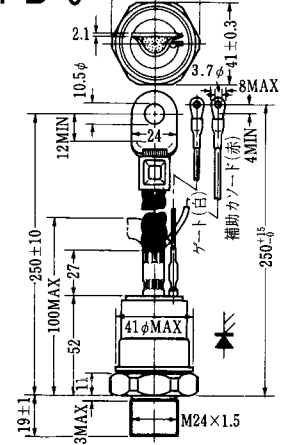
FD-4



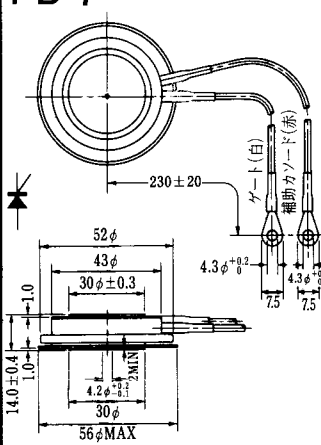
FD-5



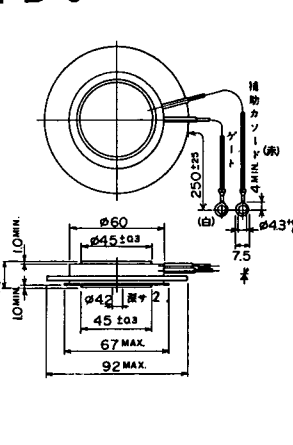
FD-6



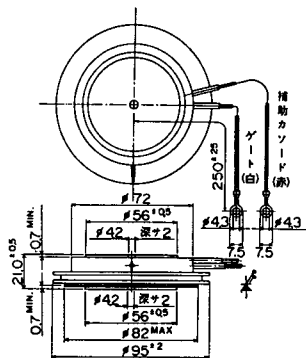
FD-7



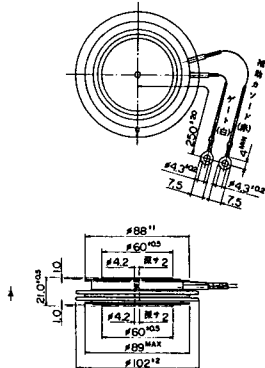
FD-8



FD-9

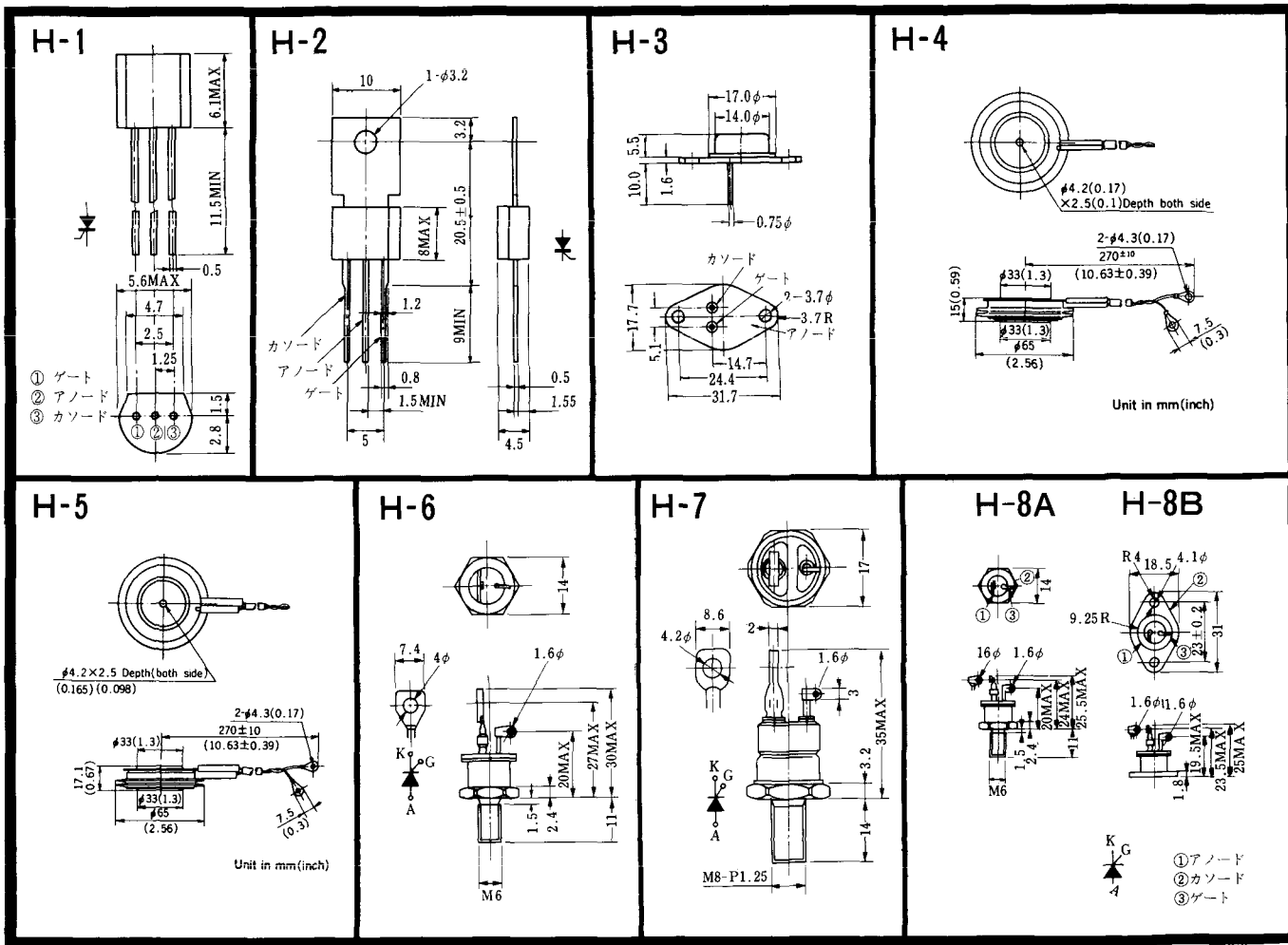


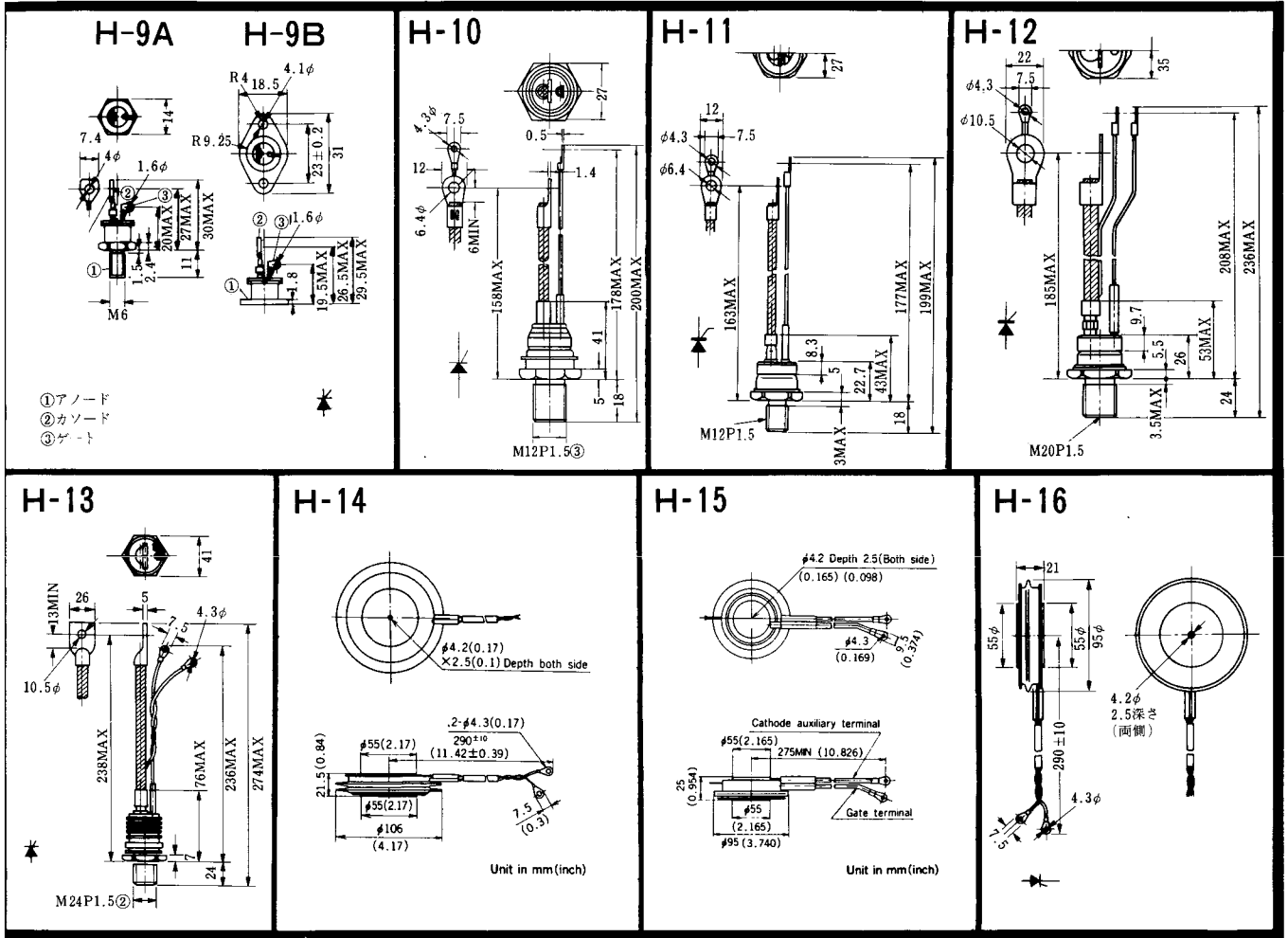
FD-10



FD-11

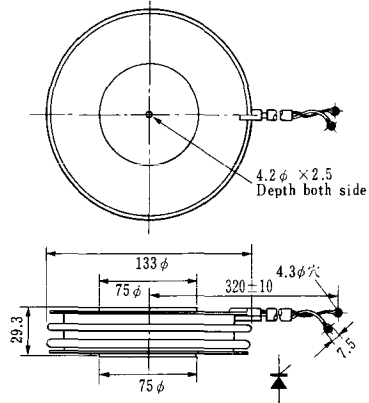
FD-12



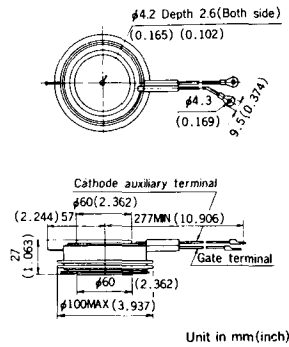


《寸法図単位：mm》

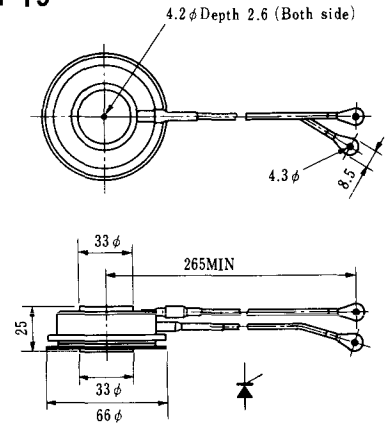
### H-17



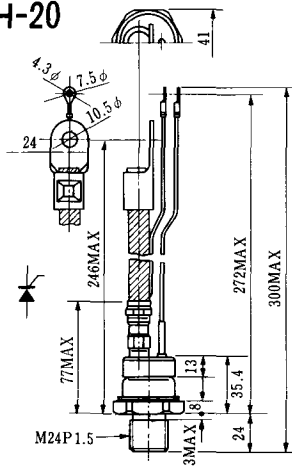
### H-18



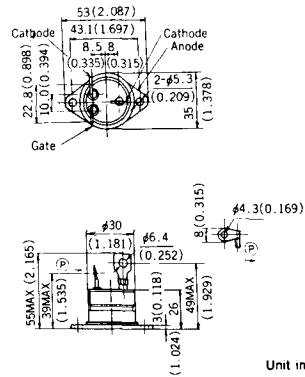
### H-19



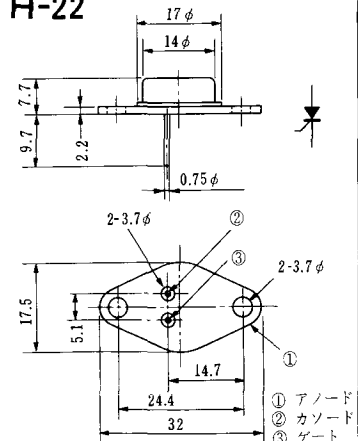
### H-20



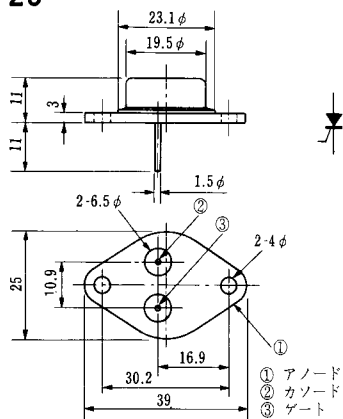
### H-21



### H-22

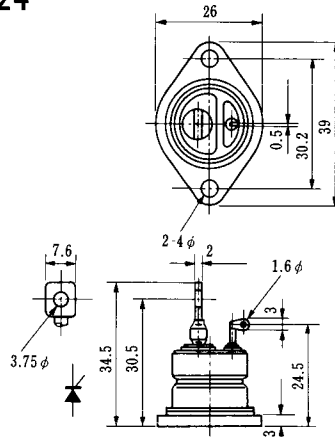


### H-23

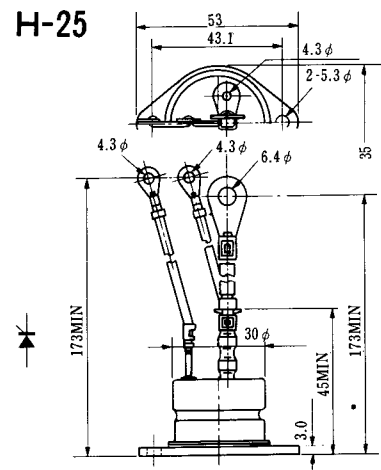


① アノード  
② カソード  
③ ゲート

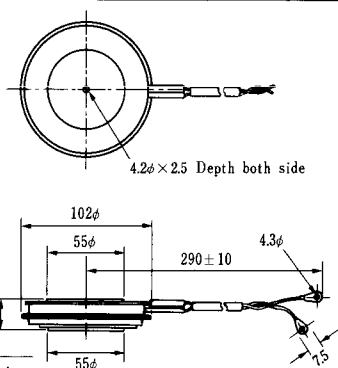
### H-24



### H-25



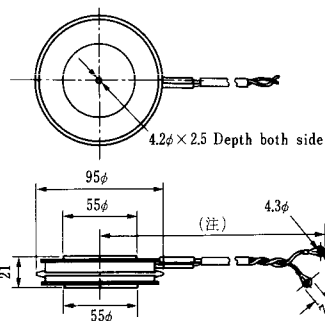
### H-26



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

|      |  |
|------|--|
| CA12 |  |
|------|--|

### H-27

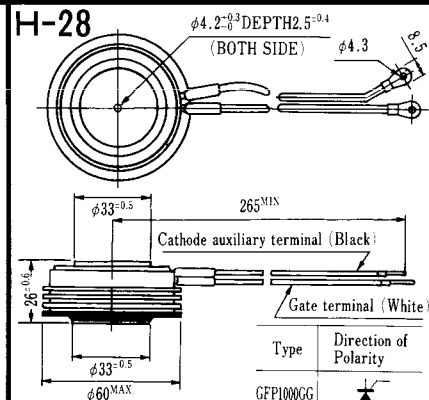


| Type | Direction of polarity |
|------|-----------------------|
|------|-----------------------|

|       |  |
|-------|--|
| CF11V |  |
|-------|--|

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

### H-28

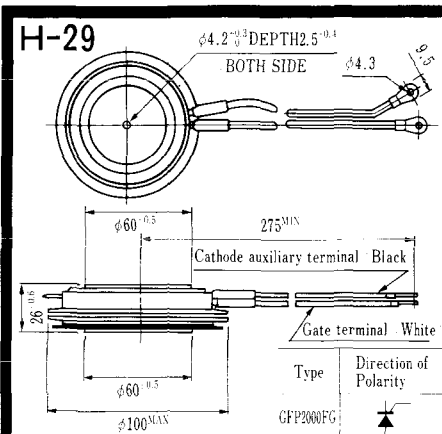


| Type | Direction of Polarity |
|------|-----------------------|
|------|-----------------------|

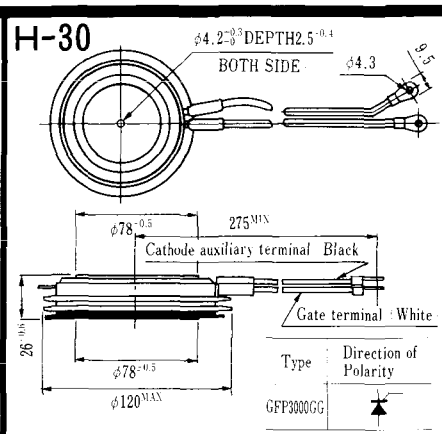
|          |  |
|----------|--|
| GFP100GG |  |
|----------|--|

Weight: 360(g)

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



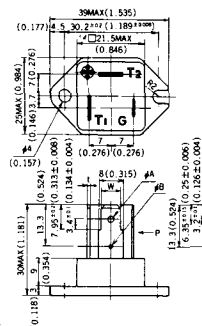
Note : The thickness is a dimension in press at the rated mounting force. Weight: 870(g)



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



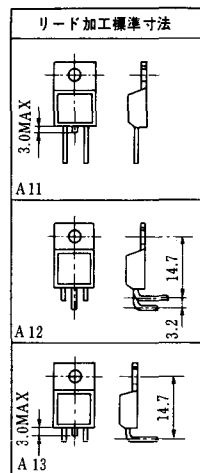
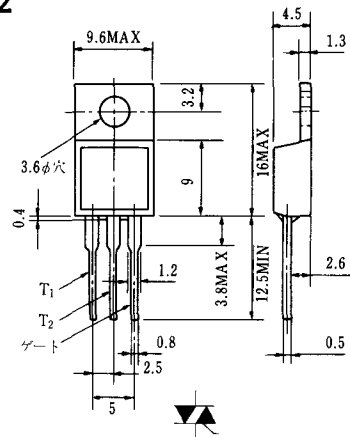
# HT-1



