

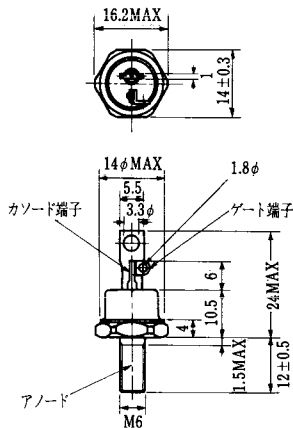
| SG1200EX21                      |  |                  | ■外形図番号 T-35 (13-100D1A)                 |  |     |     |      |              |
|---------------------------------|--|------------------|---|--|-----|-----|------|--------------|
| ○ピーク繰り返しオフ電圧 2500V, 実効オン電流 700A |  |                  | ■電気的特性 *2 $R_{GK}=20\Omega$             |  |     |     |      |              |
| ■最大定格                           |  |                  | *1 スナバ回路, $R_L=20\Omega$ , $C_s=2\mu F$ |  |     |     |      |              |
| 記号                              | SG1200EX21   | 単位               | 記号                                      | 測定条件   | Min | Typ | Max  | 単位           |
| $V_{RRM}$                       | 500  | V                | $I_{RRM}$                               | $T_J=115^\circ C$ , $V_D=V_{RRM}^{*2}$       |     |     | 50   | mA           |
| $V_{DRM}$                       | 2500   | V                | $I_{DRM}$                               | $T_J=115^\circ C$ , $V_D=V_{DRM}^{*2}$       |     |     | 50   | mA           |
| $I_{TRM}$                       | 1200 *1  | A                | $V_{TM}$                                | $T_c=25^\circ C$ , $I_{TM}=1200A$            |     |     | 2.5  | V            |
| $I_{TRMS}$                      | 700  | A                | $V_{GT}$                                | $T_c=25^\circ C$ , $V_D=12V$ ,               |     | 0.7 | 1.5  | V            |
| $I_{TSM}$                       | 12000/13200 (50Hz/60Hz, 正弦半波1サイクル波高値)                                      | A                | $I_{GT}$                                | $R_L=0.5\Omega$                              |     | 0.5 | 1.5  | A            |
| $I^2t$                          |  | A <sup>2</sup> S | $V_{GD}$                                | $T_c=115^\circ C$ , $V_D=\frac{1}{2}V_{DRM}$ | 0.3 |     |      | V            |
| $di/dt$                         | 250 ( $V_D=\frac{1}{2}V_{DRM}$ , $I_G=20A$ , $t_r\leq 1\mu s$ , $f=50Hz$ ) | A/ $\mu s$       | $I_{GD}$                                |  | 10  |     |      | mA           |
| $P_{GFM}$                       | 20   | W                | $V_{GQ}$                                | $I_T=1200A$ , $V_D=\%V_{DRM}$                |     | 35  |      | V            |
| $P_{GRM}$                       | 10000  | W                | $I_{GQ}$                                | $dv/dt=200V/\mu s$ , $T_c=110^\circ C$       |     | 300 |      | A            |
| $P_{GFAV}$                      | 4  | W                | $dv/dt$                                 | $T_J=115^\circ C$ , $V_D=\%V_{DRM}^{*2}$     | 500 |     |      | V/ $\mu s$   |
| $V_{GRM}$                       | 12   | V                | $I_H$                                   | $T_c=25^\circ C$ , $R_L=0.5\Omega^{*2}$      |     |     | 75   | A            |
| $I_{GFM}$                       | 20   | A                | $t_r$                                   | $T_c=110^\circ C$ , $I_{TM}=1200A$           |     |     | 18   | $\mu s$      |
| $T_J$                           | 115  | $^\circ C$       | $t_{kv}$                                | $I_{GR}=350A$ , $V_D=\%V_{DRM}$              |     |     | 22   | $\mu s$      |
| $T_{HG}$                        | -40~115  | $^\circ C$       | $R_{th}$                                | $dig/dt=30A/\mu s^{*1}$                      |     |     | 0.03 | $^\circ C/W$ |
|                                 |  |                  |   | 接合部~フィン間, DC                                 |     |     |      |              |

| SG1200R, U, W, EX23 |  |           |           |            | ■外形図番号 T-47 (13-60E1A) |           |  |     |      |      |              |  |     |  |    |  |
|---------------------|--|-----------|-----------|------------|------------------------|-----------|--|-----|------|------|--------------|--|-----|--|----|--|
| ○チョップパ, インバータ用      |  |           |           |            | ■電気的特性                 |           |  |     |      |      |              |  |     |  |    |  |
| ○400A, 1300V~2500V  |  |           |           |            |                        |           |  |     |      |      |              |  |     |  |    |  |
| ■最大定格               |  |           |           |            | 記号                     |           | 測定条件   |     | Min  |      | Typ          |  | Max |  | 単位 |  |
| 記号                  | SG1200R23  | SG1200U23 | SG1200W23 | SG1200EX23 | 単位                     | 記号        | 測定条件   | Min | Typ  | Max  | 単位           |  |     |  |    |  |
| $V_{RRM}$           | 15   |           |           |            | V                      | $I_{RRM}$ | $T_J=125^\circ C$ , $V_D=V_{RRM}$                          |     |      | 100  | mA           |  |     |  |    |  |
| $V_{DRM}$           | 1300   | 1600      | 1800      | 2500       | V                      | $I_{DRM}$ | $T_J=125^\circ C$ , $V_D=V_{DRM}$ , $R_{GK}=20\Omega$      |     |      | 20   | mA           |  |     |  |    |  |
| $I_{TRM}$           | 1200 ( $V_D=\frac{1}{2}V_{DRM}$ , $V_{DM}=\%V_{DRM}$ , $C_s=2\mu F$ , $R_L=20\Omega$ , $T_J=125^\circ C$ )     |           |           |            | A                      | $V_{TM}$  | $T_c=25^\circ C$ , $I_{TM}=1000A$                          |     |      | 3.0  | V            |  |     |  |    |  |
| $I_{TRMS}$          | 400 ( $T_J=70^\circ C$ )   |           |           |            | A                      | $V_{GT}$  | $T_c=25^\circ C$ , $V_D=24V$                               |     | 0.85 | 1.2  | V            |  |     |  |    |  |
| $I_{TSM}$           | 6500/7100 (50Hz/60Hz, 正弦半波1サイクル)   |           |           |            | A                      | $I_{GT}$  | $R_L=1\Omega$  |     | 700  | 1500 | mA           |  |     |  |    |  |
| $I^2t$              |  |           |           |            | A <sup>2</sup> S       | $V_{GD}$  | $T_c=125^\circ C$ , $V_D=\frac{1}{2}V_{DRM}$               | 0.3 |      |      | V            |  |     |  |    |  |
| $di/dt$             | 250 ( $I_{GP}=18A$ , $t_r=1\mu s$ , $V_D=\frac{1}{2}V_{DRM}$ , $I_{TM}=1200A$ , $f=50Hz$ , $T_J=125^\circ C$ ) |           |           |            | A/ $\mu s$             | $I_{GD}$  |  | 5   |      |      | mA           |  |     |  |    |  |
| $I_{GFM}$           | 40 (パルス幅: max. 20 $\mu s$ , duty: max. 20%)  |           |           |            | A                      | $t_v$     | $T_c=25^\circ C$ , $V_D=\frac{1}{2}V_{DRM}$ , $I_{GP}=18A$ |     |      | 2.0  | $\mu s$      |  |     |  |    |  |
| $P_{GFAV}$          | 8  |           |           |            | W                      | $t_{kv}$  | $I_{TM}=1200A$ , $di/dt=250A/\mu s$                        |     |      | 8.0  | $\mu s$      |  |     |  |    |  |
| $I_{GR(RMS)}$       | 50   |           |           |            | A                      | $dv/dt$   | $T_J=125^\circ C$ , $V_D=\%V_{DRM}$ , $V_{GK}=-4V$         | 900 |      |      | V/ $\mu s$   |  |     |  |    |  |
| $P_{GRM}$           | 8000 (パルス幅: max. 20 $\mu s$ , duty: max. 2%)   |           |           |            | W                      | $I_H$     | $T_c=25^\circ C$ , $R_L=1\Omega$                           |     | 20   |      | A            |  |     |  |    |  |
| $V_{GRM}$           | 15   |           |           |            | V                      | $t_r$     | $T_c=120^\circ C$ , $I_{TM}=1200A$                         |     | 15   | 18   | $\mu s$      |  |     |  |    |  |
| $T_J$               | 125  |           |           |            | $^\circ C$             | $t_{kv}$  | $V_D=\frac{1}{2}V_{DRM}$ , $V_{DM}=\%V_{DRM}$              |     |      | 20   | $\mu s$      |  |     |  |    |  |
| $T_{HG}$            | -40~125  |           |           |            | $^\circ C$             | $t_{hai}$ | $C_s=2\mu F$ , $R_s=20\Omega$                              |     |      | 60   | $\mu s$      |  |     |  |    |  |
|                     |  |           |           |            |                        | $I_{GR}$  | $dig/dt=-30A/\mu s$  |     | 260  | 300  | A            |  |     |  |    |  |
|                     |  |           |           |            |                        | $R_{th}$  | 接合部~フィン間, DC   |     |      | 0.05 | $^\circ C/W$ |  |     |  |    |  |

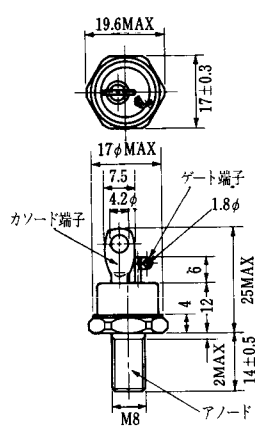
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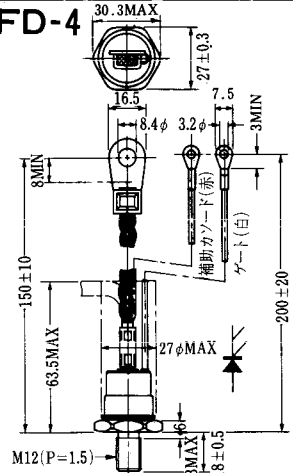
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FD-3