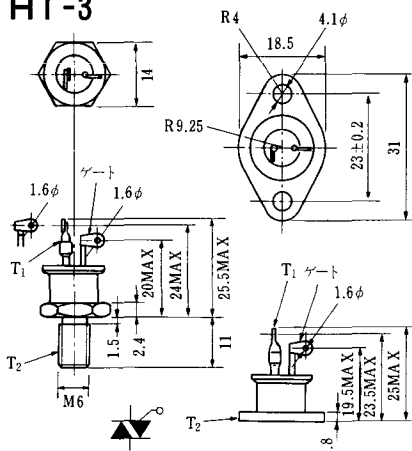
| TERMINAL       | t                          | W                         | φA   | φB             |
|----------------|----------------------------|---------------------------|--|----------------|
| T <sub>1</sub> | 0.8±0.025<br>(0.031±0.001) | 6.35±0.1<br>(0.250±0.004) | 2.00 <sup>+0.1</sup> <sub>0</sub>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

Unit in mm (inch)

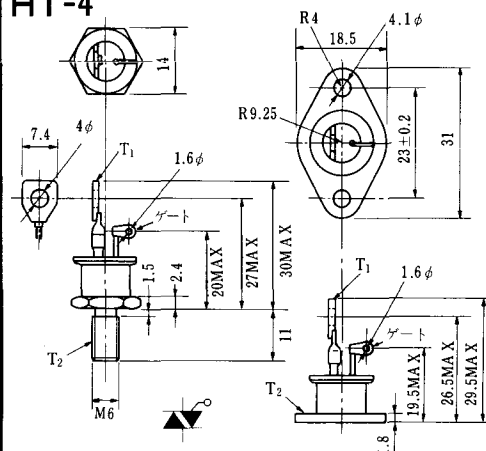
# HT-2



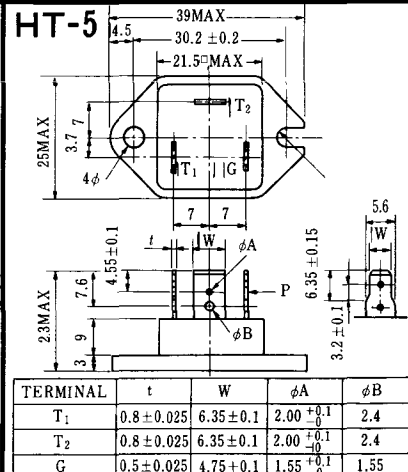
# HT-3



# HT-4



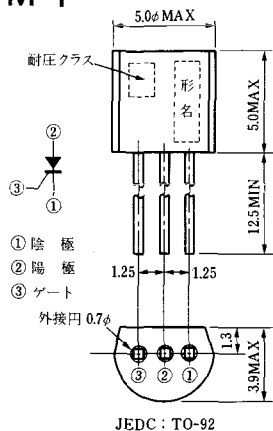
# HT-5



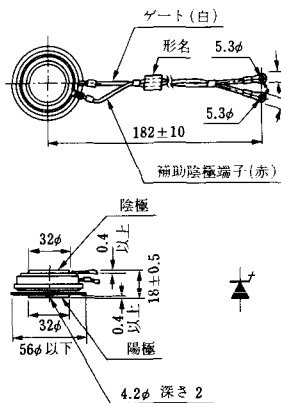
| TERMINAL       | t         | W        | φA                                | φB   |
|----------------|-----------|----------|-----------------------------------|------|
| T <sub>1</sub> | 0.8±0.025 | 6.35±0.1 | 2.00 <sup>+0.1</sup> <sub>0</sub> | 2.4  |
| T <sub>2</sub> | 0.8±0.025 | 6.35±0.1 | 2.00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

《寸法図単位：mm》

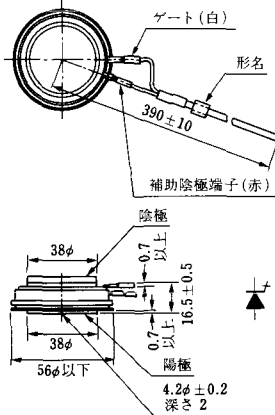
### M-1



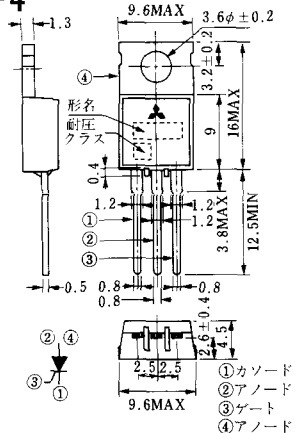
### M-2



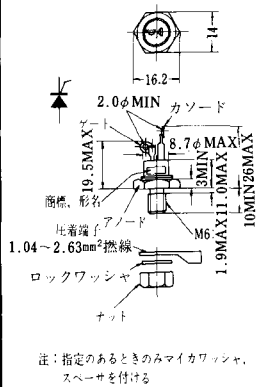
### M-3



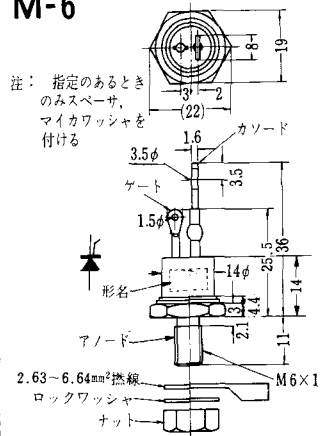
### M-4



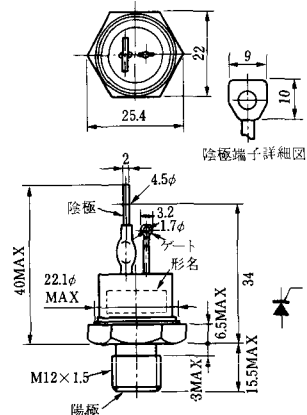
### M-5



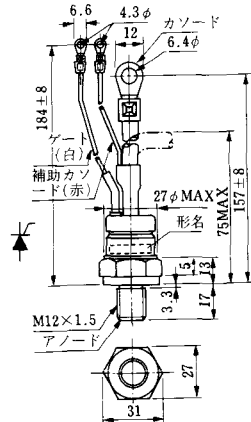
### M-6



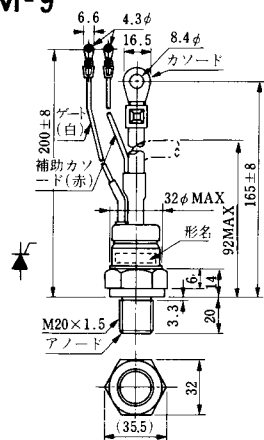
### M-7



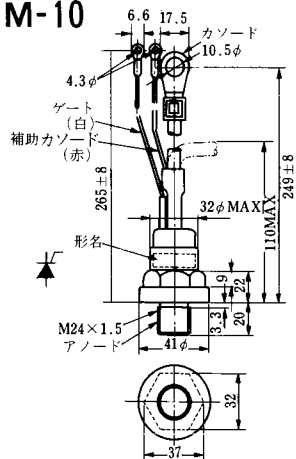
### M-8



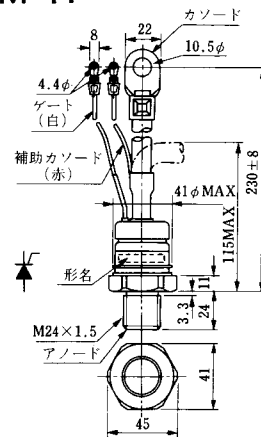
M-9



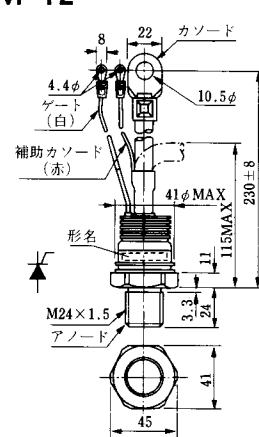
M-10



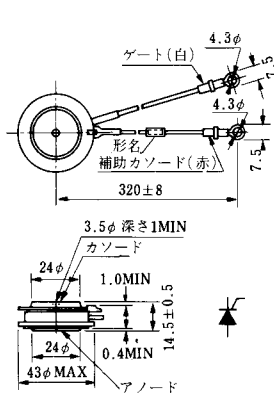
M-11



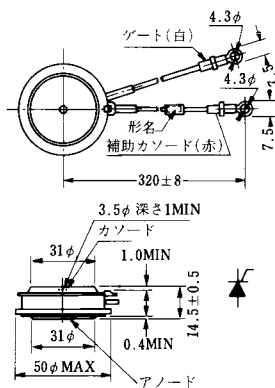
M-12



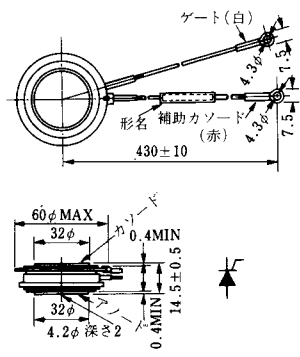
M-13



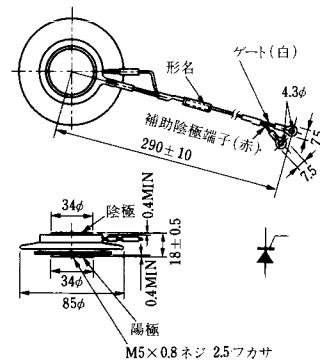
M-14

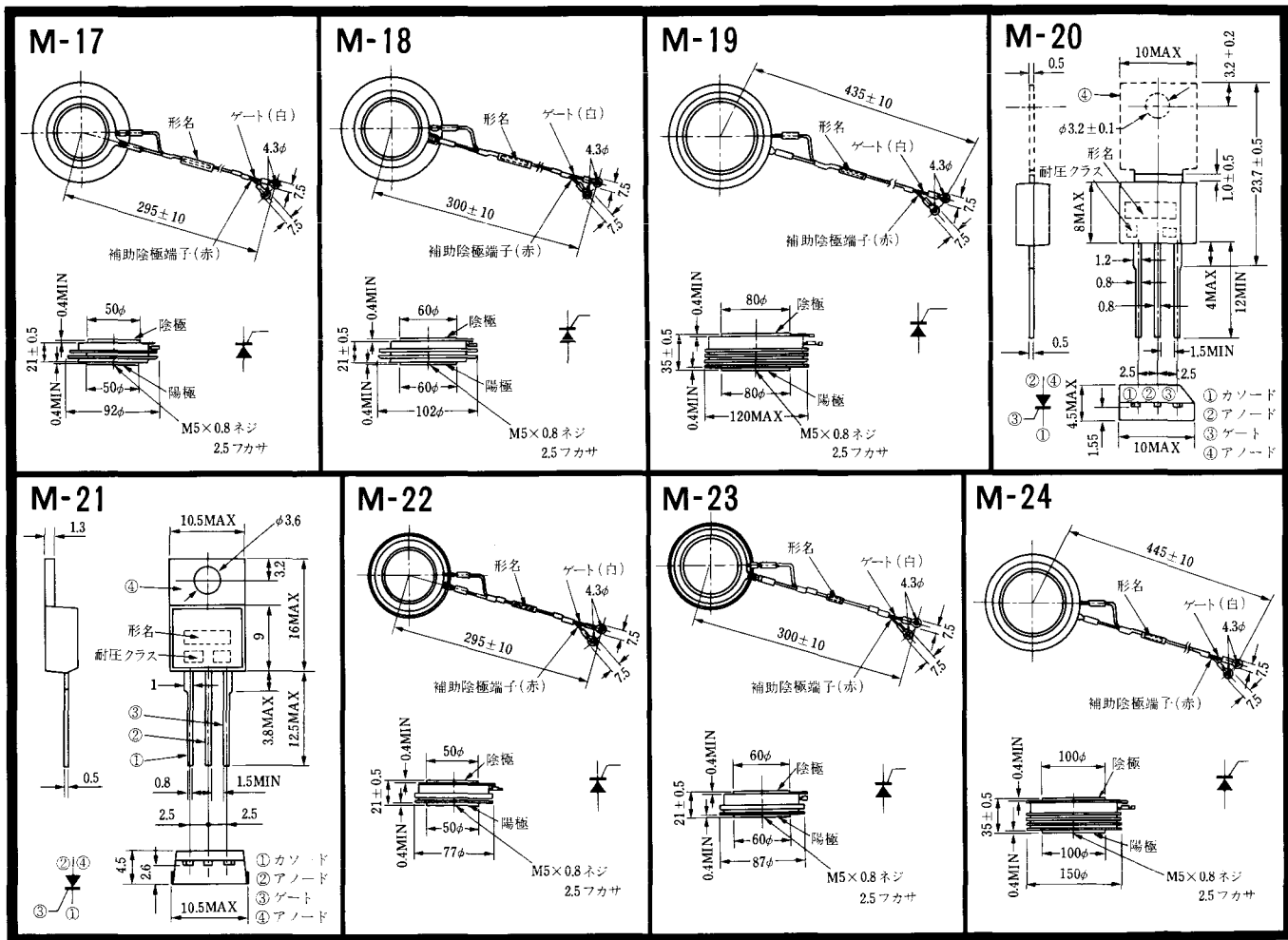


M-15

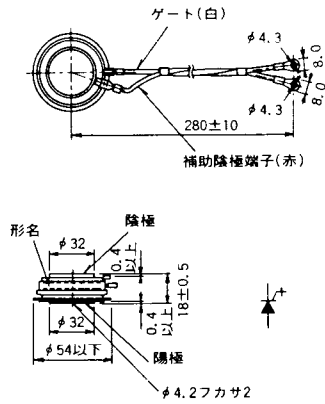


M-16

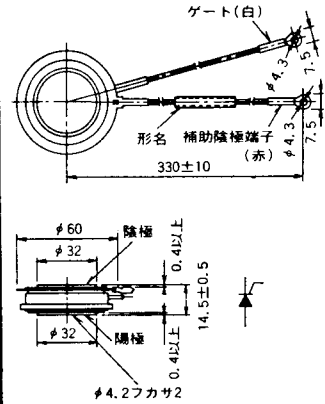




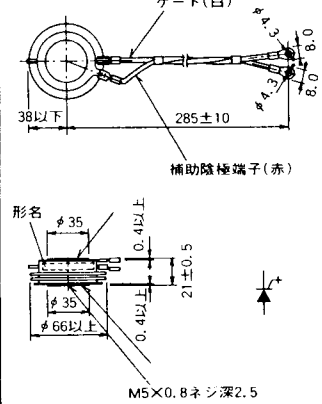
M-25



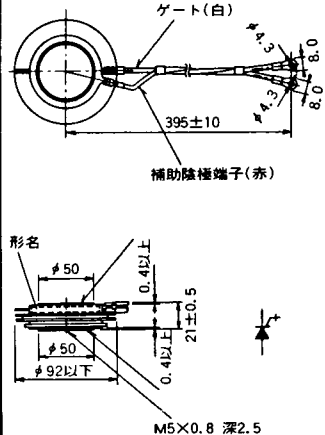
M-26



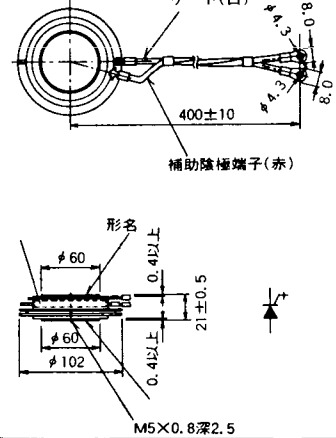
M-27



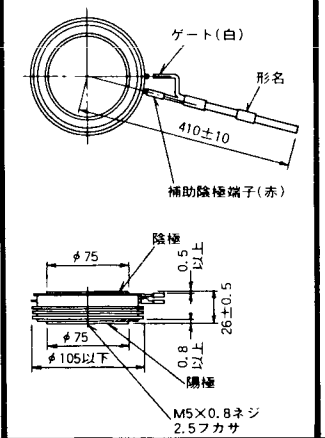
M-28



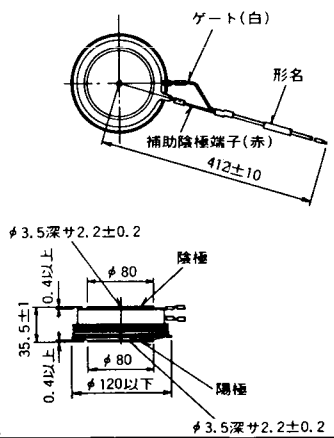
M-29



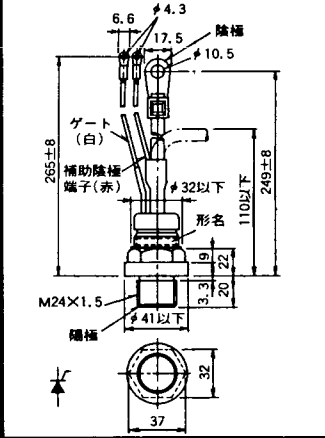
M-30



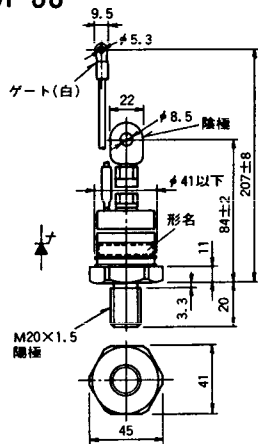
M-31



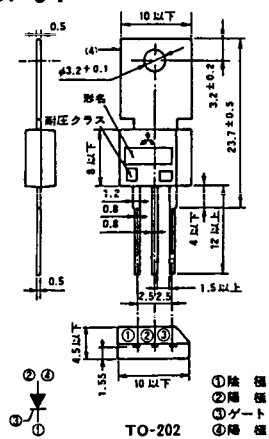
M-32



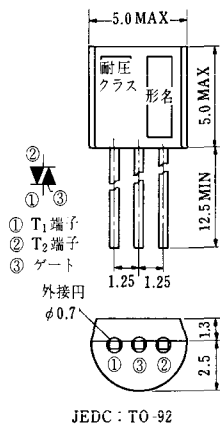
### M-33



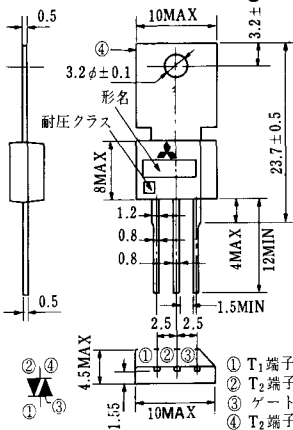
### M-34



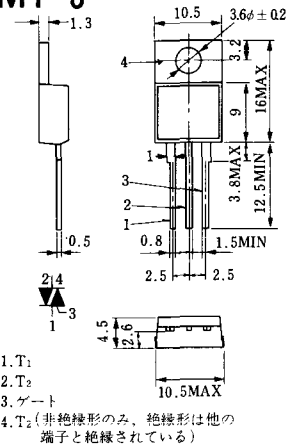
### MT-1



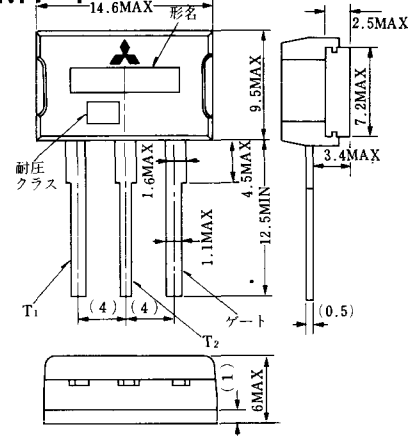
### MT-2



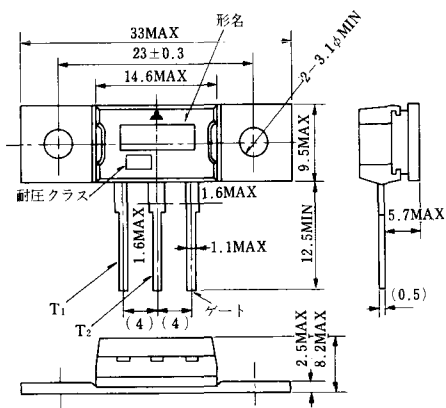
### MT-3



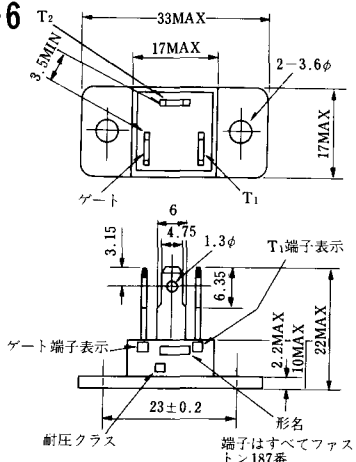
### MT-4



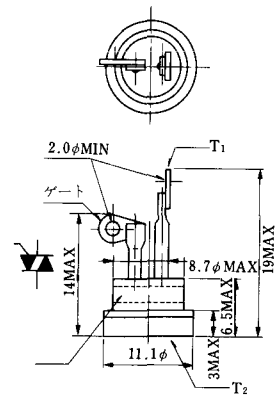
### MT-5



### MT-6

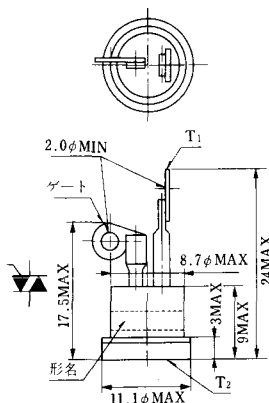


### MT-7

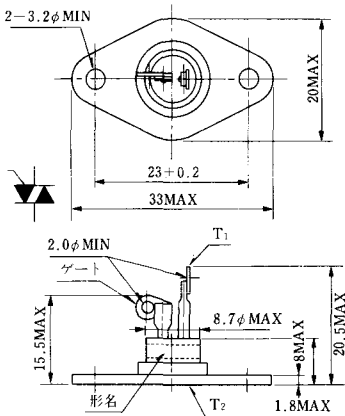


1. T<sub>1</sub>
2. T<sub>2</sub>
3. ゲート
4. T<sub>2</sub> (非絶縁形のみ、絶縁形は他の端子と絶縁されている)

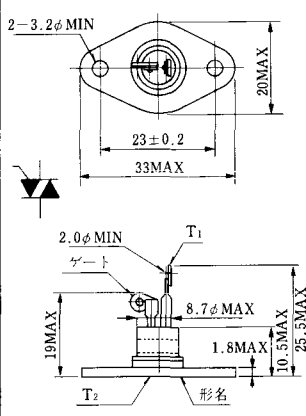
MT-8



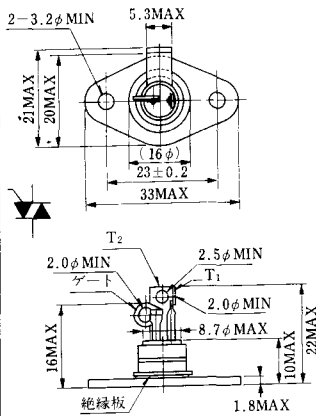
MT-9



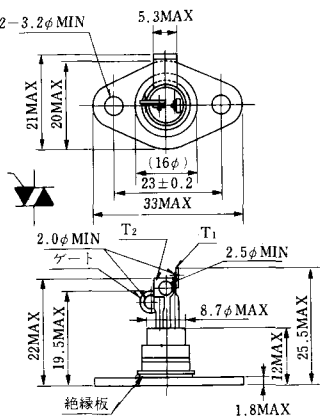
MT-10



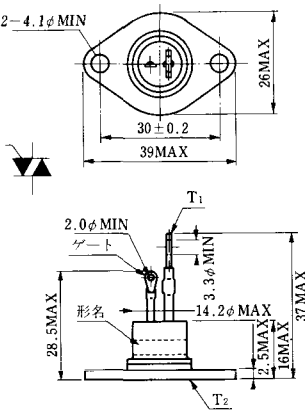
MT-11



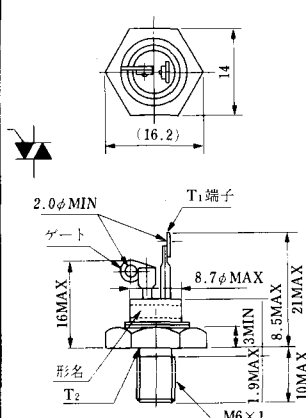
MT-12



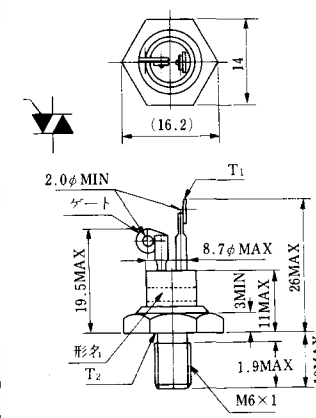
MT-13



MT-14

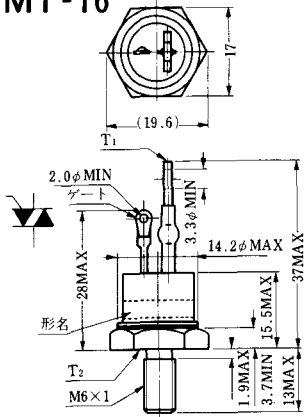


MT-15

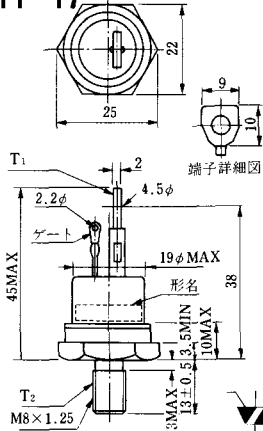




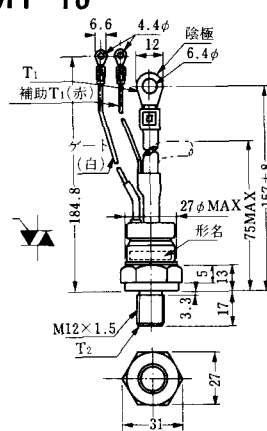
MT-16



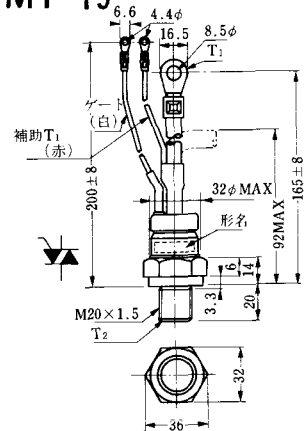
MT-17



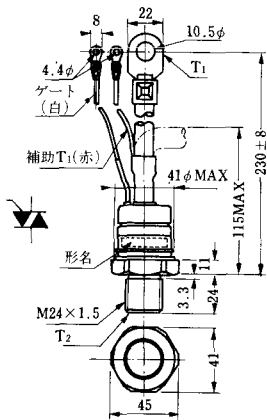
MT-18



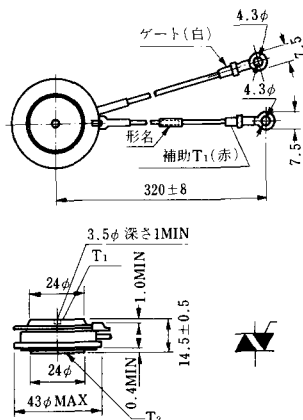
MT-19



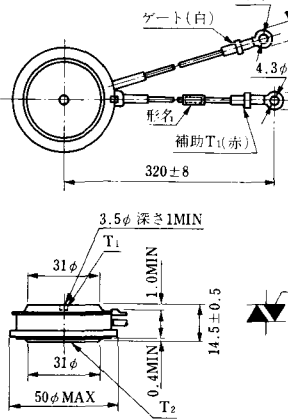
MT-20



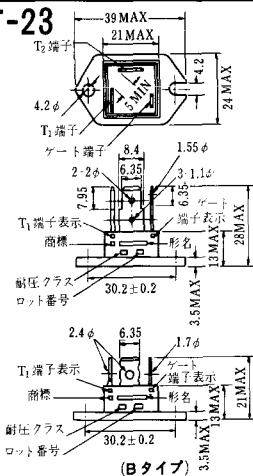
MT-21



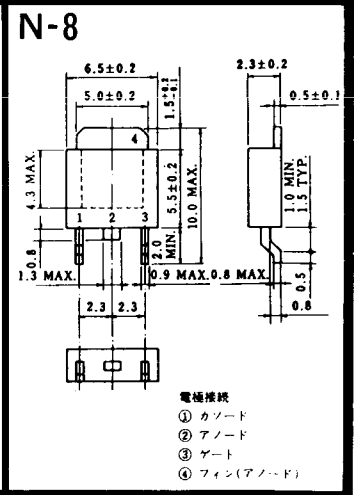
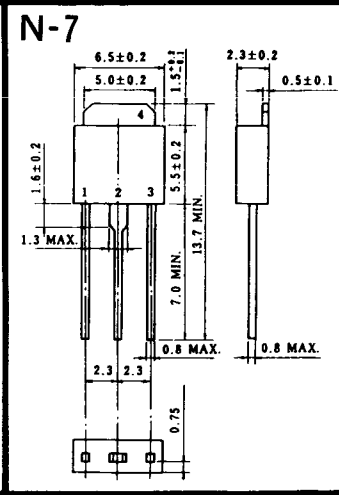
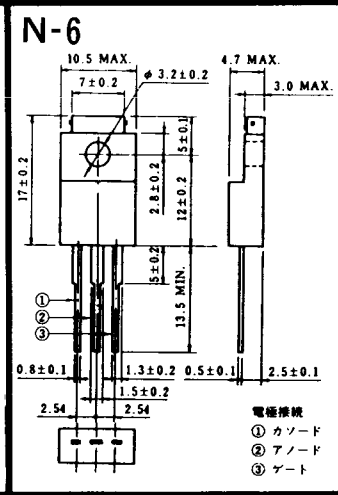
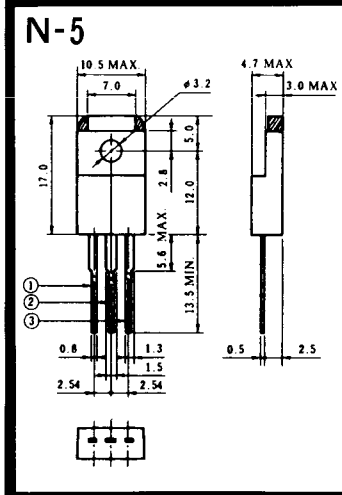
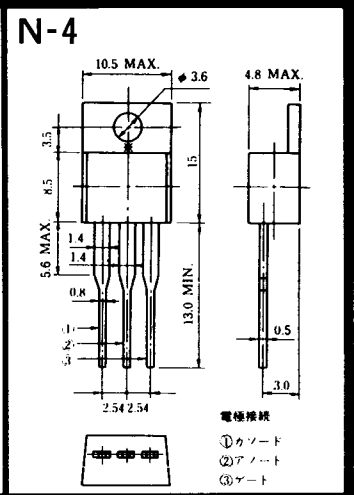
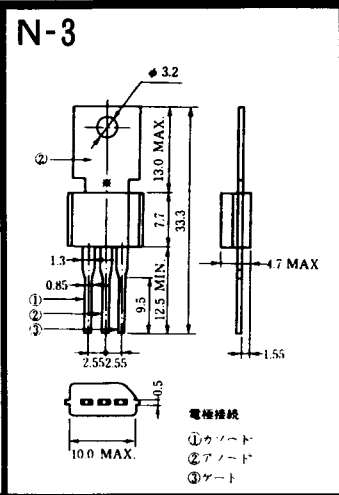
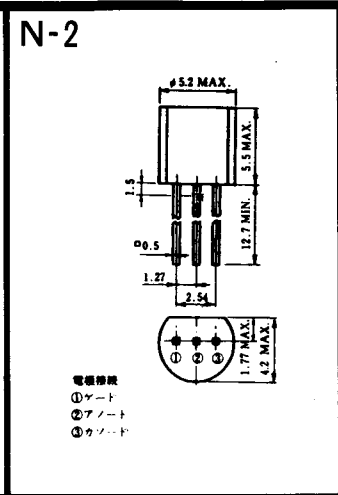
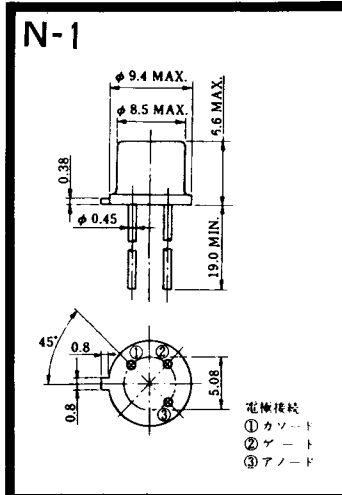
MT-22