FD-4



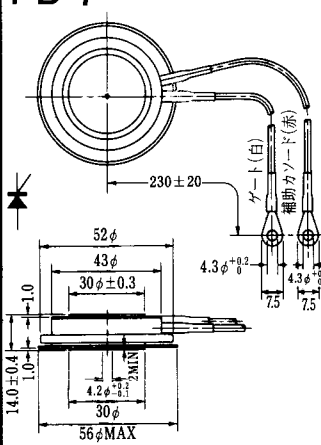
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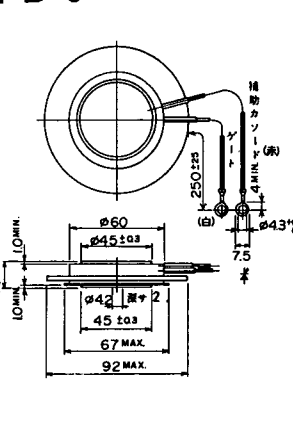
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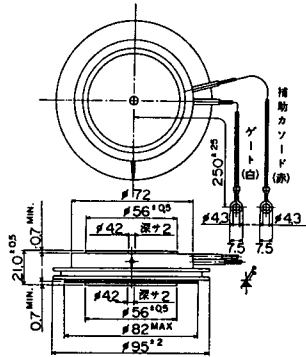
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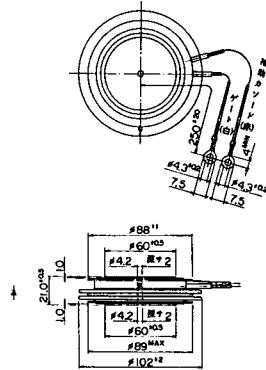
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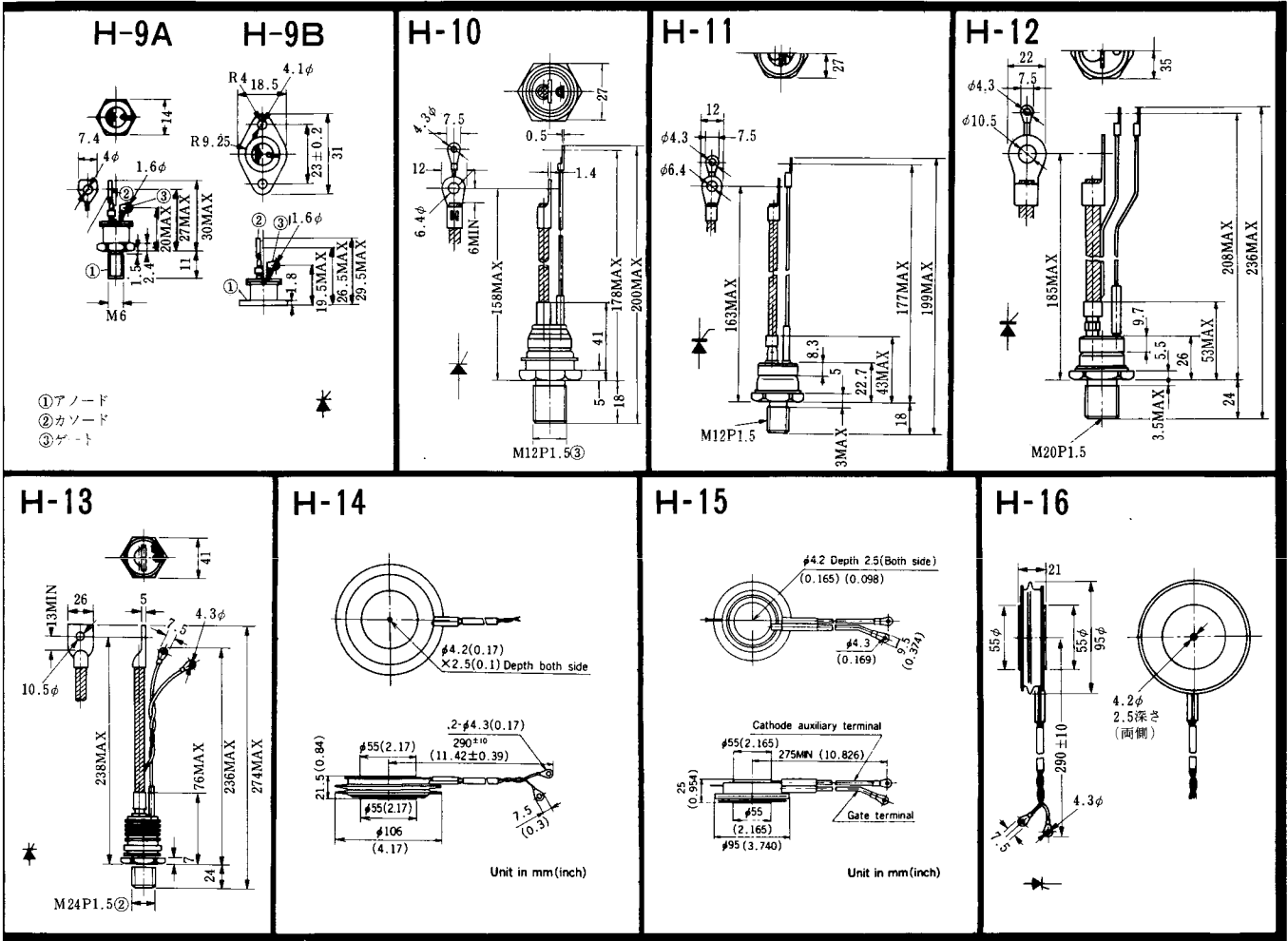


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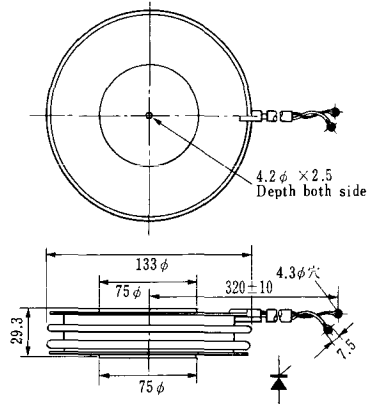


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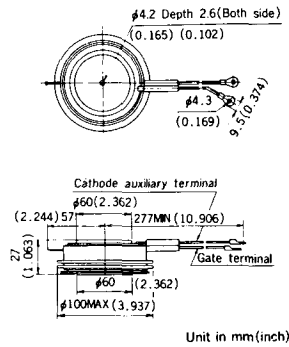




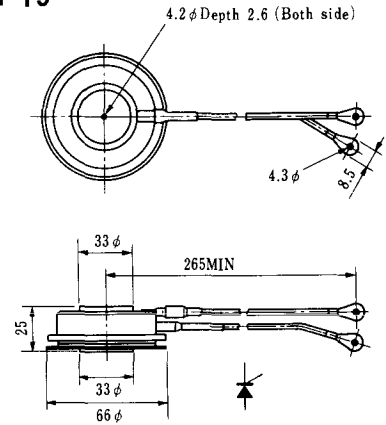
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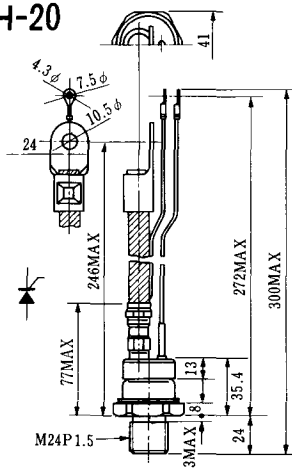
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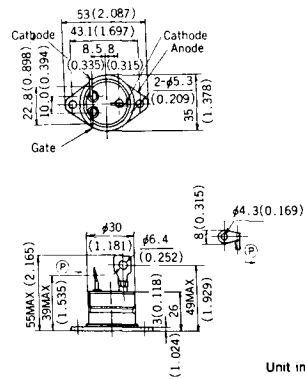
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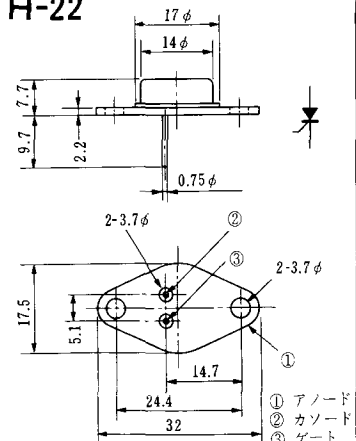
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### H-21

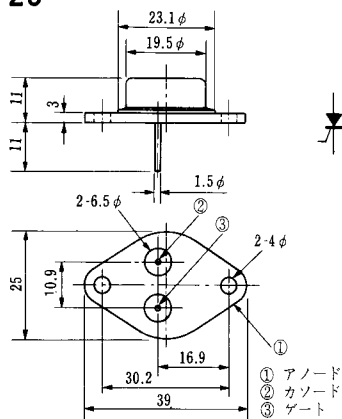


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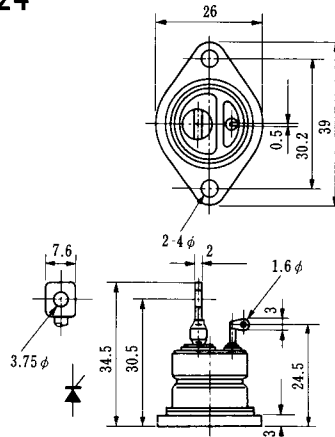
- ① アノード
- ② カソード
- ③ ゲート

### H-23

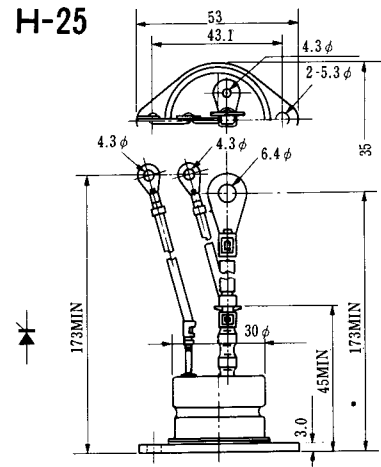


① アノード  
② カソード  
③ ゲート

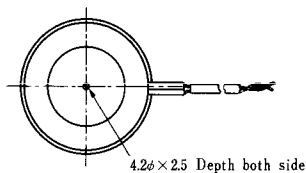
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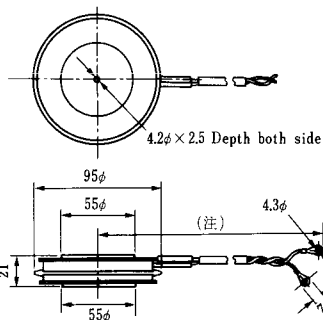
### H-25



### H-26

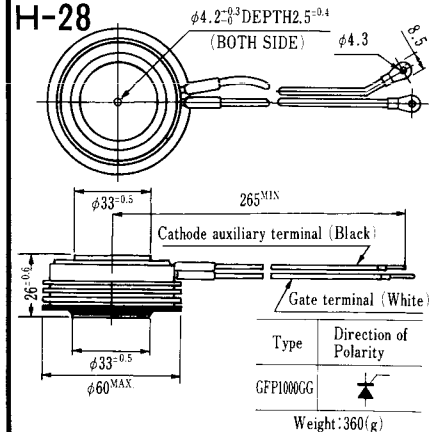


### H-27



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

### H-28



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

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

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

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

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

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

Weight: 360(g)

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



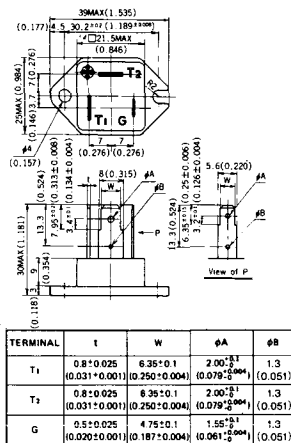
Note : The thickness is a dimension in press at the rated mounting force. Weight: 870(g)