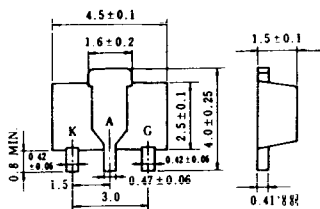
MT-23







N-9



電極接続

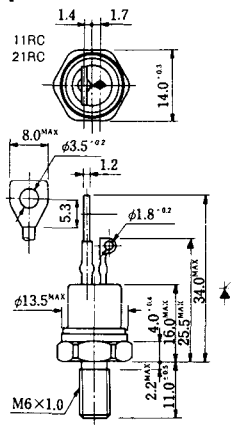
K : カソード

A : アノード

G : ゲート

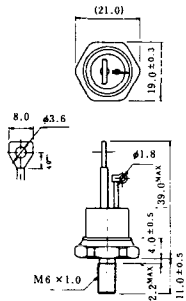


### NI-1



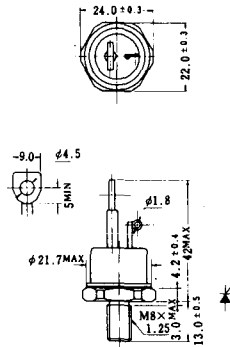
### NI-2

29RD



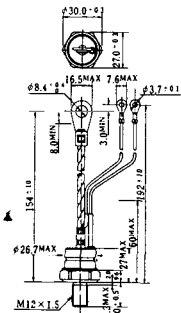
### NI-3

39RC  
59RC  
39RF  
59RF



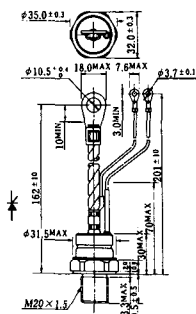
### NI-4

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



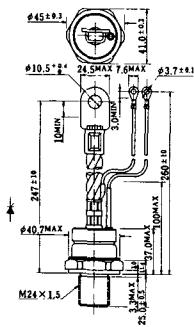
### NI-5

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



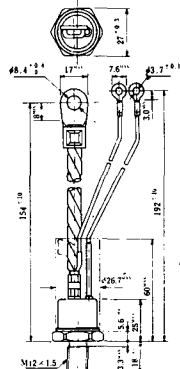
### NI-6

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



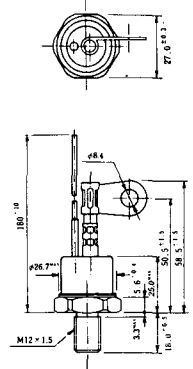
### NI-7

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

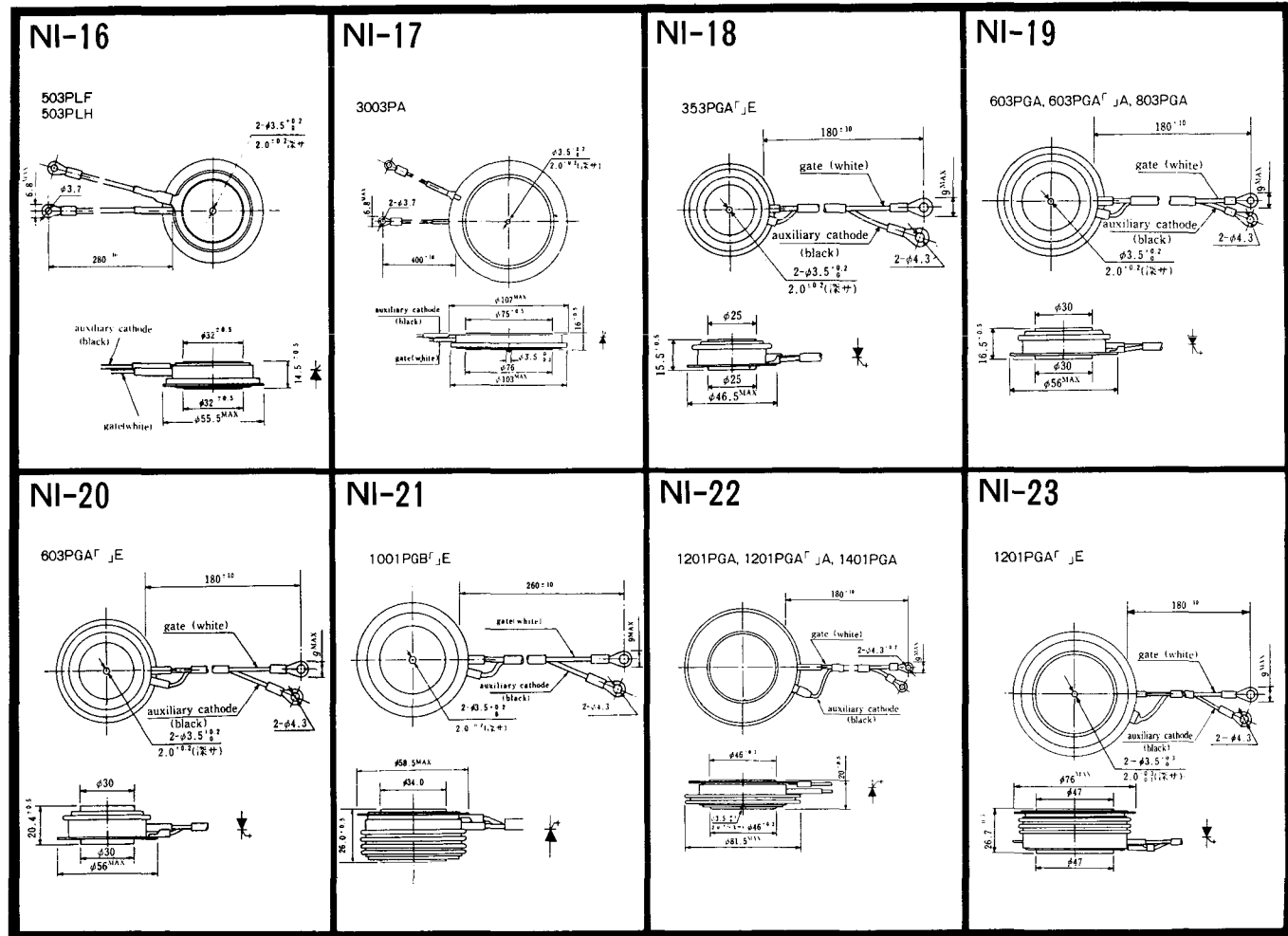


### NI-8

89RW  
129RW



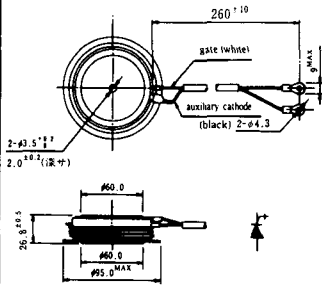






NI-24

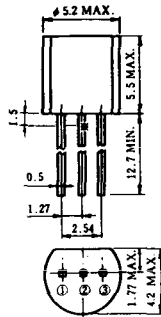
2001PGB<sup>r</sup> JE



NI-25

NI-26

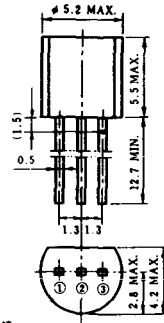
### NT-1



電極接続

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

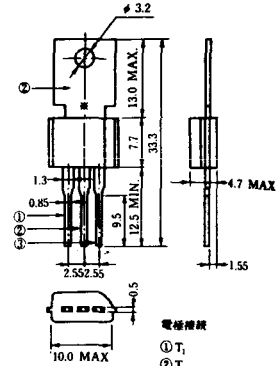
### NT-2



電極接続

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

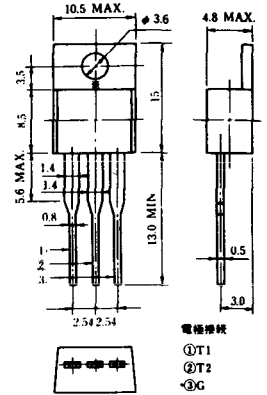
### NT-3



電極接続

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

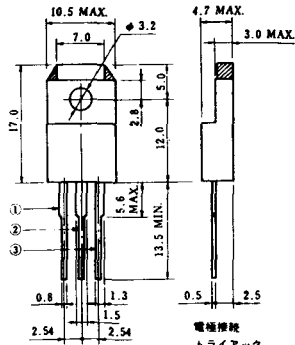
### NT-4



電極接続

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

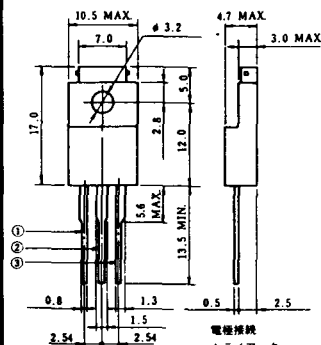
### NT-5



電極接続  
トライアック

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

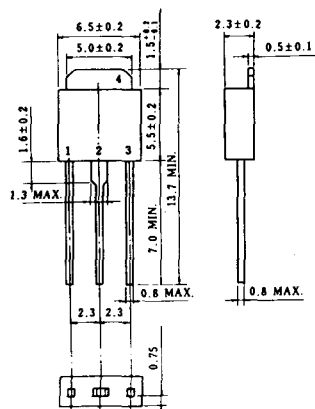
### NT-6



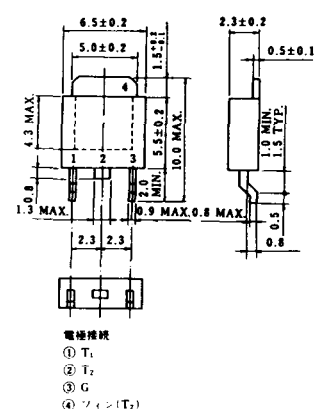
電極接続  
トライアック

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

### NT-7



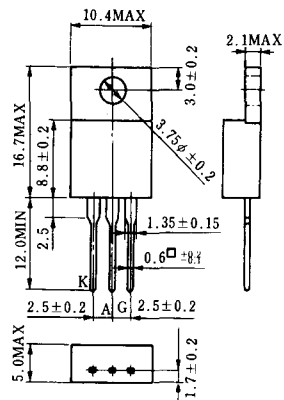
### NT-8



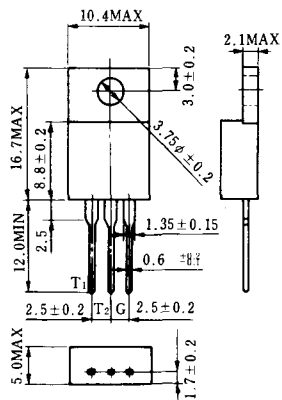
電極接続

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

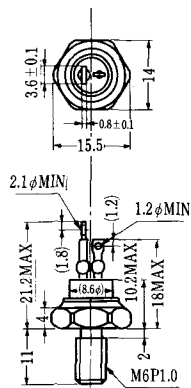
### S-1



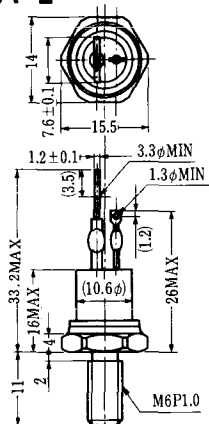
### ST-1



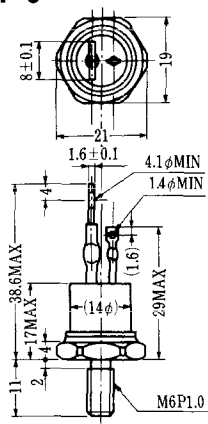
SA-1



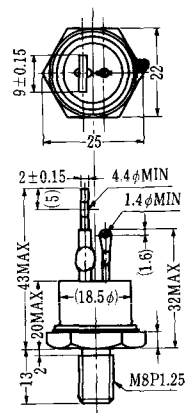
SA-2



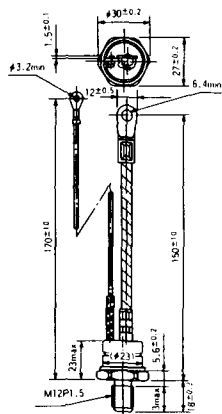
SA-3



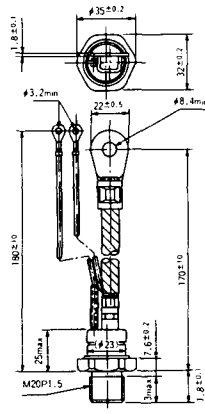
SA-4



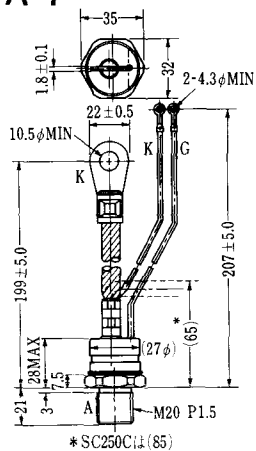
SA-5



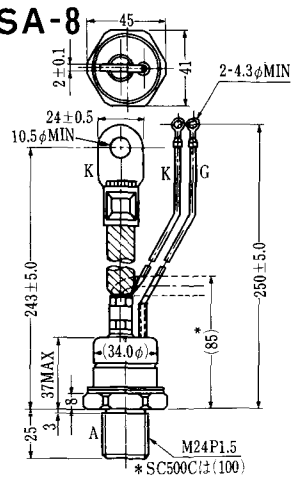
SA-6



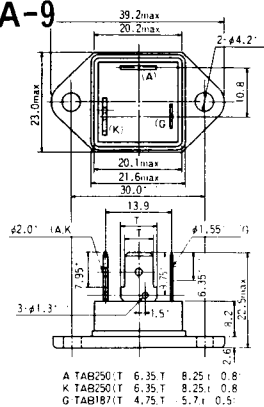
SA-7



SA-8



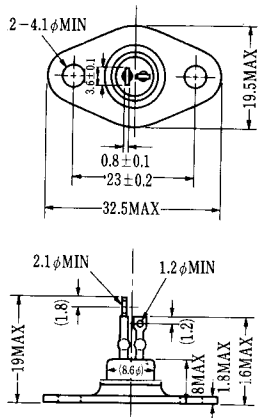
### SA-9



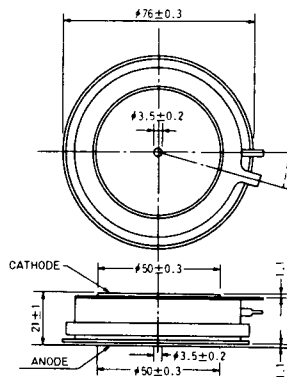
A TAB250(T) 6.35 T 8.25 I 0.8  
 K TAB250(T) 6.35 T 8.25 I 0.8  
 G TAB187(T) 4.75 T 5.7 I 0.5



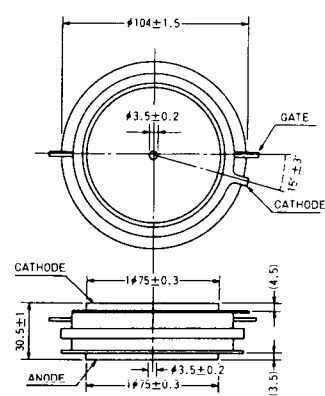
### SA-10



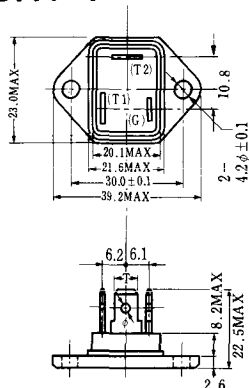
### SA-11



### SA-12

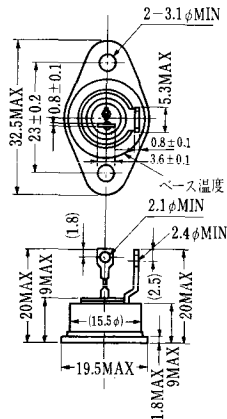


### SAT-1

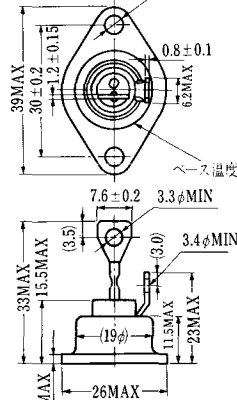


T1 端子: フラスト > 250 (T=6.35, t=0.8, φ=1.65)  
 T2 端子: フラスト > 250 (T=6.35, t=0.8, φ=1.65)  
 C 端子: フラスト > 187 (T=4.75, t=0.5, φ=1.3)

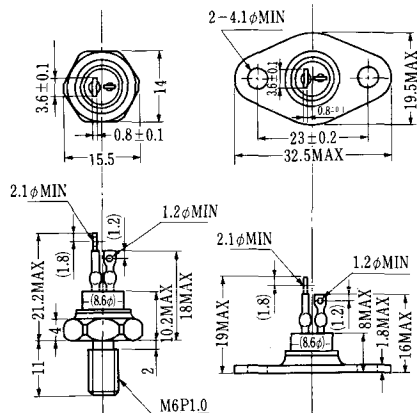
### SAT-2



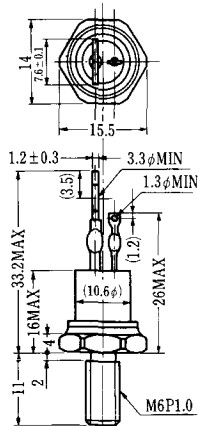
### SAT-3



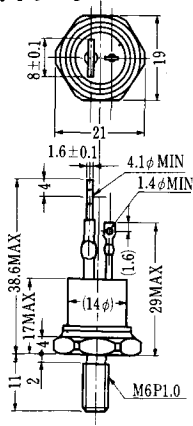
### SAT-4



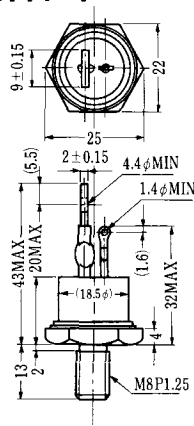
### SAT-5



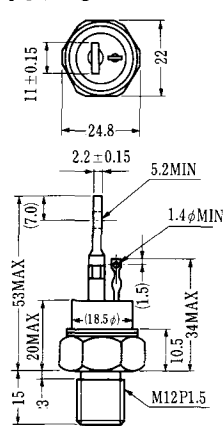
### SAT-6



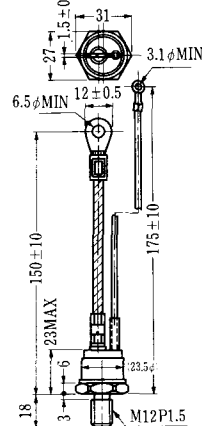
### SAT-7



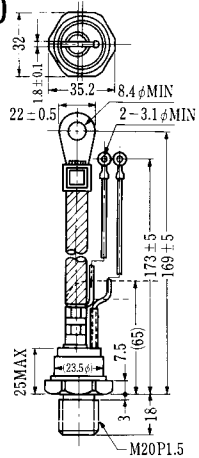
### SAT-8



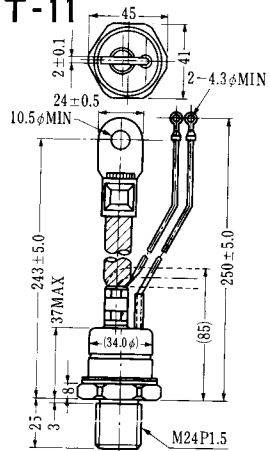
### SAT-9



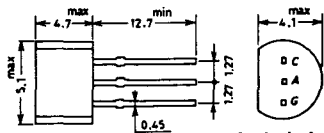
SAT-10



SAT-11

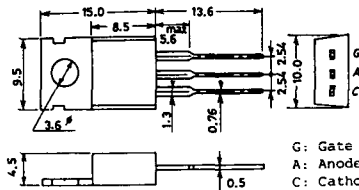


### SY-1 (1096A)



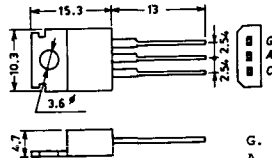
C: Cathode  
A: Anode  
G: Gate

### SY-2 (1151)



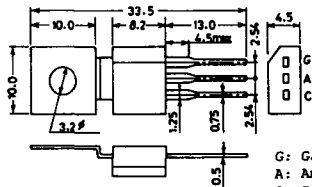
G: Gate  
A: Anode  
C: Cathode

### SY-3 (1104)



G: Gate  
A: Anode  
C: Cathode

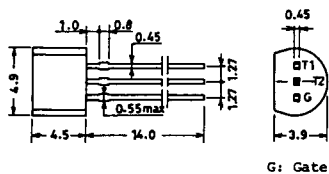
### SY-4 (1150)



G: Gate  
A: Anode  
C: Cathode

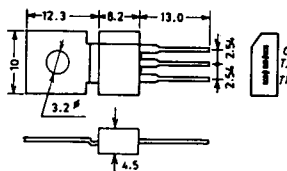


1097A

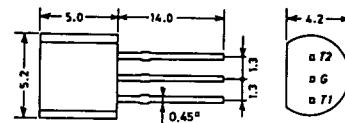


G: Gate

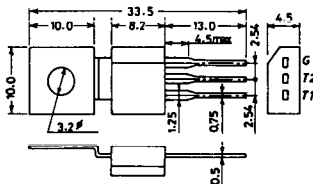
1102



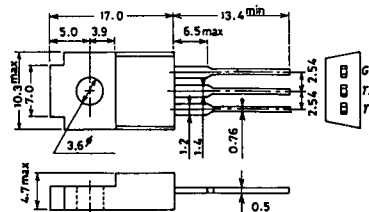
1141



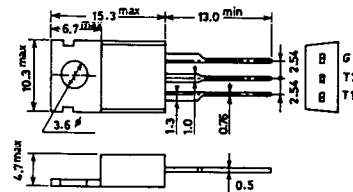
1142



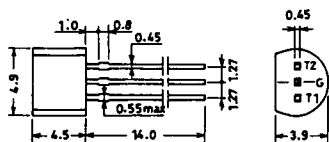
1144



1155

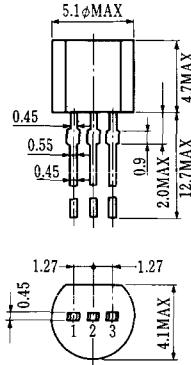


1192A



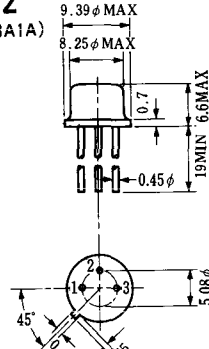
G: Gate

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



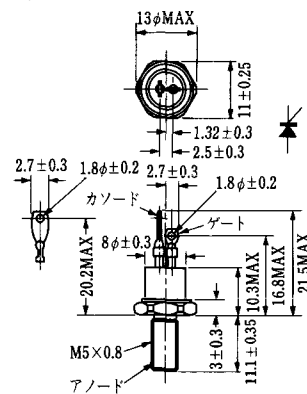
- 1 ゲート
- 2 アノード
- 3 カソード

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



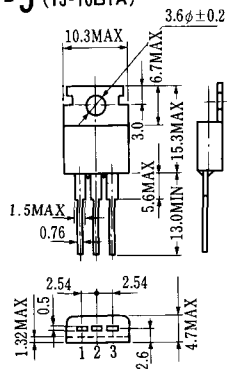
1. カソード
2. ゲート
3. アノード(ケース)