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

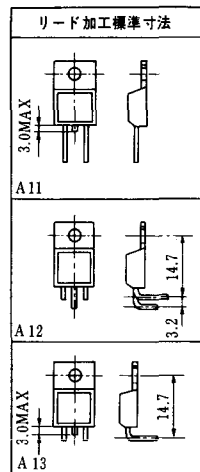
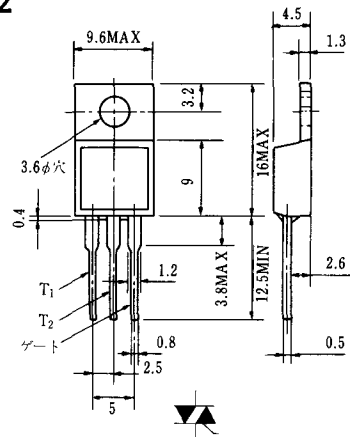


# HT-1

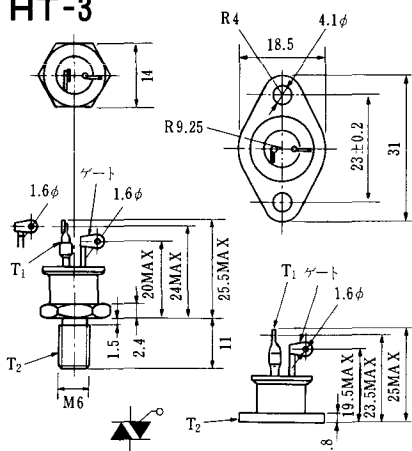


Unit in mm(inch)

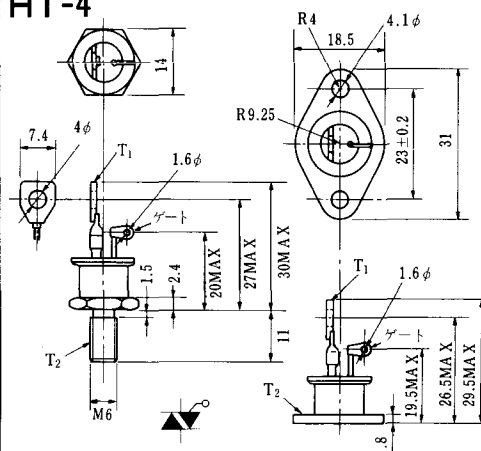
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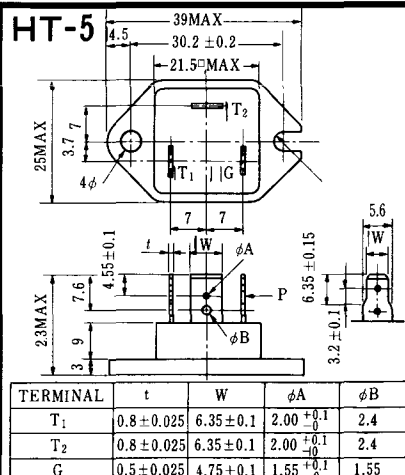
# HT-3



# HT-4



# HT-5



### M-1



### M-2



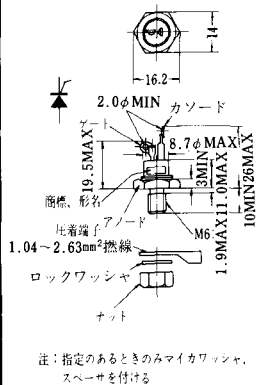
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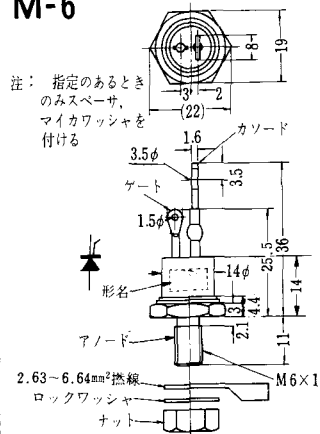
### M-4



### M-5



### M-6



### M-7



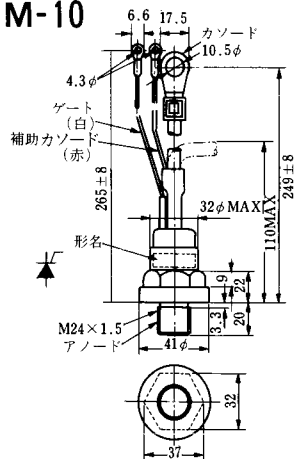
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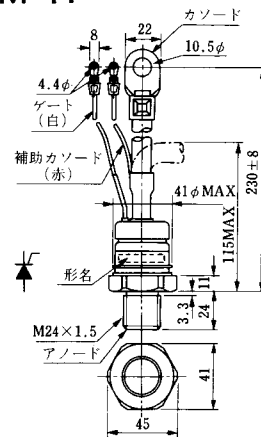
M-9



M-10



M-11



M-12



M-13



M-14



M-15



M-16





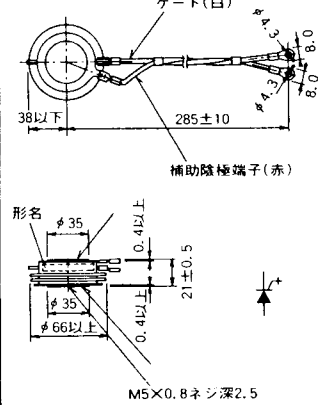
M-25



M-26



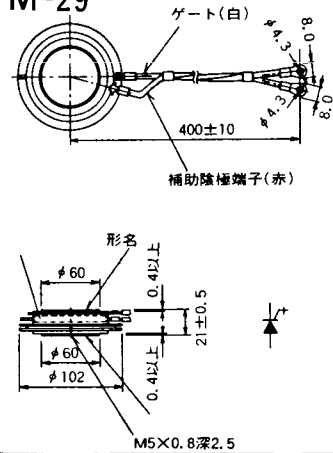
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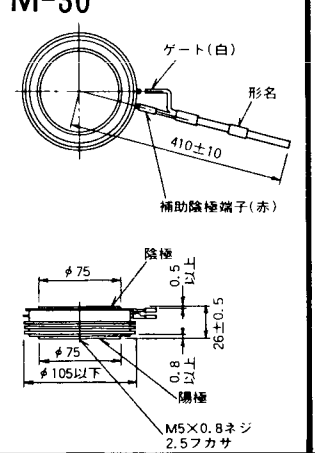
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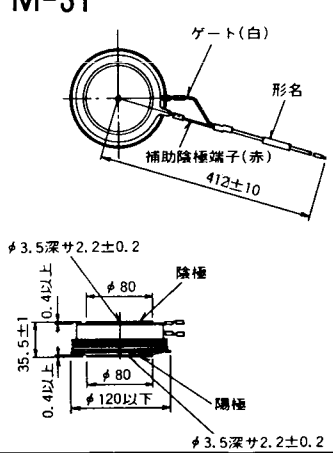
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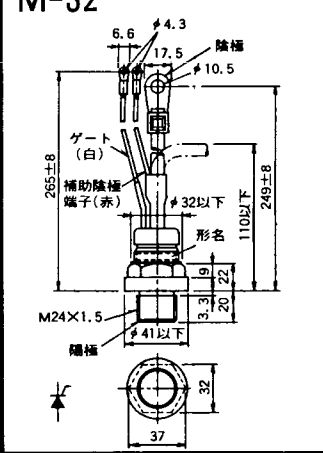
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M-31



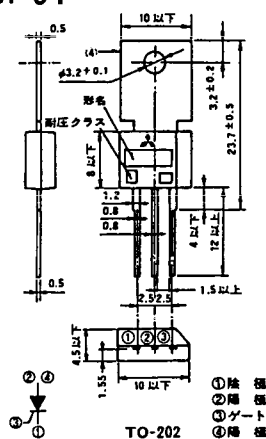
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### M-33



### M-34



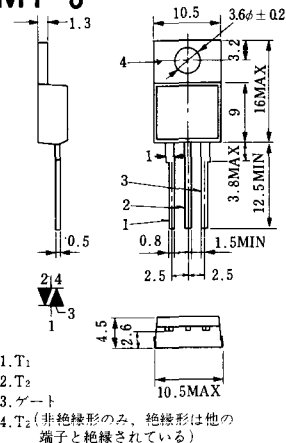
### MT-1



### MT-2



### MT-3



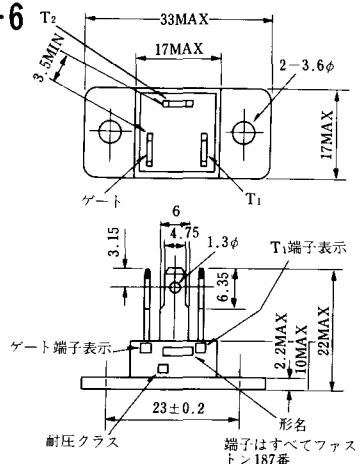
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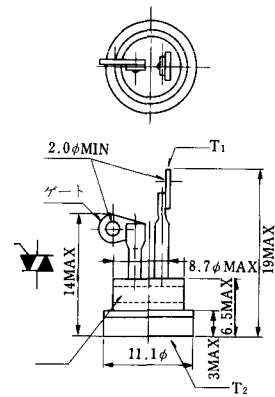
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### MT-6

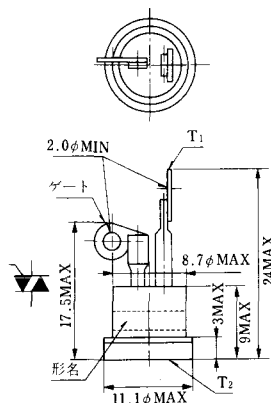


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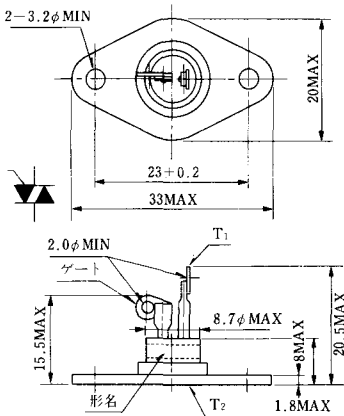