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



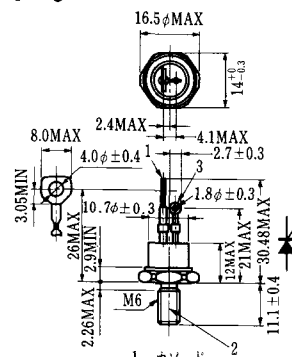
- 1 カソード
- 2 アノード
- 3 ゲート

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



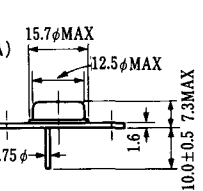
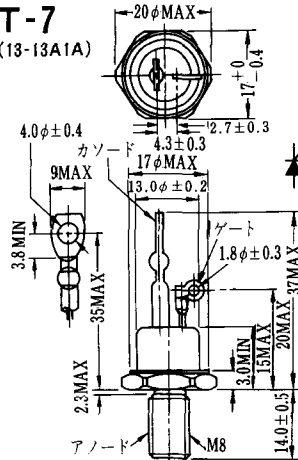
- 1 カソード
- 2 アノード
- 3 ゲート

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



- 1 カソード
- 2 アノード
- 3 ゲート

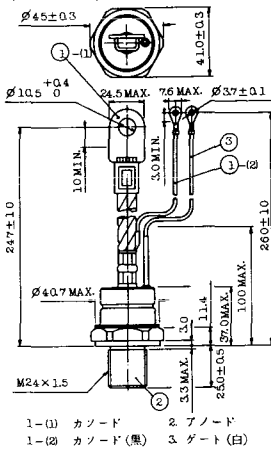
**T-7 (13-13A1A)**



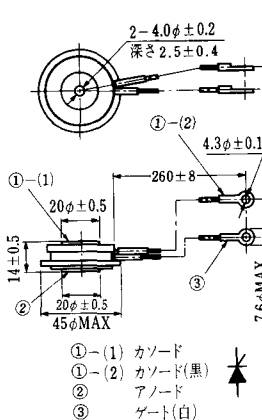
1. ゲート
2. カソード
3. アノード(ケース)



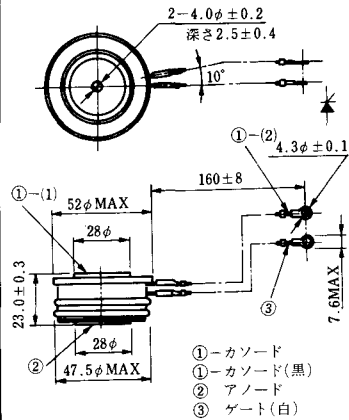
**T-17 (13-42A1A)**



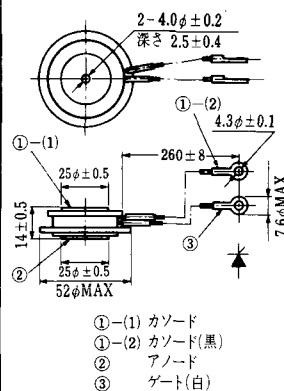
**T-18 (13-45D1A)**



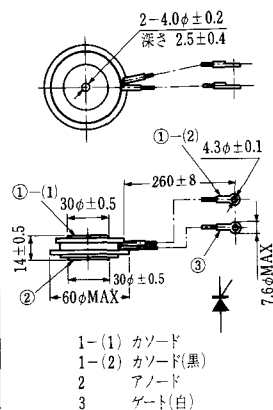
**T-19 (13-52B1A)**



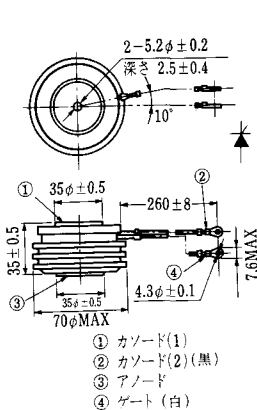
**T-20 (13-52C1A)**



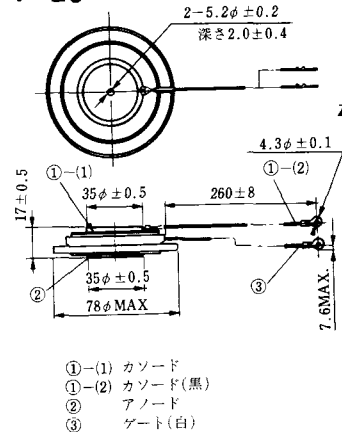
**T-21 (13-60A1A)**



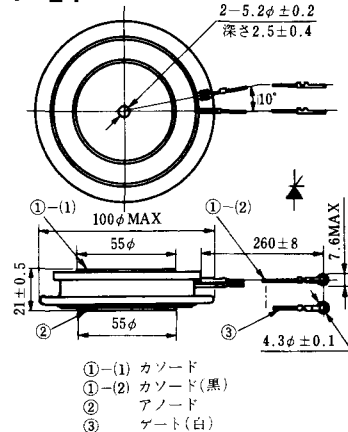
**T-22 (13-70C1A)**



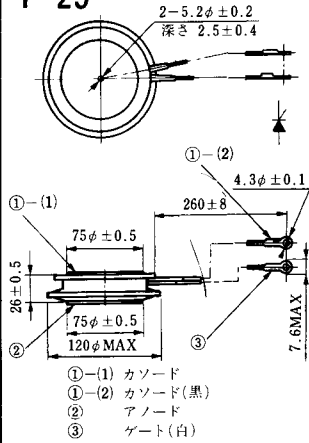
**T-23 (13-78A1A)**



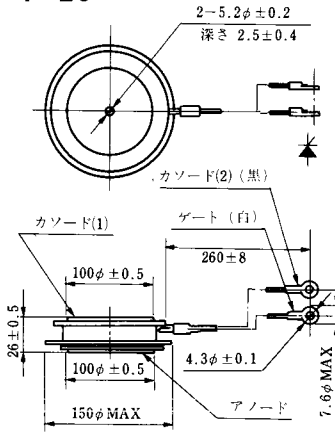
**T-24 (13-100C1A)**



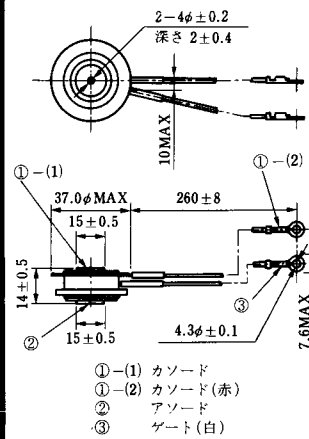
**T-25** (13-120A2A)



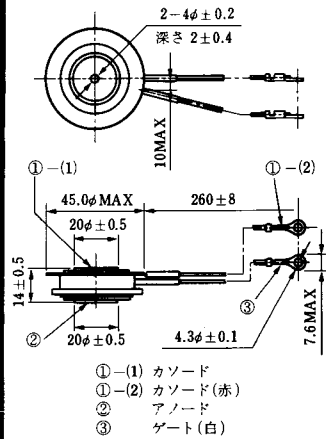
**T-26** (13-150A1A)



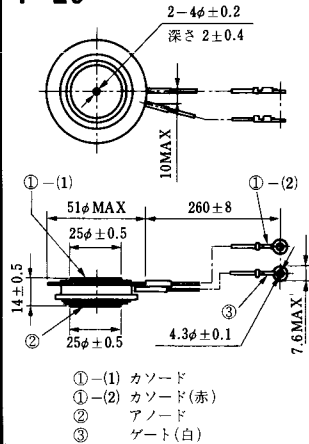
**T-27** (13-37A1A)



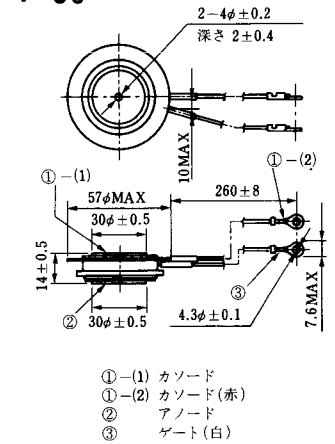
**T-28** (13-45E1A)



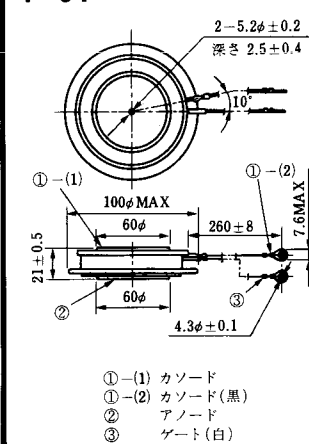
**T-29** (13-51A1A)



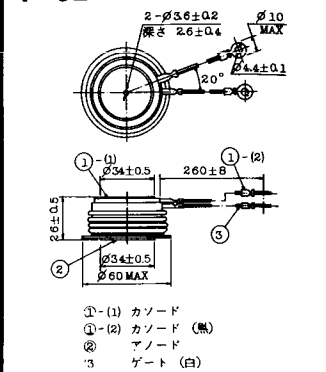
**T-30** (13-57A1A)



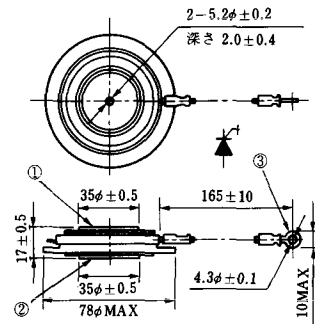
**T-31** (13-100E1A)



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

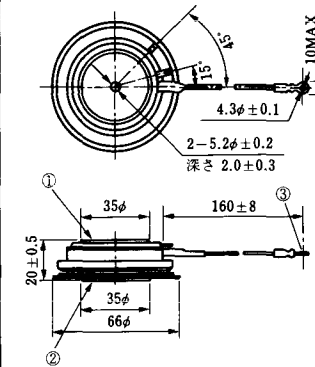


**T-33** (13-78B1A)



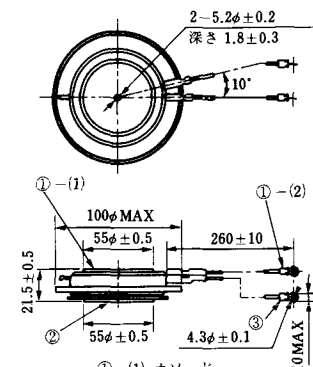
- ① カソード
- ② アノード
- ③ ゲート

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



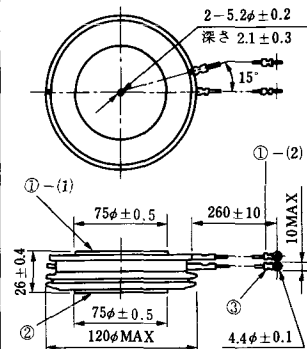
- ① カソード
- ② アノード
- ③ ゲート

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



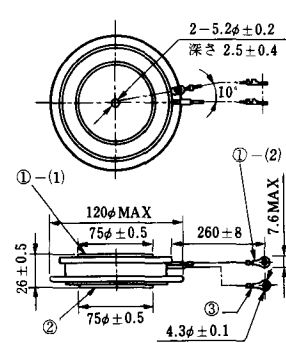
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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



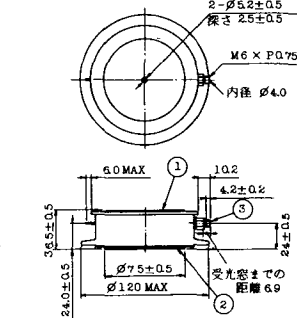
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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



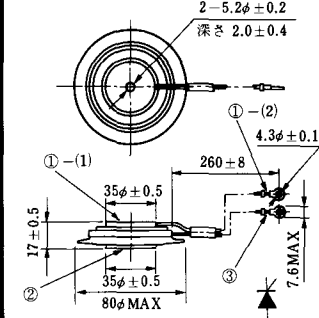
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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



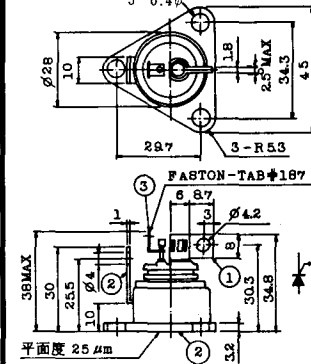
- ① カソード
- ② アノード
- ③ ゲート

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



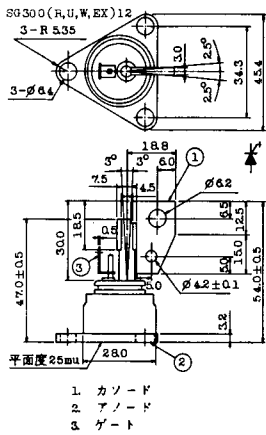
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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

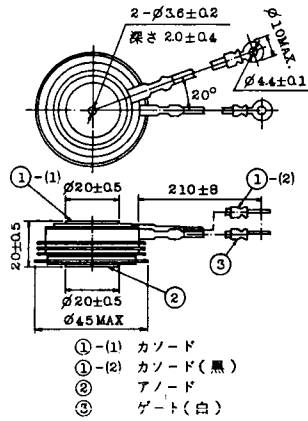


- 1. カソード
- 2. アノード
- 3. ゲート

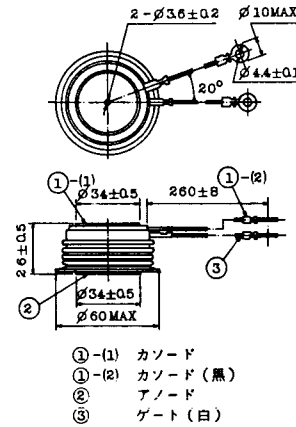
### T-41 (13-28A2A)



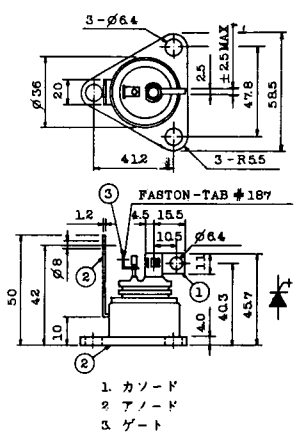
### T-42 (13-45F1A)



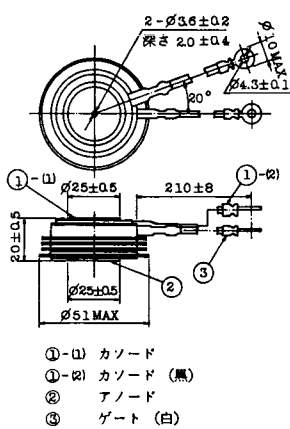
### T-43 (13-60E2A)



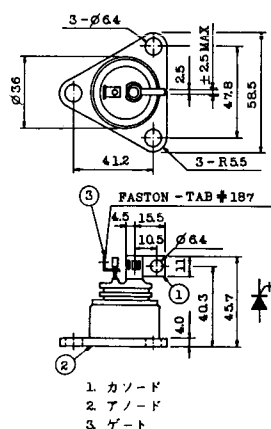
### T-44 (13-36A1A)



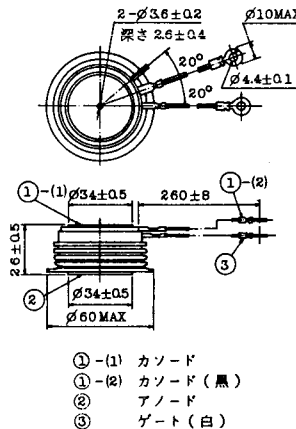
### T-45 (13-51B1A)



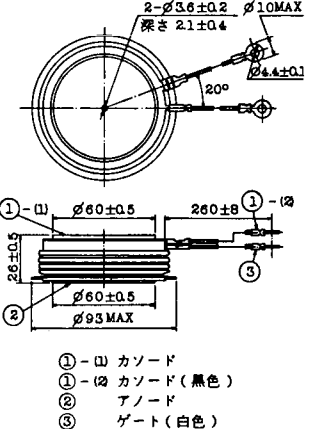
### T-46 (13-36B1A)



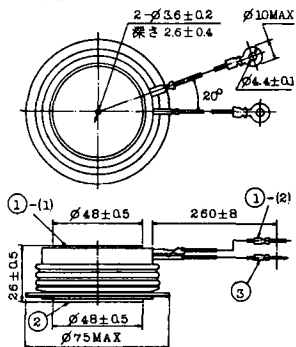
### T-47 (13-60E1A)



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

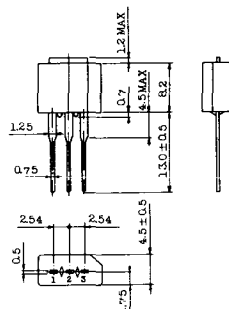


**T-49** (13-75A1A)



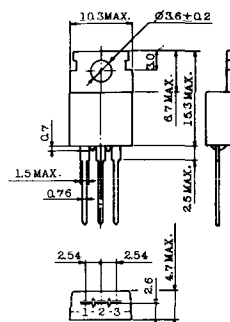
- 1-(1) カソード
- 1-(2) カソード (黒)
- 2 アノード
- 3 ゲート (白)

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



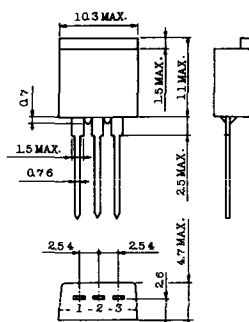
- 1 カソード
- 2 アノード
- 3 ゲート

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



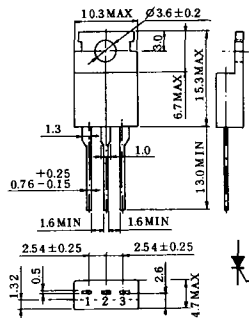
- 1 カソード
- 2 アノード
- 3 ゲート

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



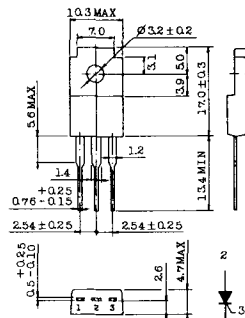
- 1 カソード
- 2 アノード
- 3 ゲート

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



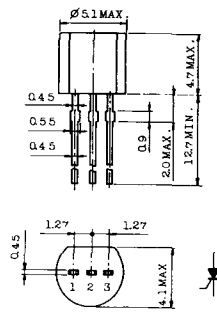
- 1 カソード
- 2 アノード
- 3 ゲート

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



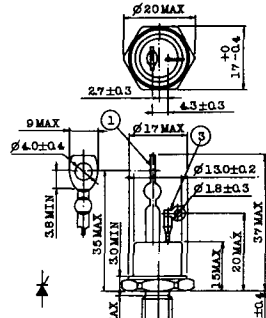
- 1 カソード
- 2 アノード
- 3 ゲート

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



- 1 カソード
- 2 アノード
- 3 アノード

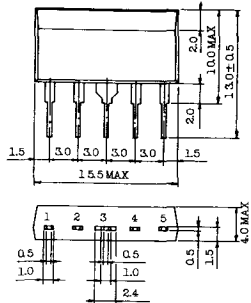
**T-56** (13-13C1A)



- 1 カソード
- 2 アノード
- 3 ゲート

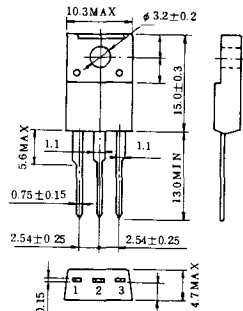


T-57 (12-16C1A)



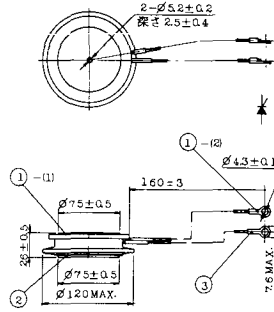
1. アノード (主)
2. ゲート (主)
3. カソード (共通)
4. ゲート (補助)
5. アノード (補助)

T-58 (13-10H1B)



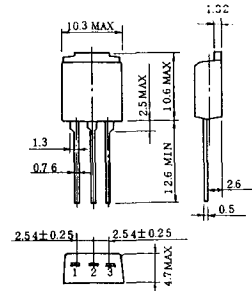
1. カソード
2. アノード
3. ゲート

T-59 (13-120A1A)



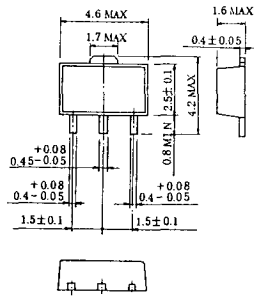
- 1-(1) カソード
- 1-(2) カソード (黒)
2. アノード
3. ゲート (白)

T-60



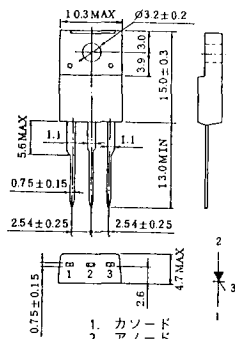
1. カソード
2. アノード
3. ゲート

T-61 (13-5B1A)



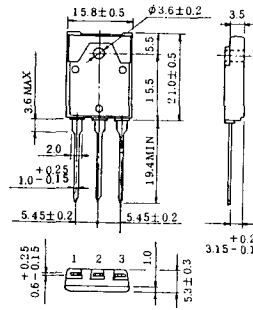
1. ゲート
2. アノード
3. カソード

T-62 (13-10H1A)



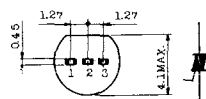
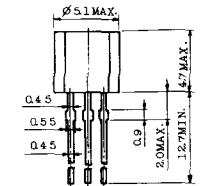
1. カソード
2. アノード
3. ゲート

T-63 (13-16A1B)



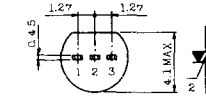
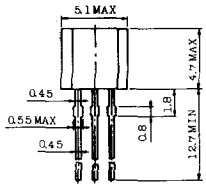
1. カソード
2. アノード
3. ゲート

TT-1



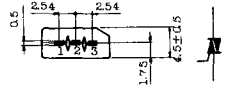
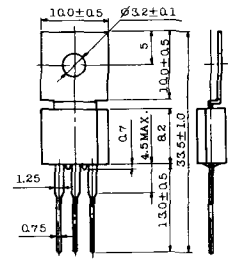
- 1 ゲート
- 2 T<sub>2</sub>
- 3 T<sub>1</sub>

TT-2



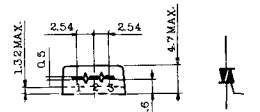
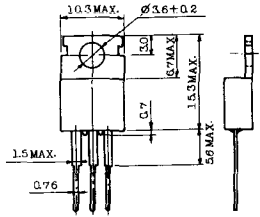
- 1 T<sub>1</sub>
- 2 ゲート
- 3 T<sub>2</sub>

TT-3



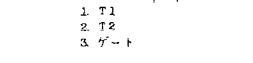
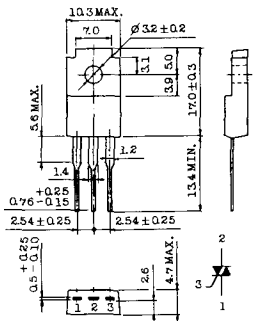
- 1 T<sub>1</sub>
- 2 T<sub>2</sub>
- 3 ゲート

TT-4



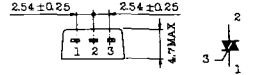
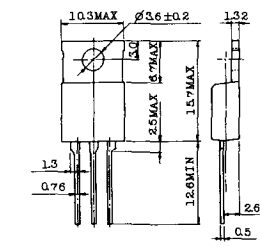
- 1 T<sub>1</sub>
- 2 T<sub>2</sub>
- 3 ゲート

TT-5



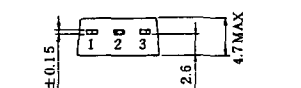
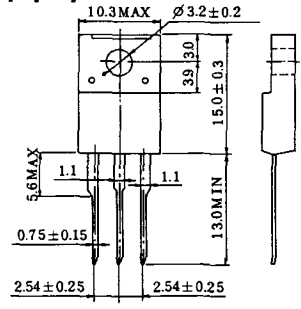
- 1 T<sub>1</sub>
- 2 T<sub>2</sub>
- 3 ゲート

TT-6



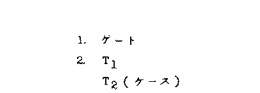
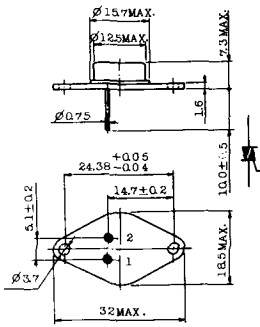
- 1 T<sub>1</sub>
- 2 T<sub>2</sub> (放熱板)
- 3 ゲート

TT-7



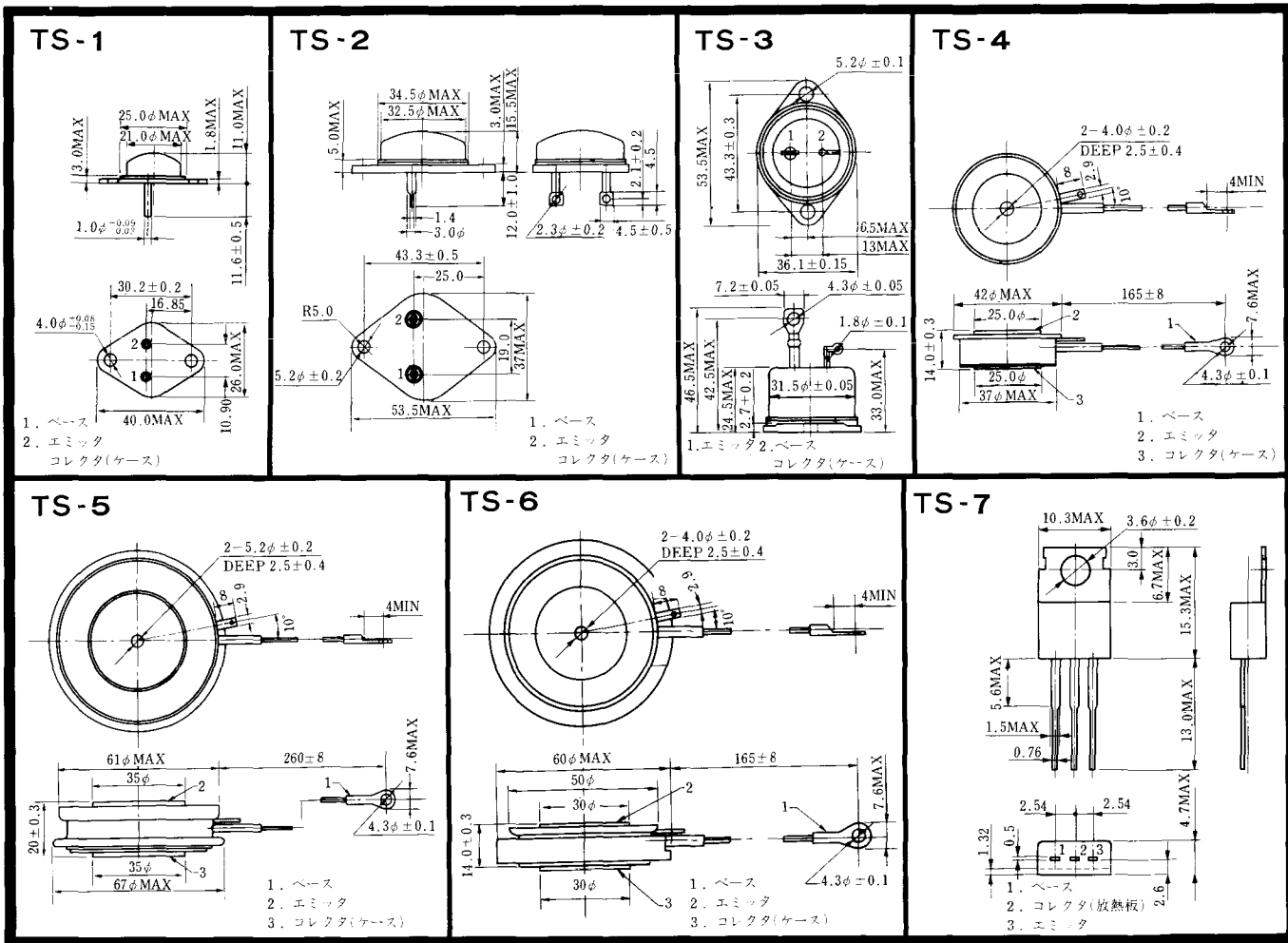
- 1 T<sub>1</sub>
- 2 T<sub>2</sub>
- 3 ゲート

TT-8

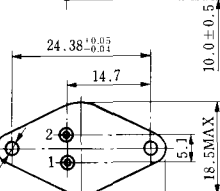
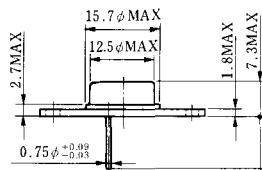


- 1 ゲート
- 2 T<sub>1</sub>
- T<sub>2</sub> (ケース)



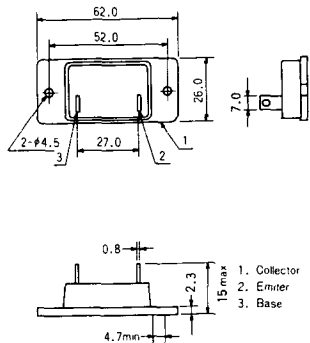


TS-8

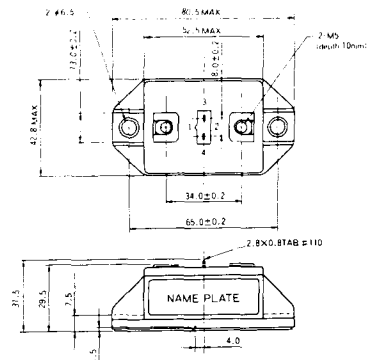


1. ベース
2. エミッタ  
コレクタ  
(ケース)