1. T<sub>1</sub>
2. T<sub>2</sub>
3. ゲート
4. T<sub>2</sub> (非絶縁形のみ、絶縁形は他の端子と絶縁されている)

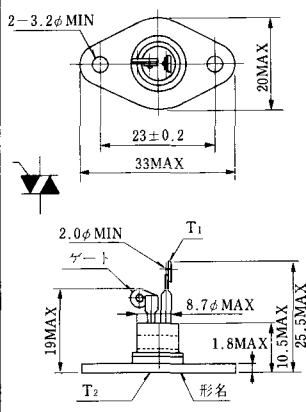
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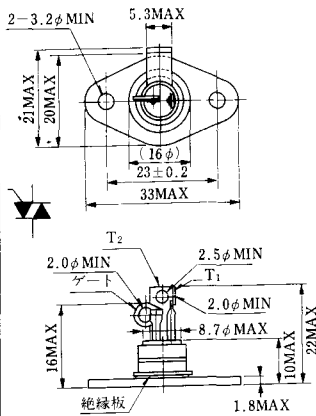
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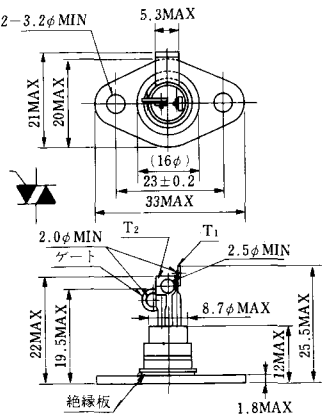
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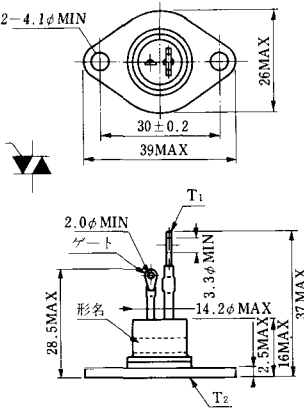
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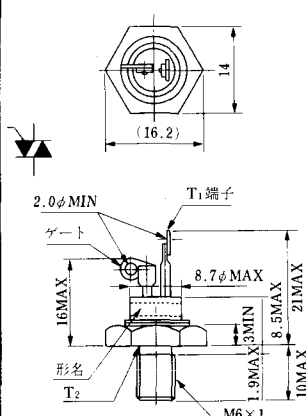
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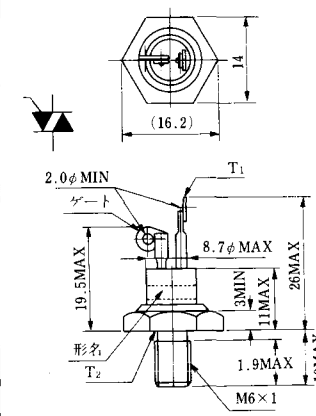
MT-13



MT-14



MT-15

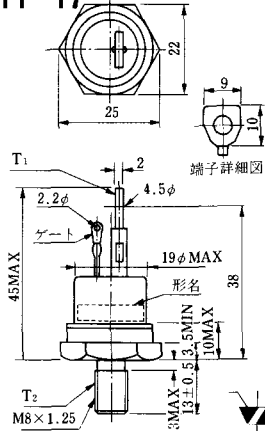




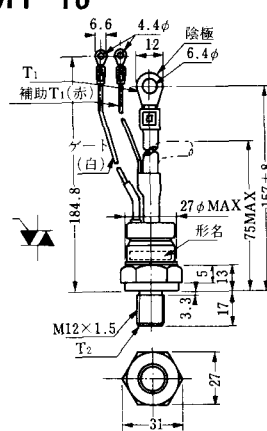
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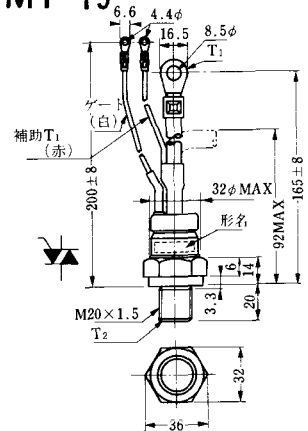
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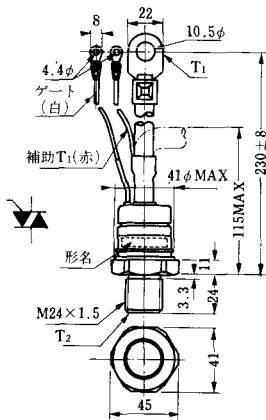
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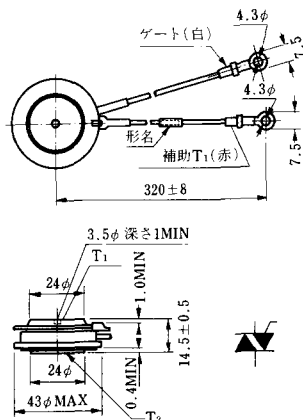
MT-19



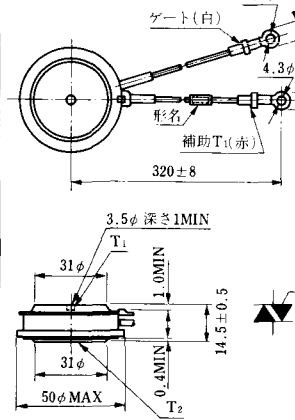
MT-20



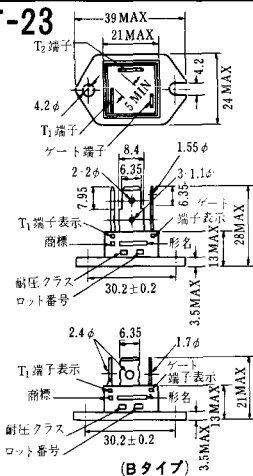
MT-21



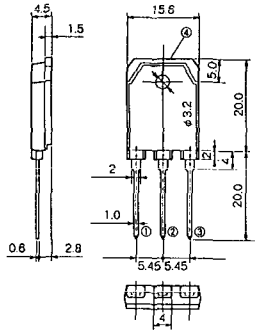
MT-22



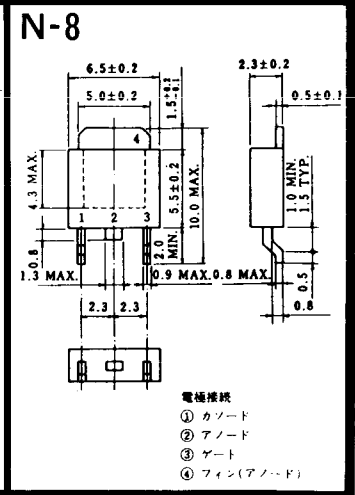
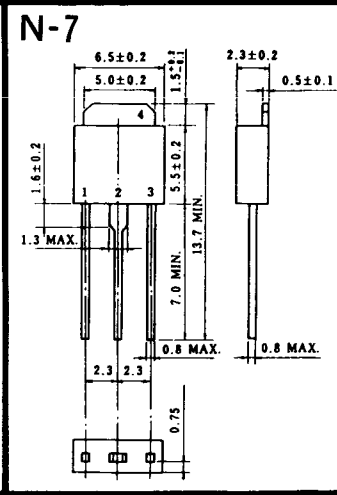
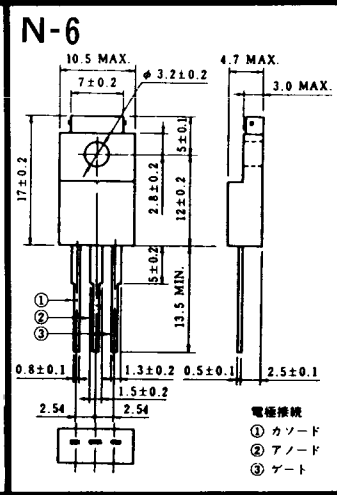
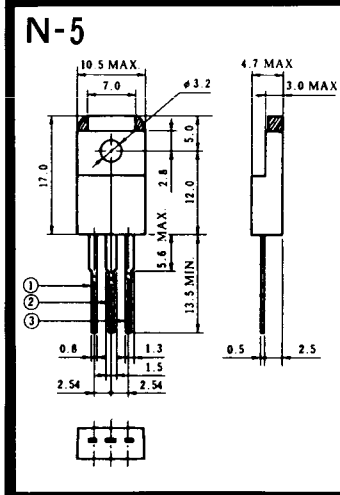
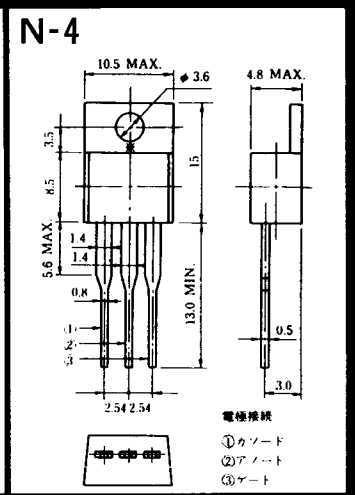
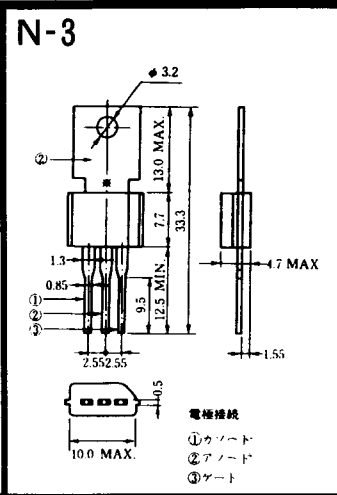
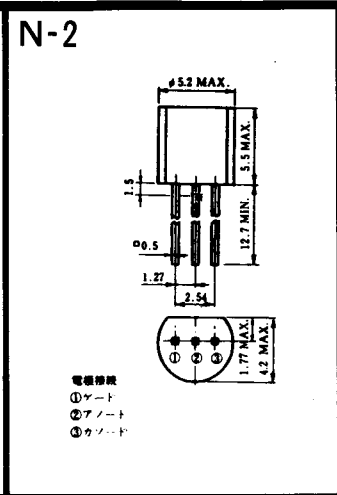
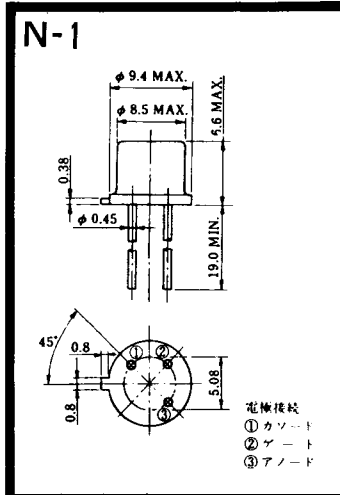
MT-23



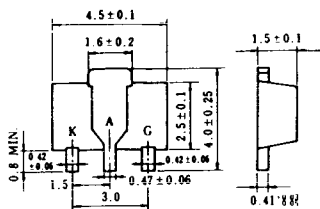
# MT-24



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



N-9



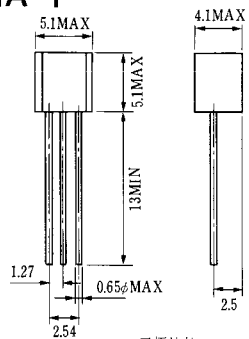
電極接続

K : カソード

A : アノード

G : ゲート

### NA-1



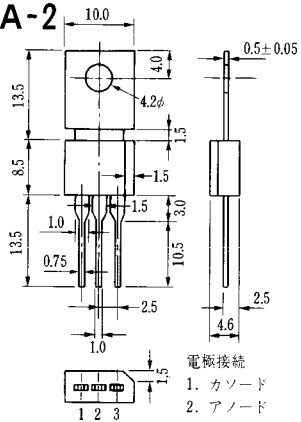
電極接続

1. ゲート
2. アノード
3. カソード

JEDEC: TO-92



### NA-2



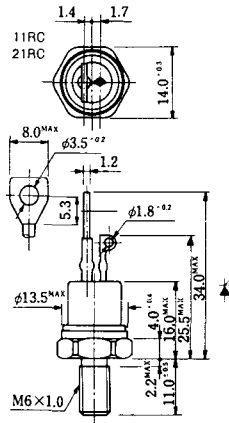
電極接続

1. カソード
2. アノード
3. ゲート

JEDEC: TO-202AA

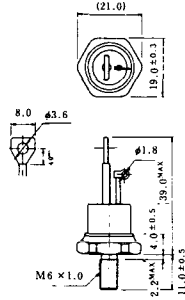


### NI-1



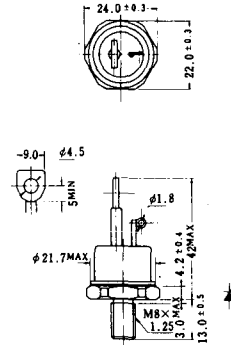
### NI-2

29RD



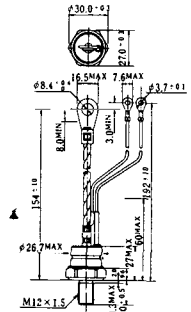
### NI-3

39RC  
59RC  
39RF  
59RF



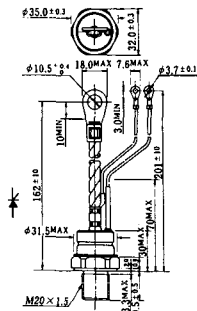
### NI-4

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



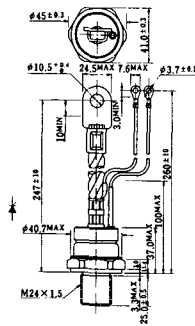
### NI-5

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



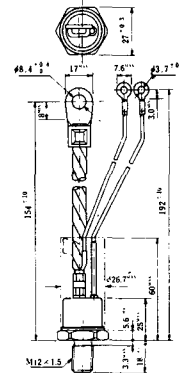
### NI-6

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



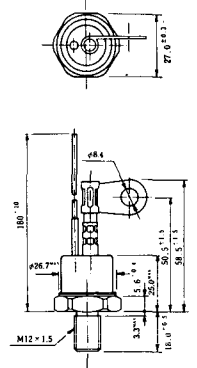
### NI-7

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



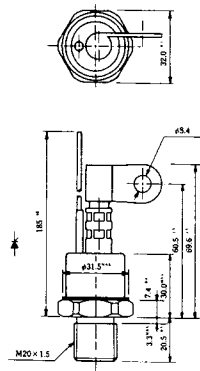
### NI-8

89RW  
129RW



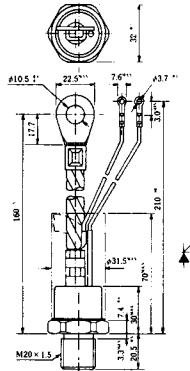
### NI-9

259RW  
309RW



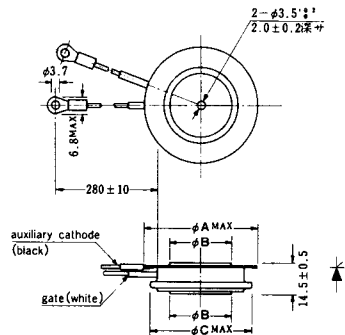
### NI-10

259RW<sub>J</sub>L  
309RW<sub>J</sub>L



### NI-11

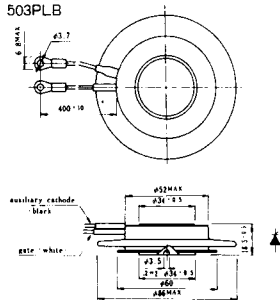
103PA  
253PA  
503PA  
553PA  
803PA  
103PLE  
103PLG  
103PLH  
203PLG  
253PLE  
253PLH  
353PLG  
403PLE  
403PLH