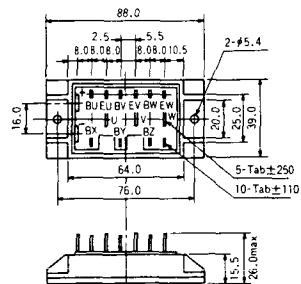
### S-62A1A



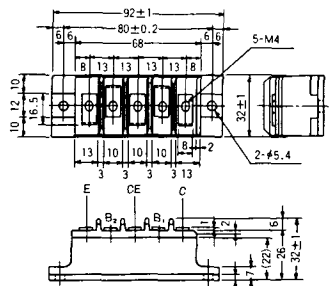
### S-80A1A



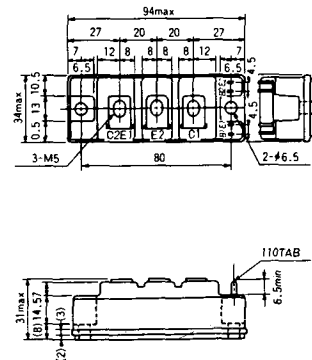
### S-88D1A



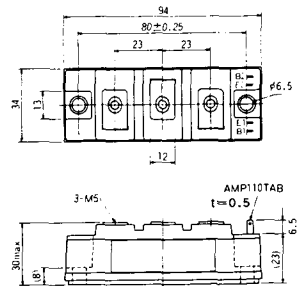
### S-92B1A



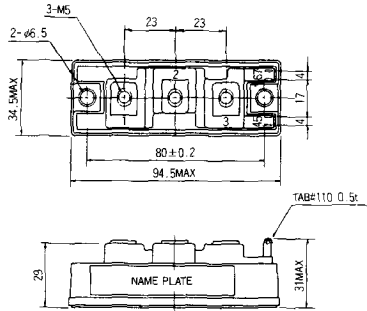
### S-94B1A



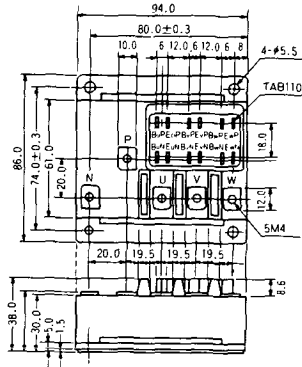
### S-94B1B



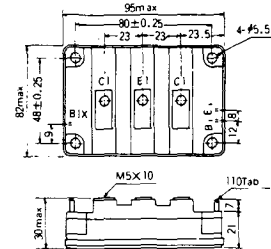
S-94B2A



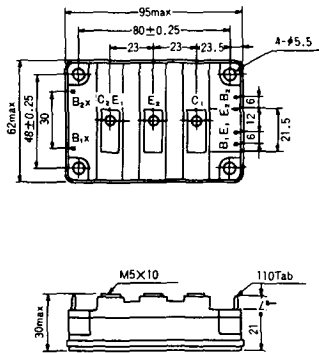
S-94D1A



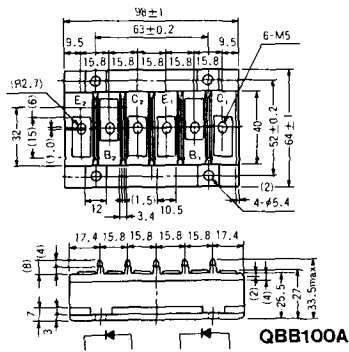
S-95A1A



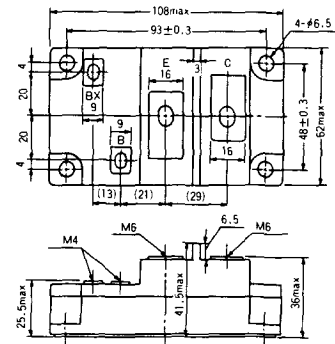
S-95B1A



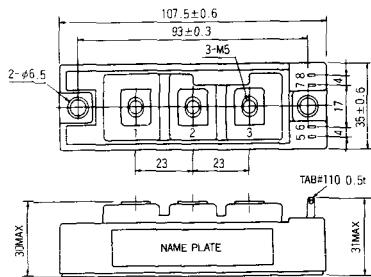
S-98B1B



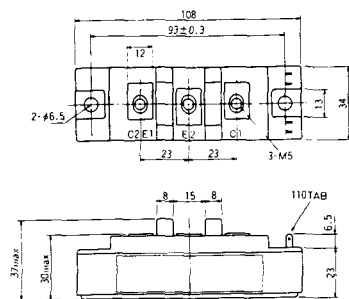
S-108A2A



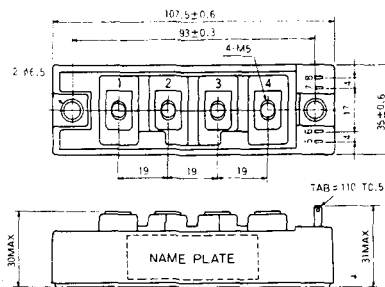
### S-108B1A



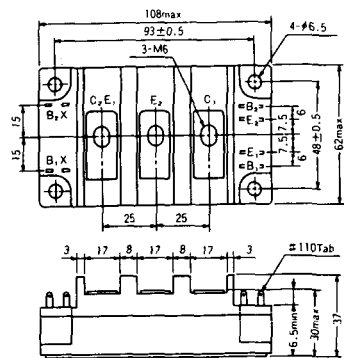
### S-108B1B



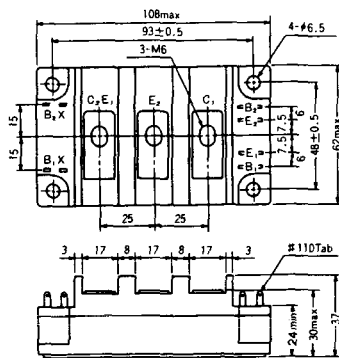
### S-108B1C



### S-108B2A

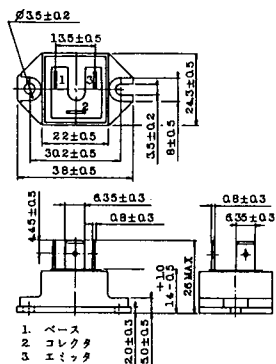


### S-108B2B

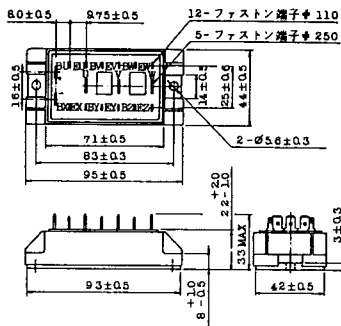




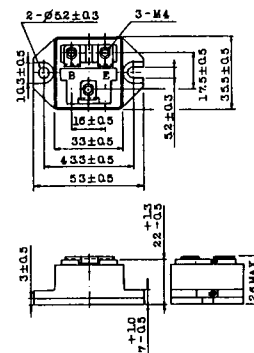
### 2-22B1A



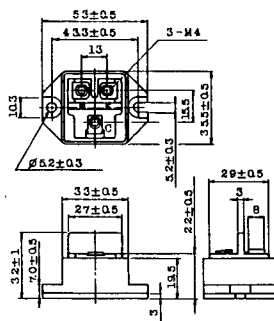
### 2-27A4A



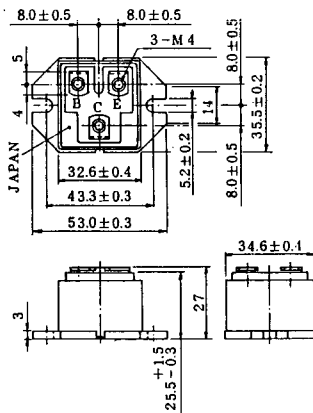
### 2-33C1A



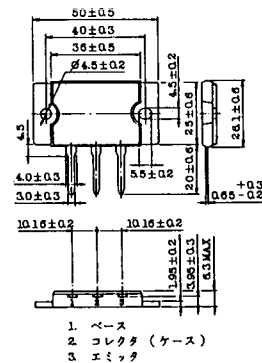
### 2-33D1A



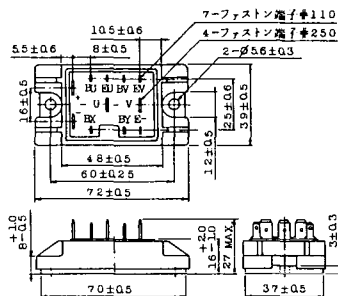
### 2-33F1A



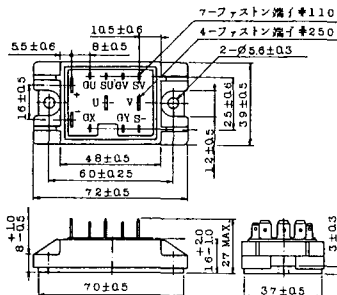
### 2-37A1A



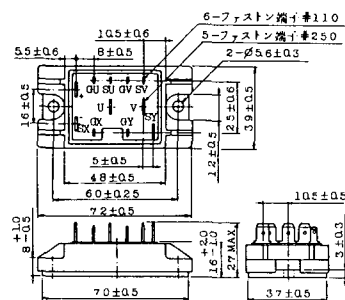
2-48A3A



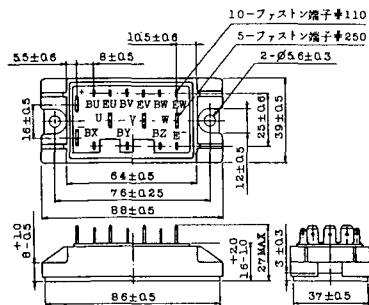
2-48A3B



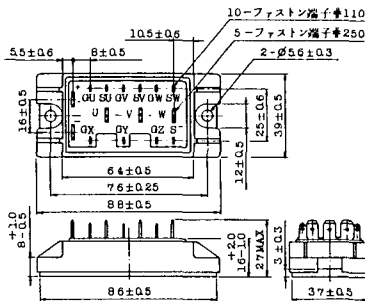
2-48A4A



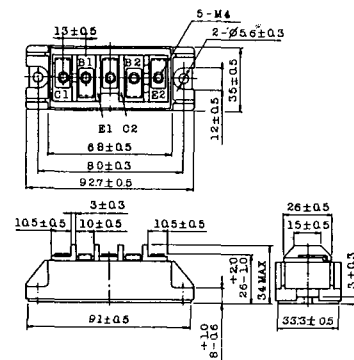
2-64A2A



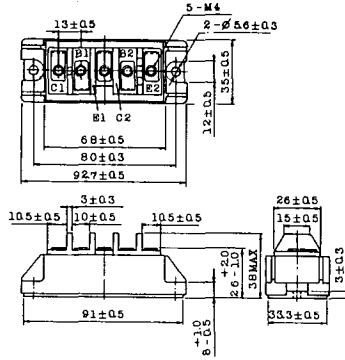
2-64A2B



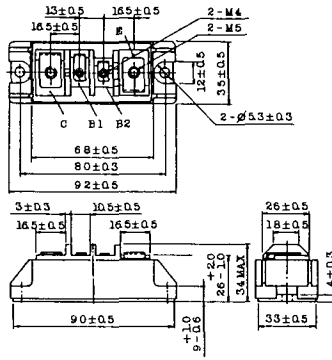
2-68A2A



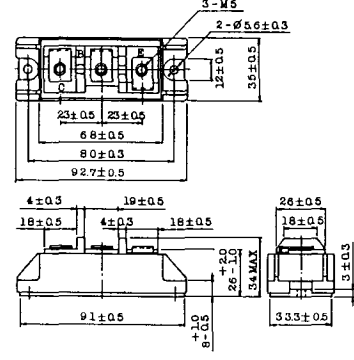
2-68B2A



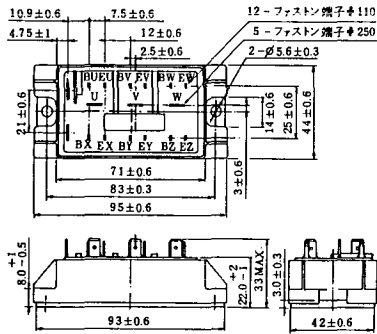
2-68C1A



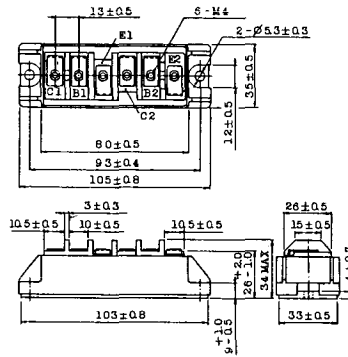
2-68D2A



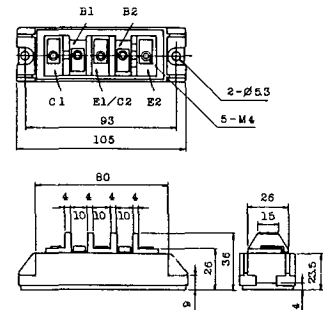
2-72A3A



2-80A1A

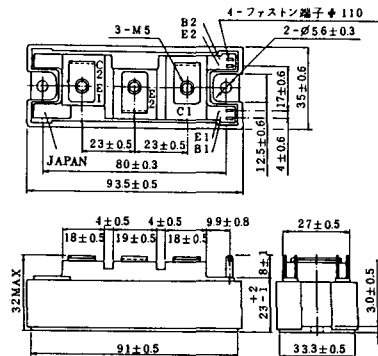


2-80B1A

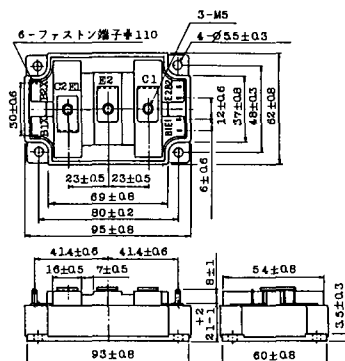




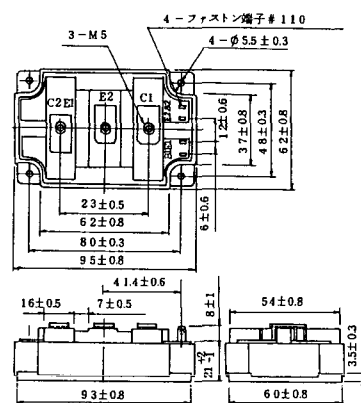
### 2-94D1A



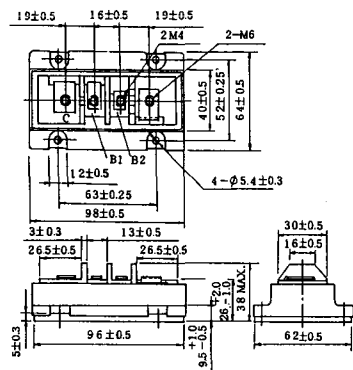
### 2-96A3A



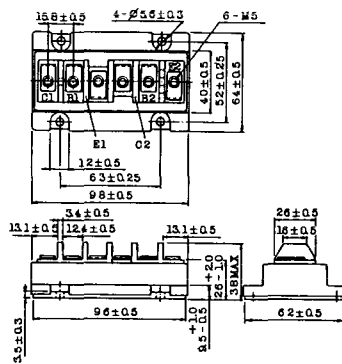
### 2-96A4A



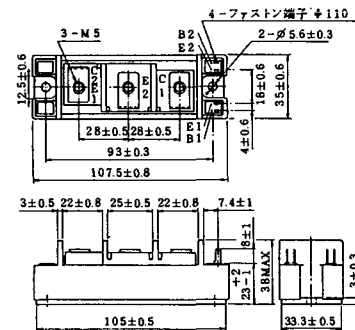
### 2-98B1A



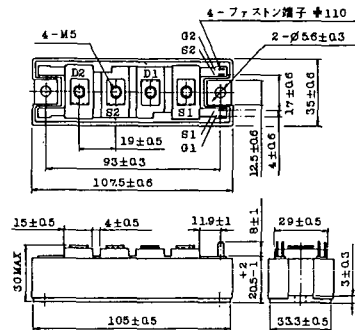
### 2-98C2A



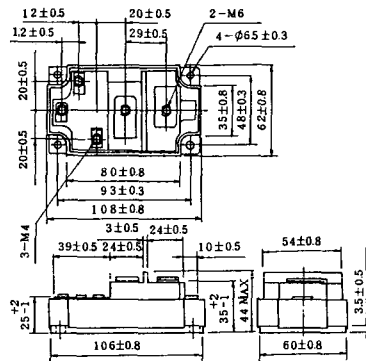
### 2-108A2A



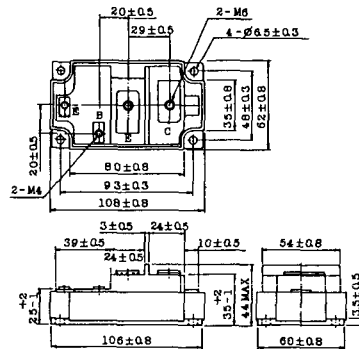
### 2-108B1A



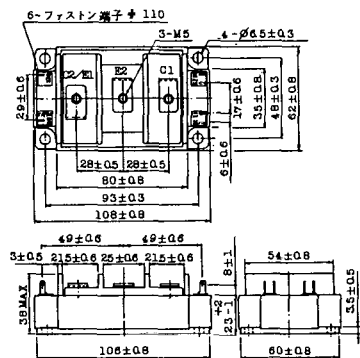
### 2-109A3A



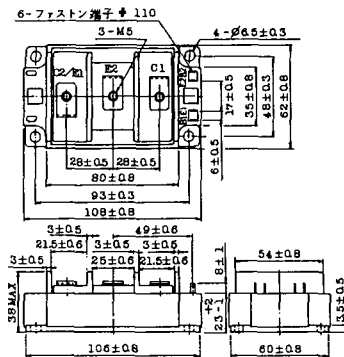
### 2-109A4A



### 2-109B3A

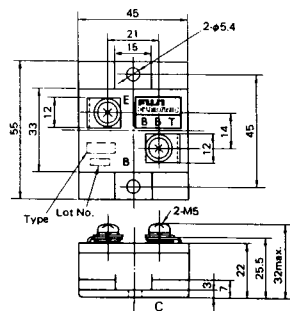


### 2-109B4A



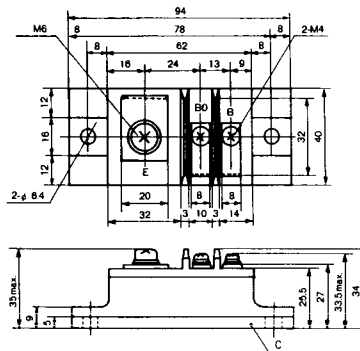
### BBT-II

BBTII  
1D200A-020



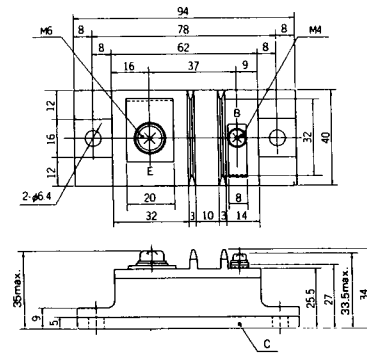
### BBT-III

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



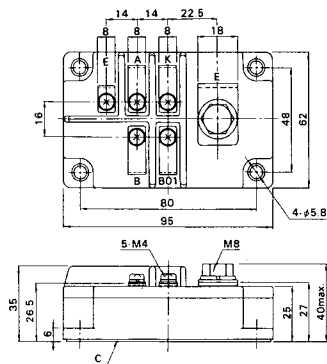
### BBT-III

BBTIII  
ETN01-055  
ET1257



### BBT-IV

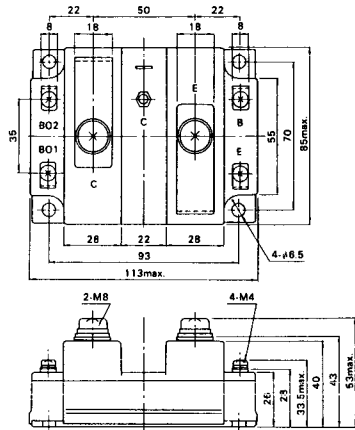
BBTIV  
1D500A-030



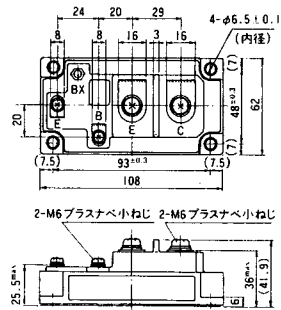




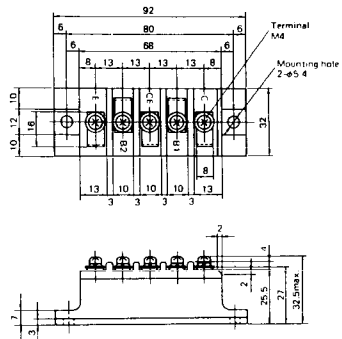
### M-107



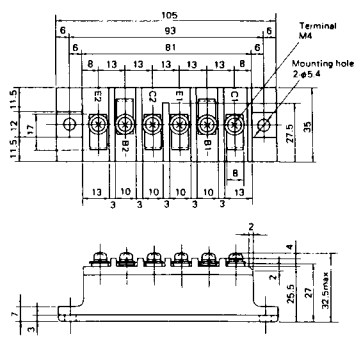
### M-116



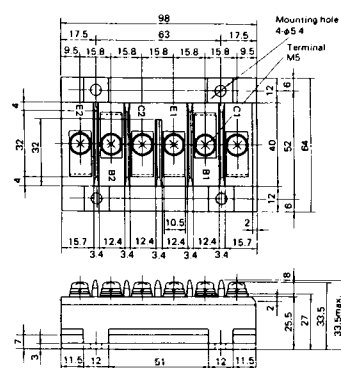
M-201



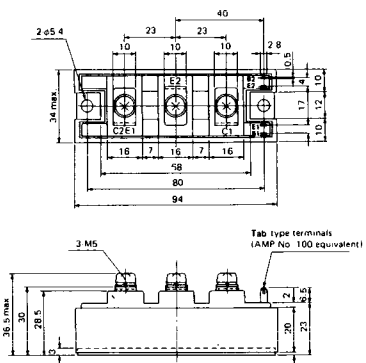
M-202



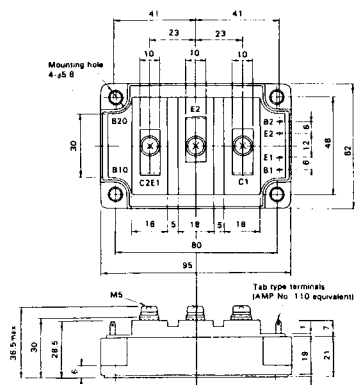
M-203



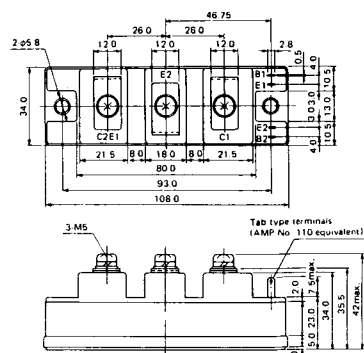
M-204



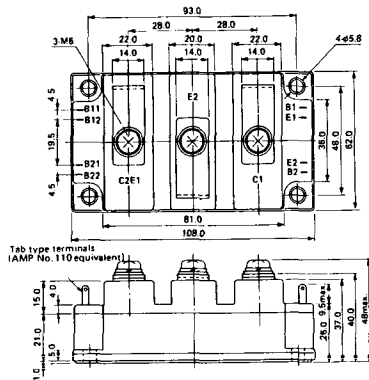
M-205



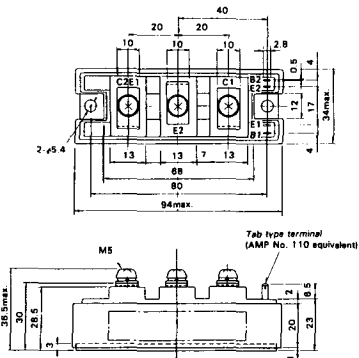
M-206



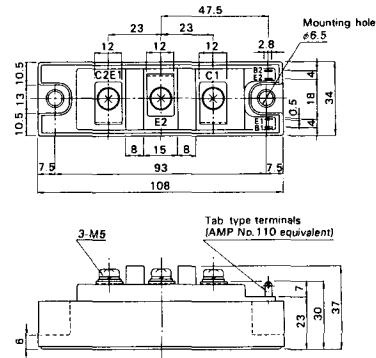
M-207



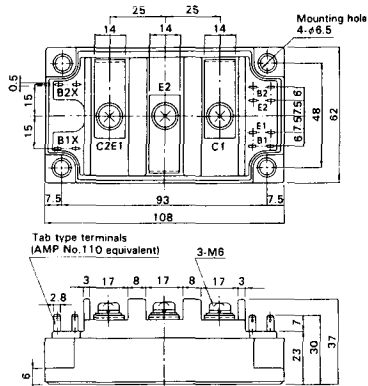
M-208



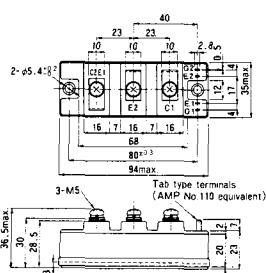
M-209



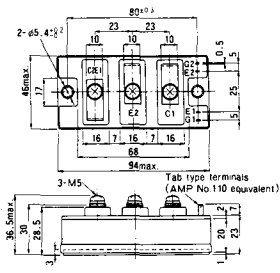
M-210



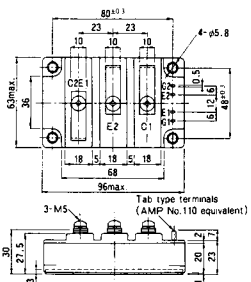
M-211



M-212

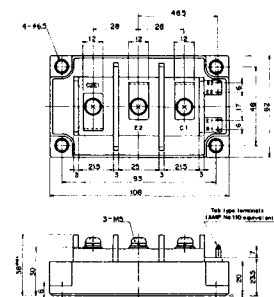


M-213

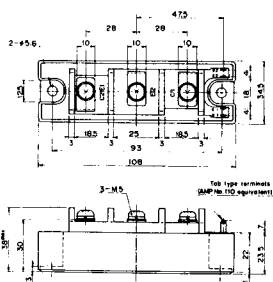


M-214

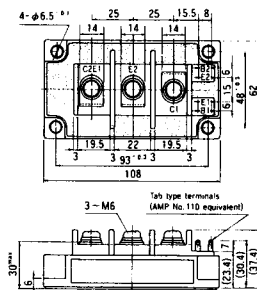
M-215



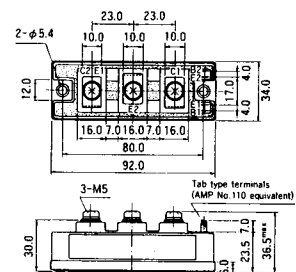
M-216



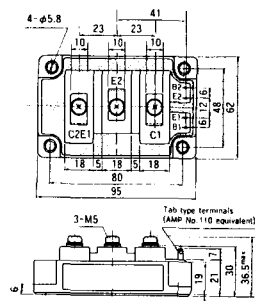
M-217



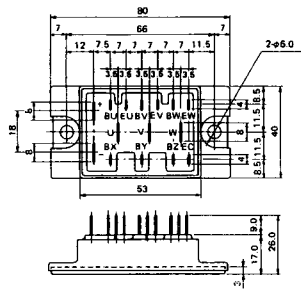
M-218



M-219



M-601



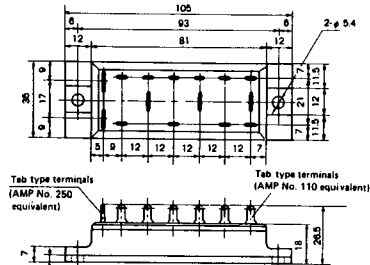
Tab type terminals  
(AMP No. 110 equivalent)