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

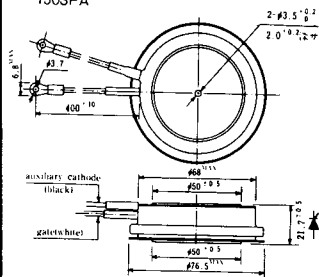
### NI-12

403PAB  
503PAB  
503PLB



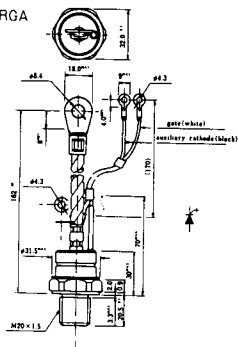
### NI-13

1003PA  
1003PAB  
1003PLF  
1003PLH  
1503PA



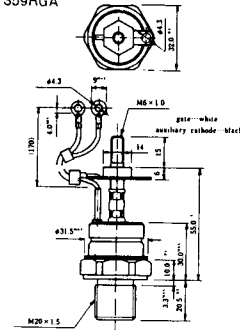
### NI-14

358RGA



### NI-15

359RGA







NI-24

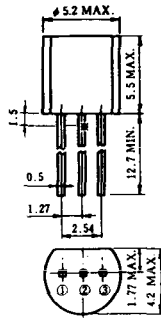
2001PGB<sup>r</sup> JE



NI-25

NI-26

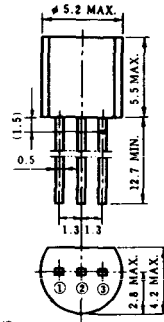
### NT-1



電極接続

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

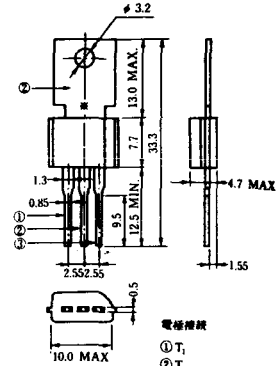
### NT-2



電極接続

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

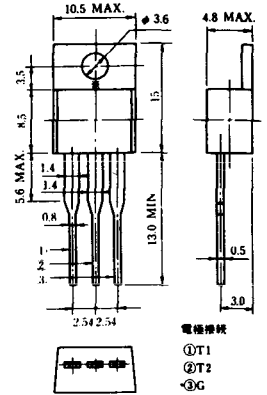
### NT-3



電極接続

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

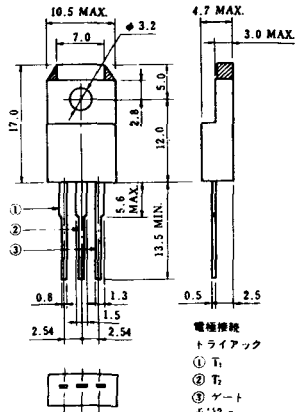
### NT-4



電極接続

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

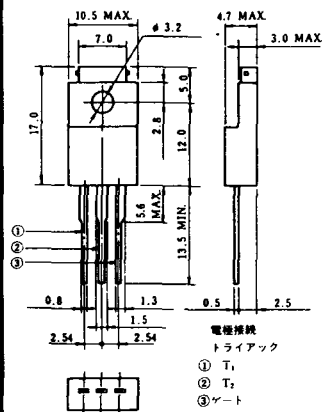
### NT-5



電極接続  
トライアック

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

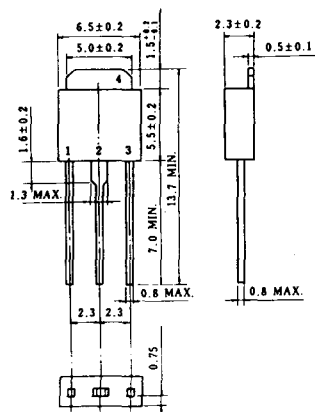
### NT-6



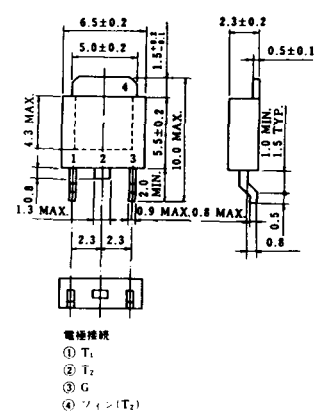
電極接続  
トライアック

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

### NT-7



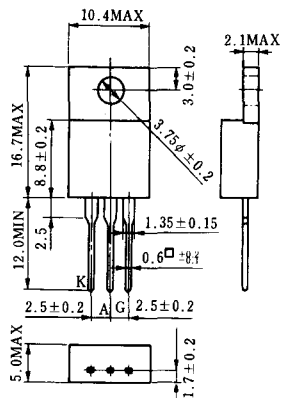
### NT-8



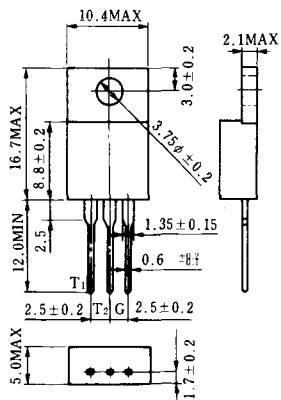
電極接続

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

### S-1



### ST-1



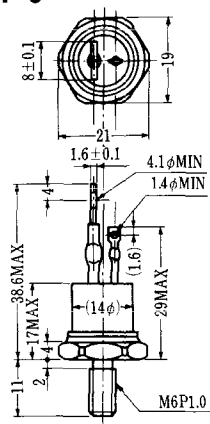
SA-1



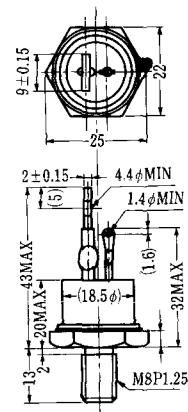
SA-2



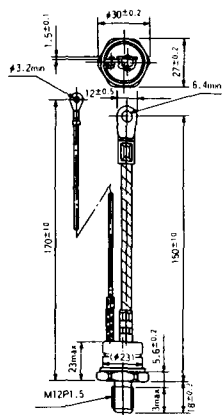
SA-3



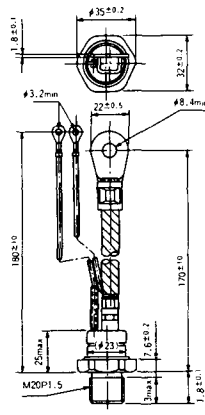
SA-4



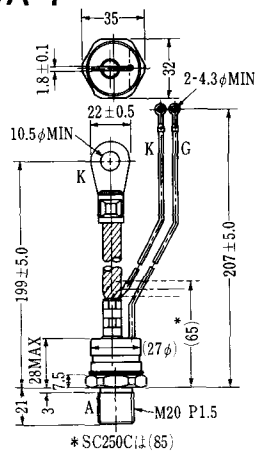
SA-5



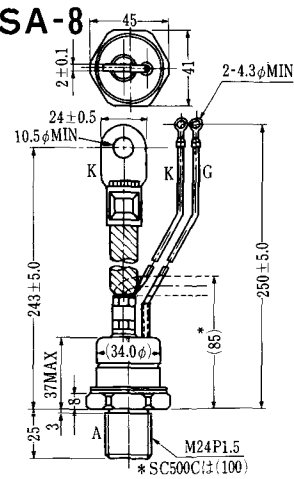
SA-6



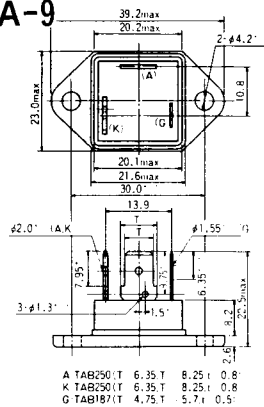
SA-7



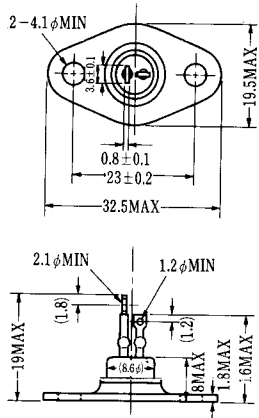
SA-8



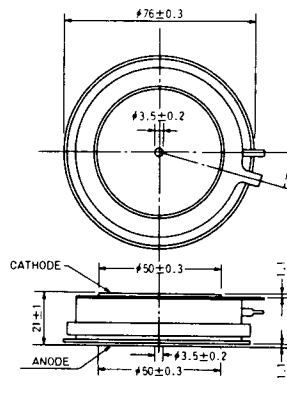
SA-9



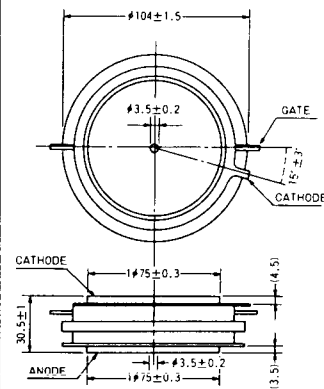
SA-10



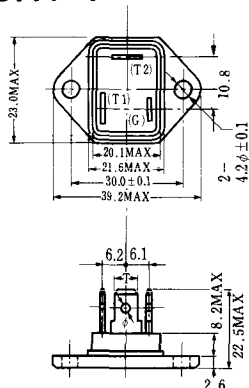
SA-11



SA-12



### SAT-1

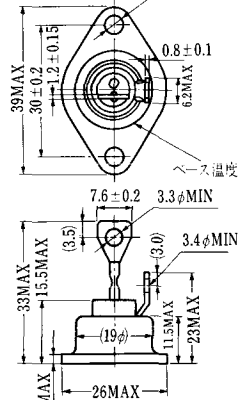


T1端子: フラスト > 250 (T=6.35, t=0.8, φ=1.65)  
 T2端子: フラスト > 250 (T=6.35, t=0.8, φ=1.65)  
 C端子: フラスト > 187 (T=4.75, t=0.5, φ=1.3)

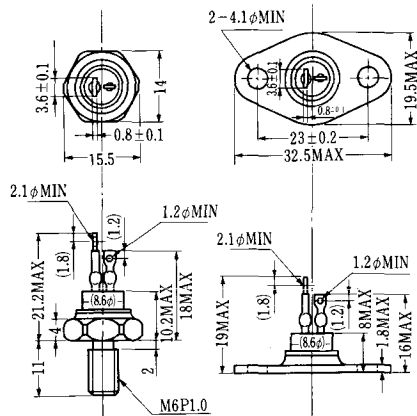
### SAT-2



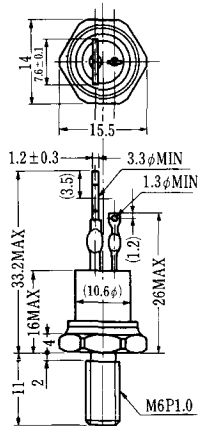
### SAT-3



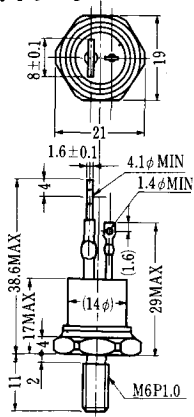
### SAT-4



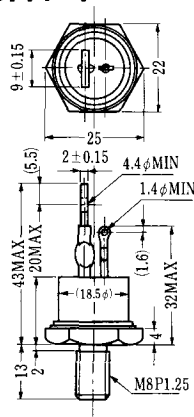
### SAT-5



### SAT-6



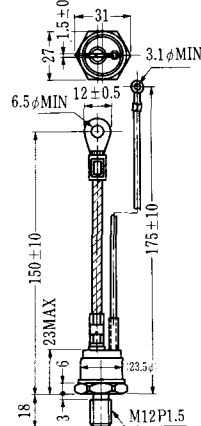
### SAT-7



### SAT-8



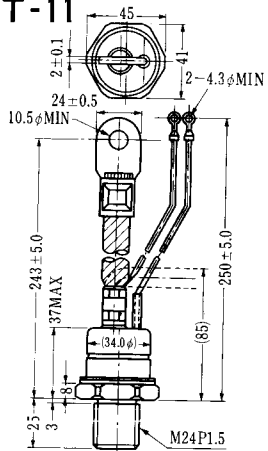
### SAT-9



SAT-10



SAT-11

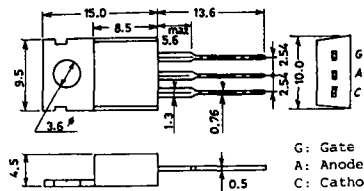


### SY-1 (1096A)



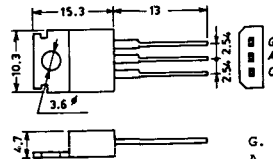
C: Cathode  
A: Anode  
G: Gate

### SY-2 (1151)



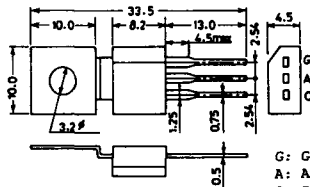
G: Gate  
A: Anode  
C: Cathode

### SY-3 (1104)



G: Gate  
A: Anode  
C: Cathode

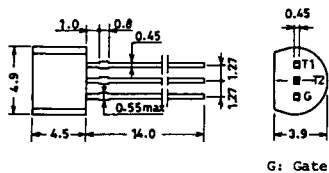
### SY-4 (1150)



G: Gate  
A: Anode  
C: Cathode

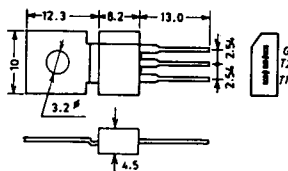


1097A

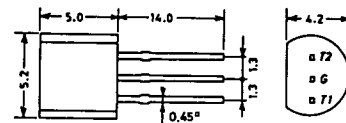


G: Gate

1102



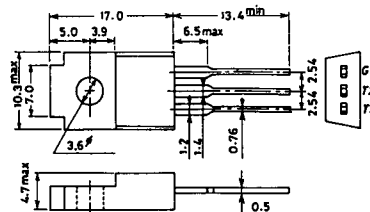
1141



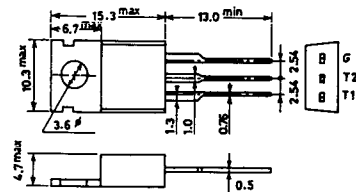
1142



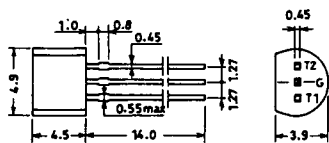
1144



1155

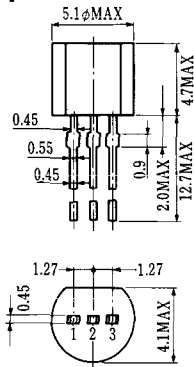


1192A



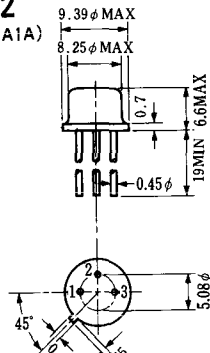
G: Gate

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



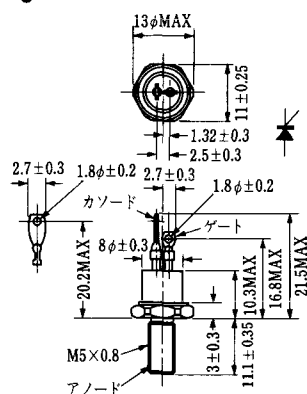
- 1 ゲート
- 2 アノード
- 3 カソード

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



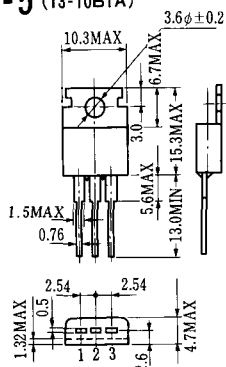
1. カソード
2. ゲート
3. アノード(ケース)

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



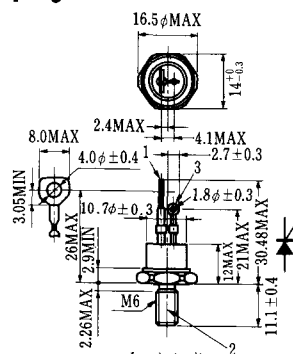
- 1 カソード
- 2 アノード
- 3 ゲート

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



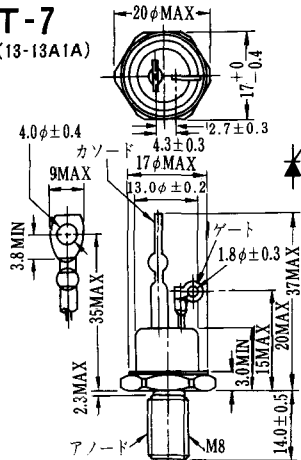
- 1 カソード
- 2 アノード
- 3 ゲート

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

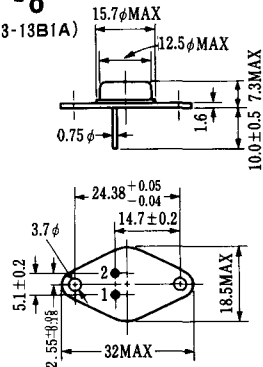


- 1 カソード
- 2 アノード
- 3 ゲート

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

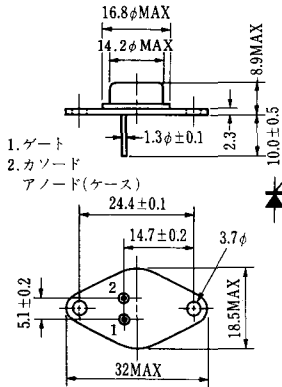


**T-8 (13-13B1A)**



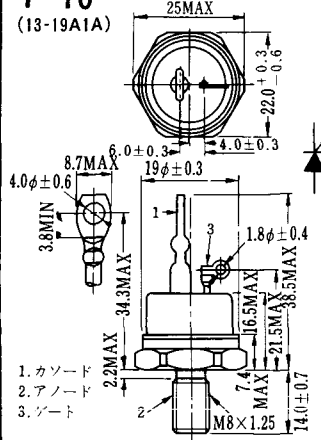
1. ゲート
2. カソード
3. アノード(ケース)

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



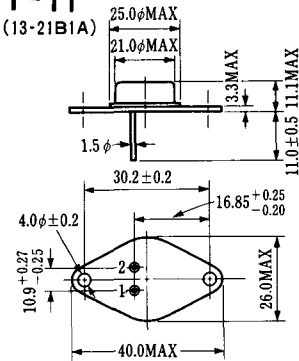
1. ゲート
2. カソード
- アノード(ケース)

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



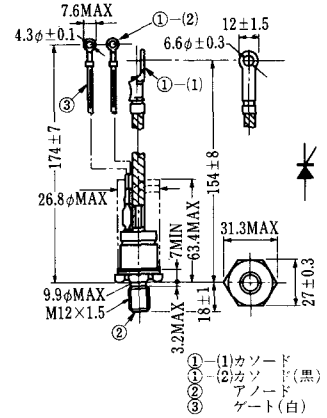
1. カソード
2. アノード
3. ゲート

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



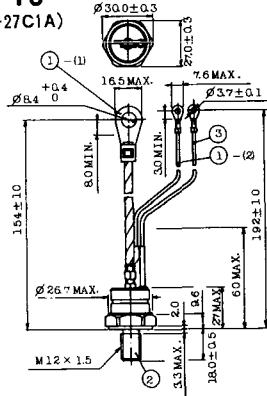
1. ゲート
2. カソード
- アノード(ケース)

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



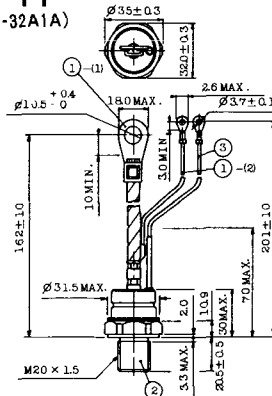
- ① (1) カソード
- ① (2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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



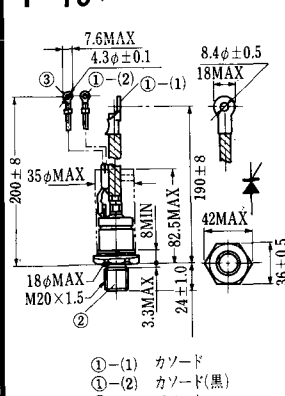
- 1-(1) カソード
- 1-(2) カソード(黒)
- 2 アノード
- 3 ゲート(白)

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



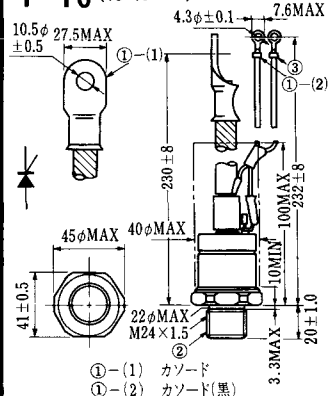
- 1-(1) カソード
- 1-(2) カソード(黒)
- 2 アノード
- 3 ゲート(白)

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



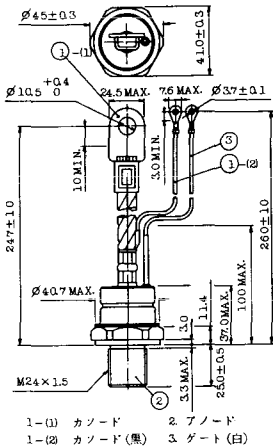
- ① (1) カソード
- ① (2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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



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

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



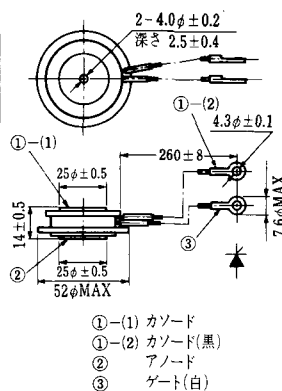
**T-18 (13-45D1A)**



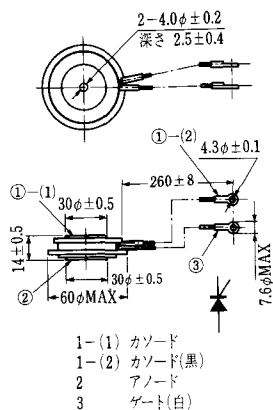
**T-19 (13-52B1A)**



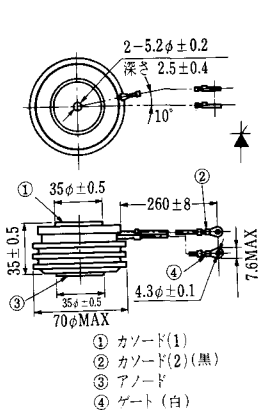
**T-20 (13-52C1A)**



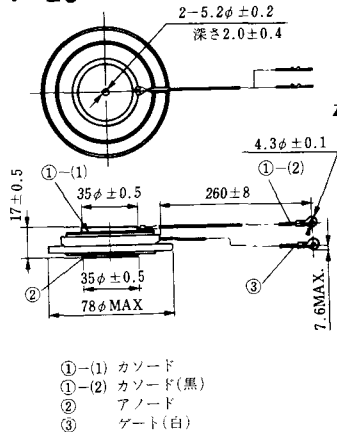
**T-21 (13-60A1A)**



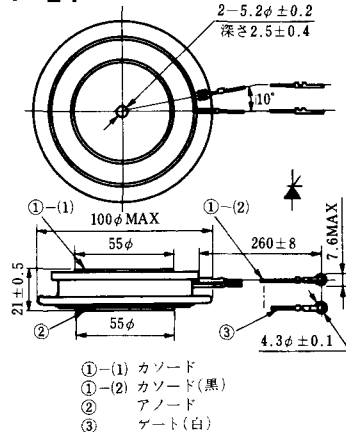
**T-22 (13-70C1A)**



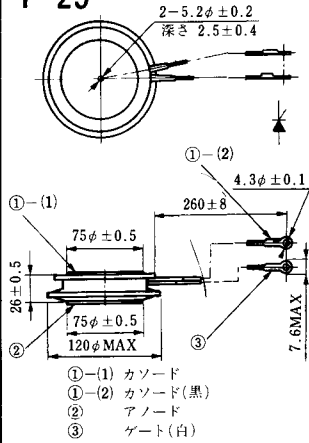
**T-23 (13-78A1A)**



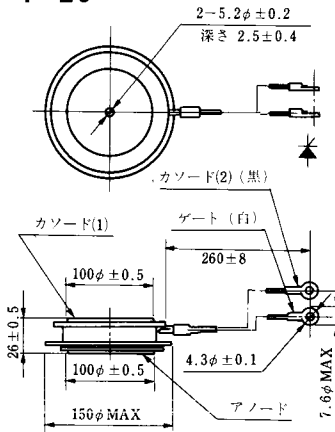
**T-24 (13-100C1A)**



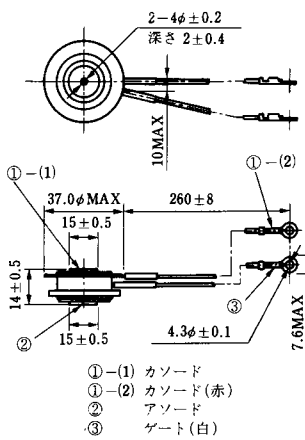
**T-25** (13-120A2A)



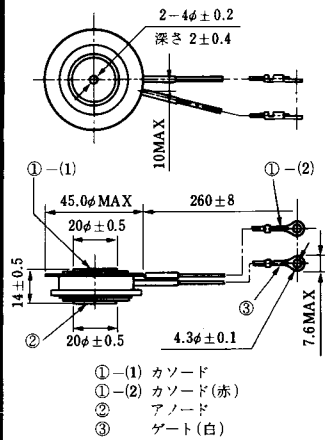
**T-26** (13-150A1A)



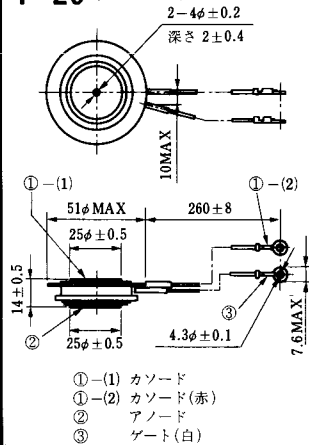
**T-27** (13-37A1A)



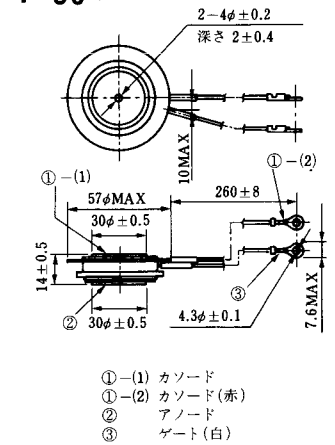
**T-28** (13-45E1A)



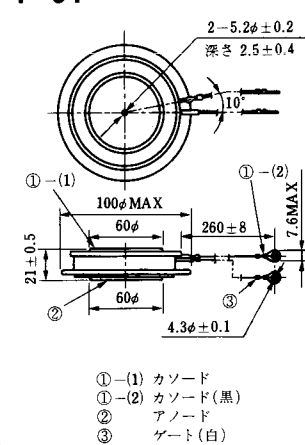
**T-29** (13-51A1A)



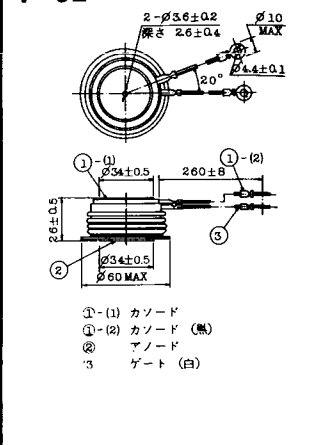
**T-30** (13-57A1A)



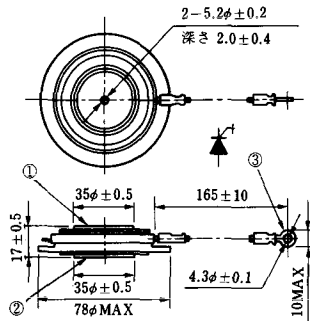
**T-31** (13-100E1A)



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

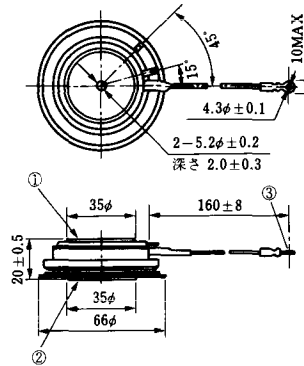


**T-33** (13-78B1A)



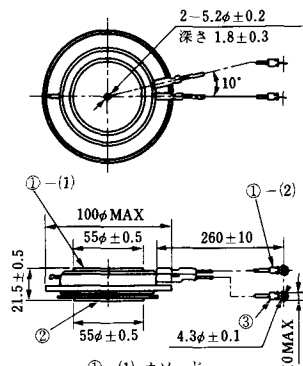
- ① カソード
- ② アノード
- ③ ゲート

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



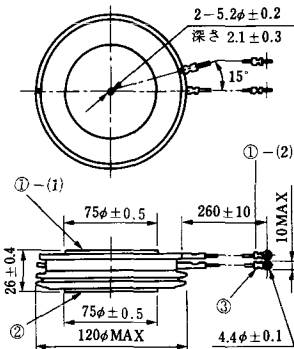
- ① カソード
- ② アノード
- ③ ゲート

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



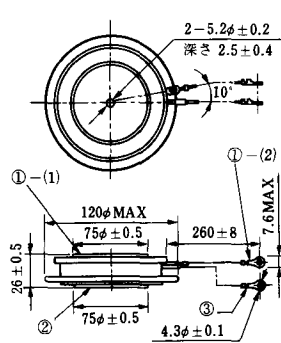
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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