Tab type terminals  
(AMP No. 250 equivalent)



M-602



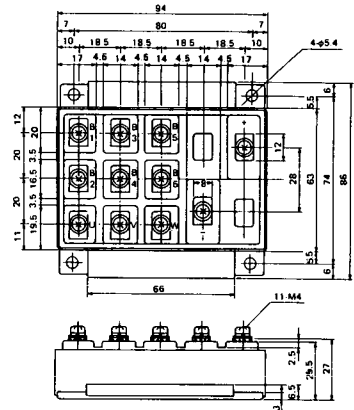
Tab type terminals  
(AMP No. 250 equivalent)



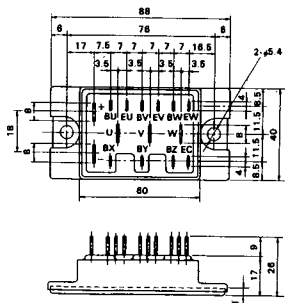
Tab type terminals  
(AMP No. 110 equivalent)



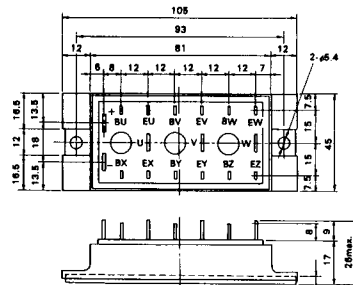
M-603



M-604



M-605



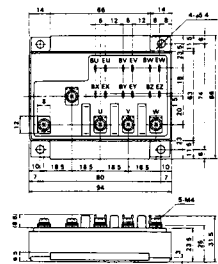
Tab type terminals  
(AMP No. 110 equivalent)



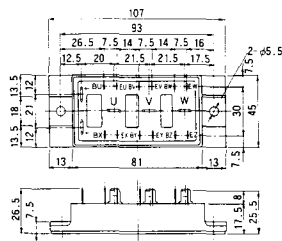
Tab type terminals  
(AMP No. 250 equivalent)



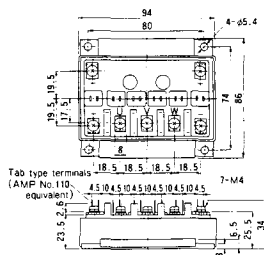
M-606



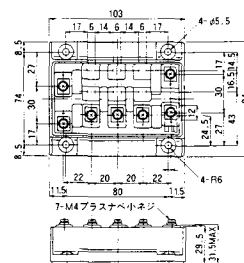
M-607



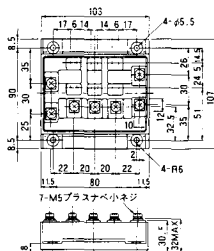
M-608



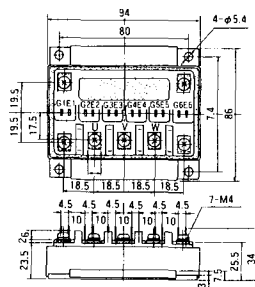
M-609



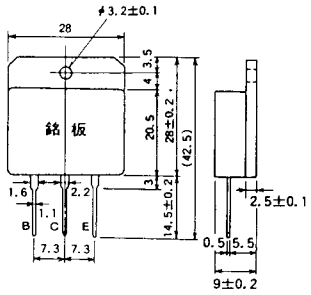
M-610



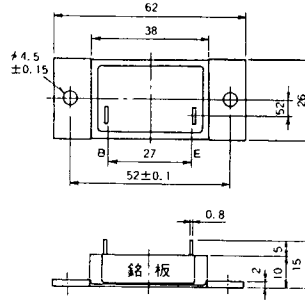
M-616



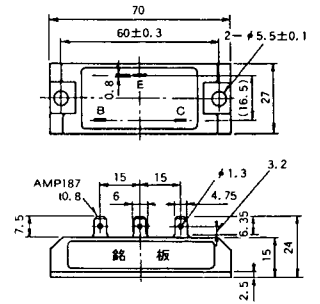
M-1A1A



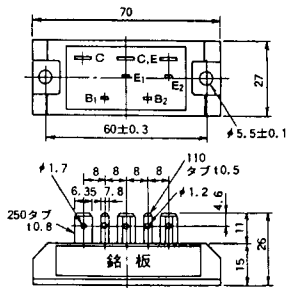
M-2A1A



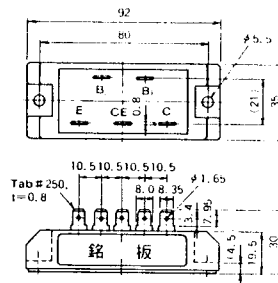
M-2B1A



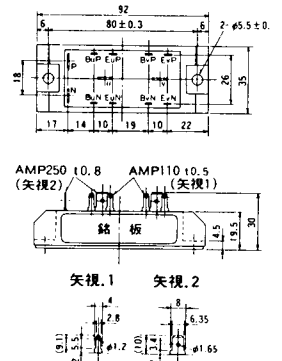
M-2B2A



M-2C2A



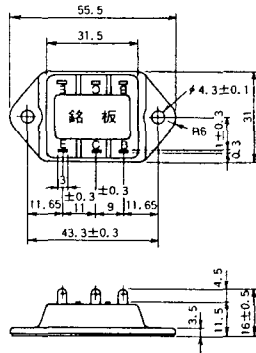
M-2D4A



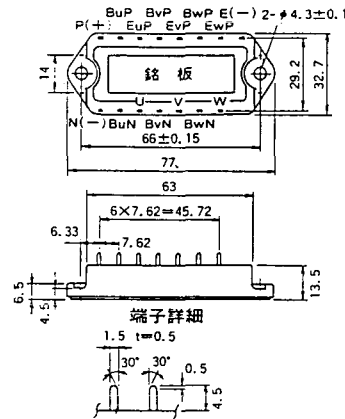




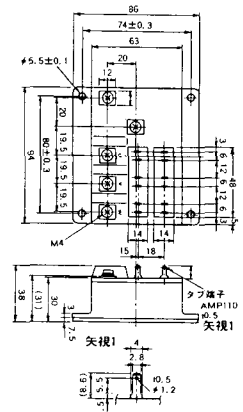
M-3C1A



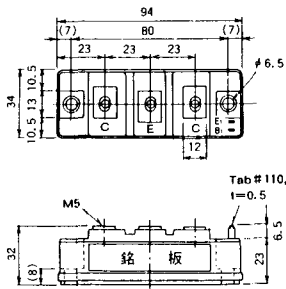
M-3D6A



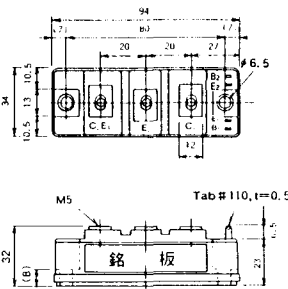
M-3E6A



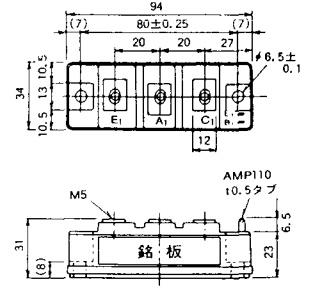
M-4A1A



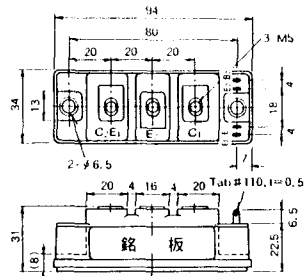
M-4A2A



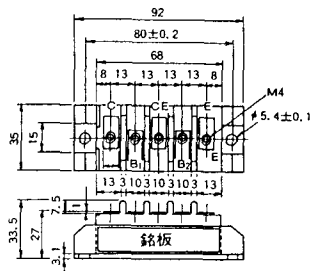
M-4A1B



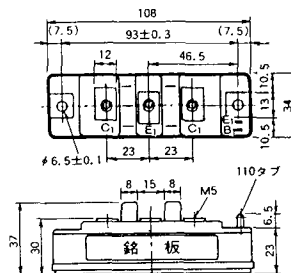
M-4A2B



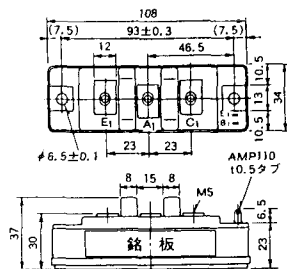
M-4B2A



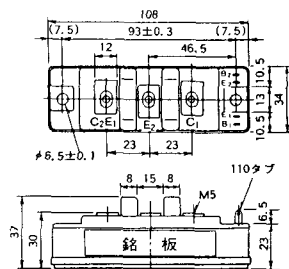
M-5A1A



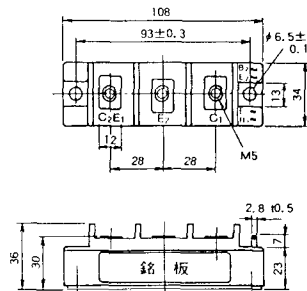
M-5A1B



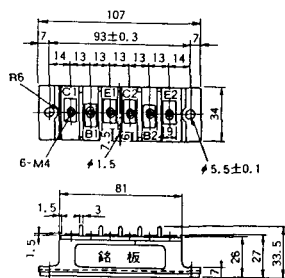
M-5A2A



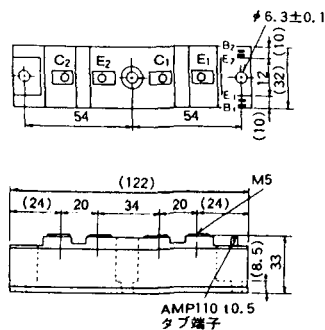
M-5B2A



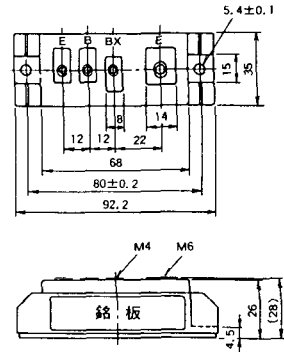
M-5C2A



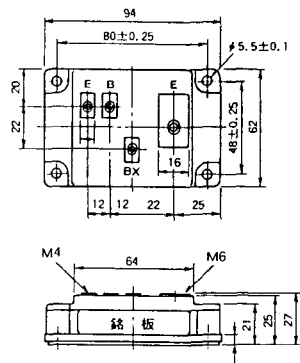
M-5D2A



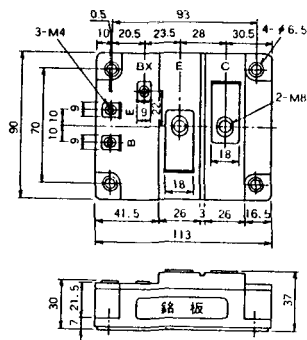
M-6A1A



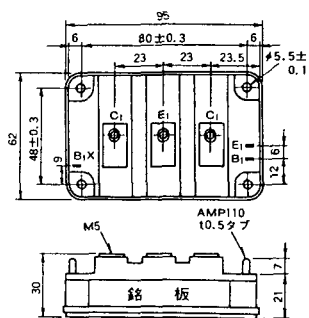
M-7A1A



M-7B1A



M-8A1A

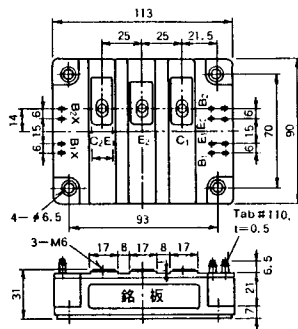




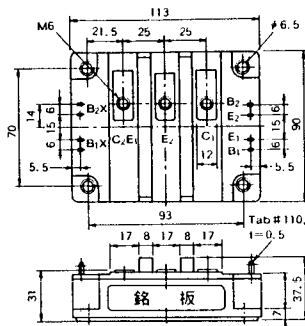




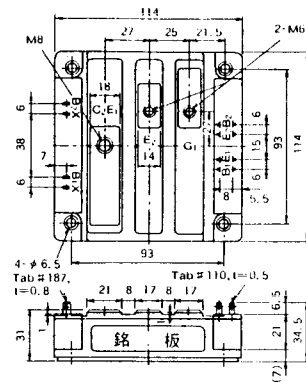
M-10A2A



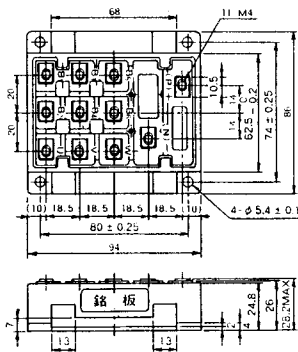
M-10A2B



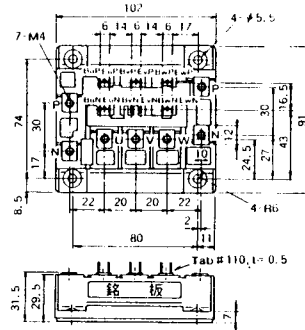
M-11A2A



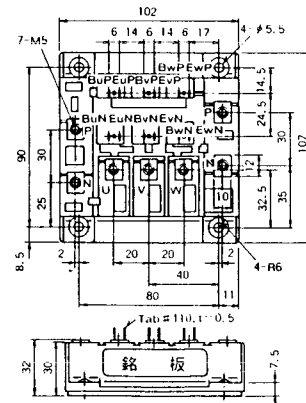
M-12A6A



M-12B6A



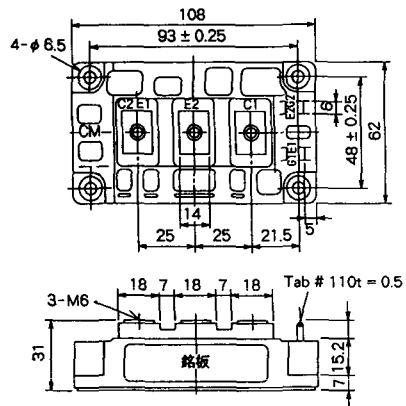
M-12B6B



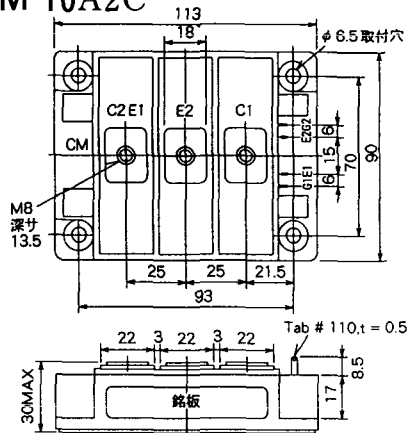




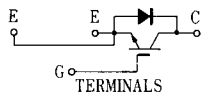
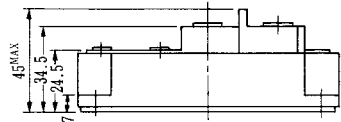
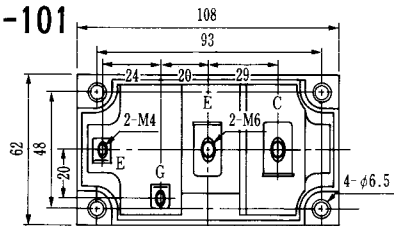
M-9D2B



M-10A2C

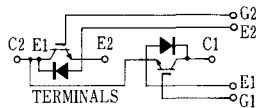
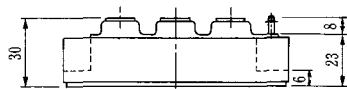
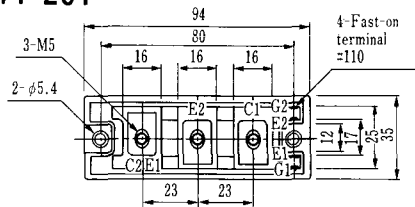


H-101



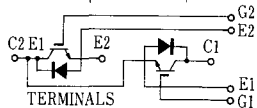
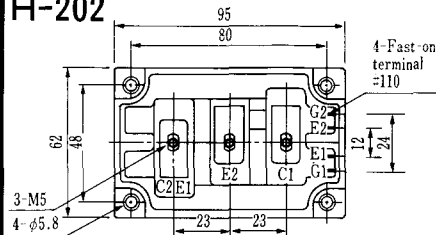
Weight :480g

### H-201



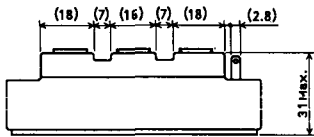
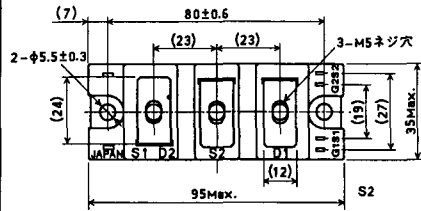
Weight: 200g

### H-202



Weight: 360g

### LF-J



### LF-K