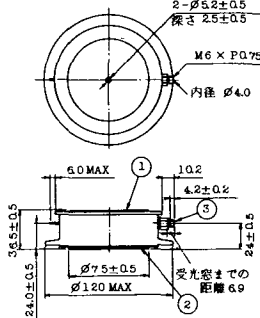
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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



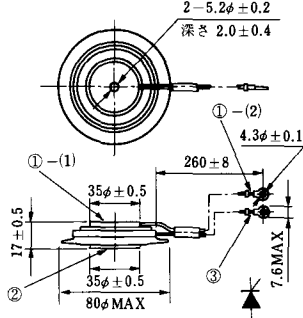
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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



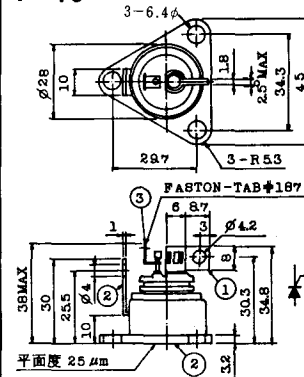
- ① カソード
- ② アノード
- ③ ゲート

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



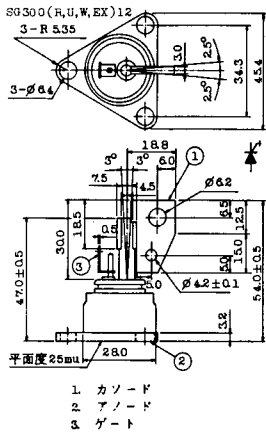
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

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

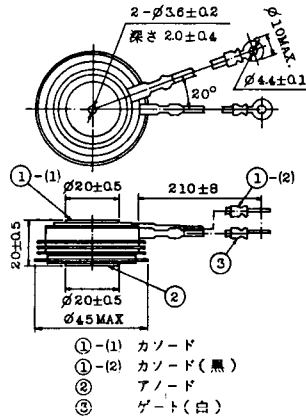


- 1. カソード
- 2. アノード
- 3. ゲート

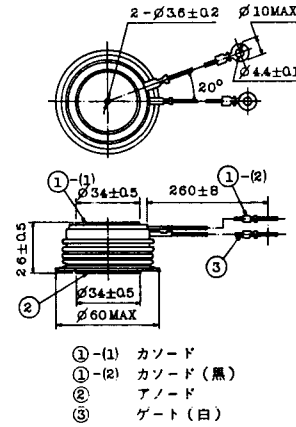
**T-41 (13-28A2)**



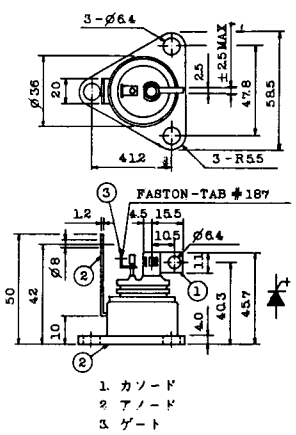
**T-42 (13-45F1A)**



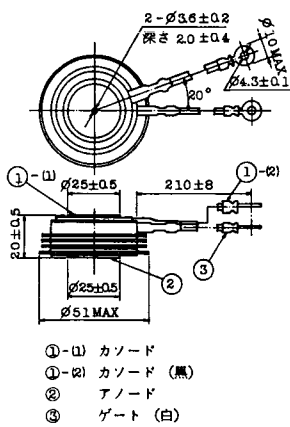
**T-43 (13-60E2A)**



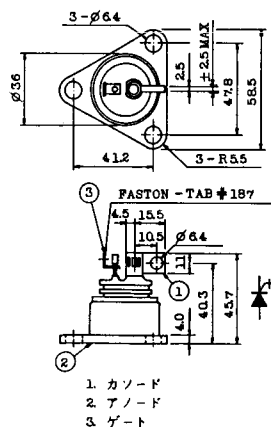
**T-44 (13-36A1A)**



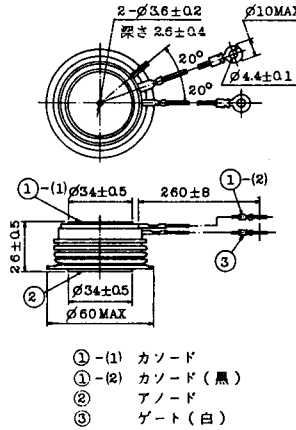
**T-45 (13-51B1A)**



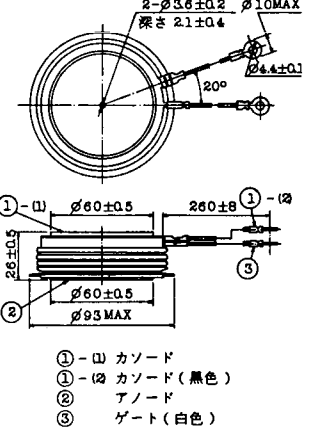
**T-46 (13-36B1A)**



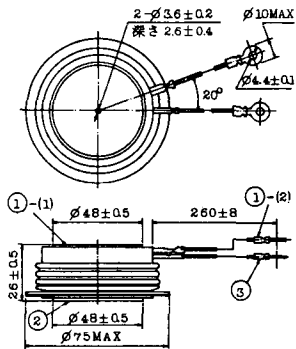
**T-47 (13-60E1A)**



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

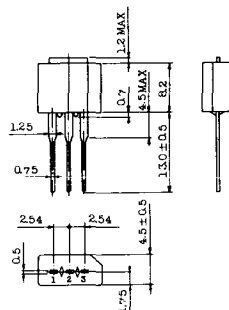


T-49 (13-75A1A)



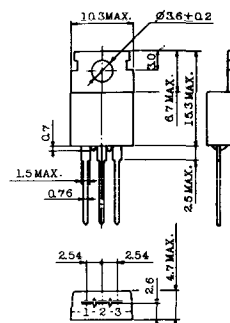
- 1-(1) カソード
- 1-(2) カソード (黒)
- 2 アノード
- 3 ゲート (白)

T-50 (13-10A3A)



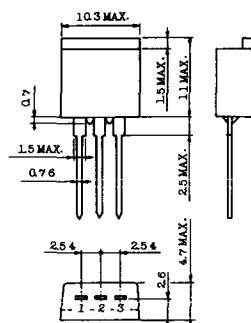
- 1 カソード
- 2 アノード
- 3 ゲート

T-51 (13-10D1A)



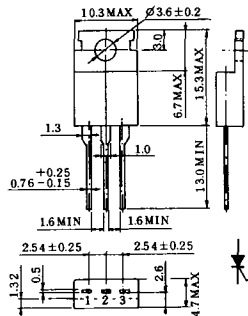
- 1 カソード
- 2 アノード
- 3 ゲート

T-52 (13-10D2A)



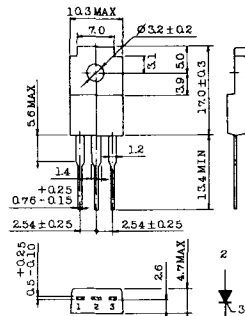
- 1 カソード
- 2 アノード
- 3 ゲート

T-53 (13-10E1B)



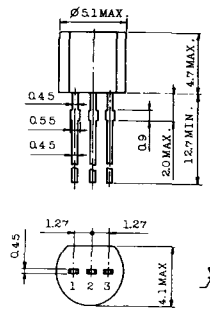
- 1 カソード
- 2 アノード
- 3 ゲート

T-54 (13-10F1B)



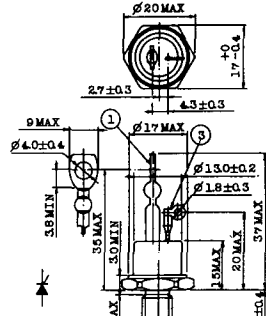
- 1 カソード
- 2 アノード
- 3 ゲート

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)



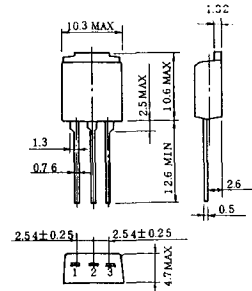
1. カソード
2. アノード
3. ゲート

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)



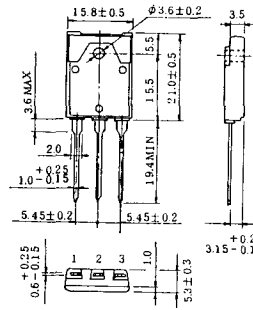
1. ゲート
2. アノード
3. カソード

T-62 (13-10H1A)



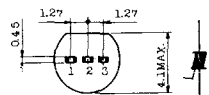
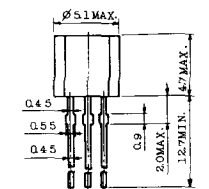
1. カソード
2. アノード
3. ゲート

T-63 (13-16A1B)



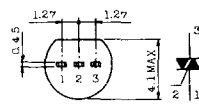
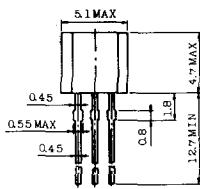
1. カソード
2. アノード
3. ゲート

TT-1



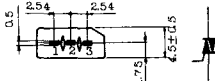
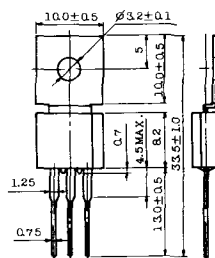
- 1 ゲート
- 2 T<sub>2</sub>
- 3 T<sub>1</sub>

TT-2



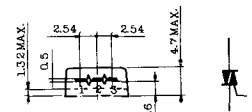
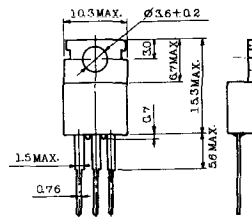
- 1 T<sub>1</sub>
- 2 ゲート
- 3 T<sub>2</sub>

TT-3



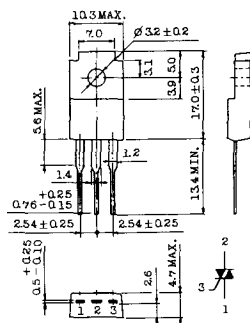
- 1 T<sub>1</sub>
- 2 T<sub>2</sub>
- 3 ゲート

TT-4



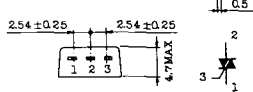
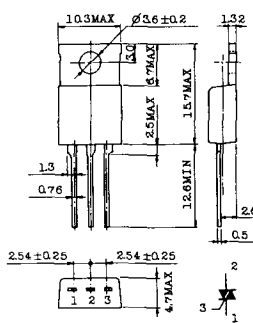
- 1 T<sub>1</sub>
- 2 T<sub>2</sub>
- 3 ゲート

TT-5



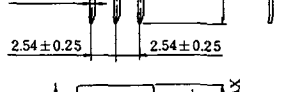
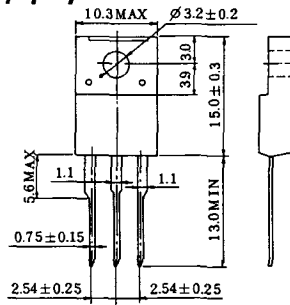
- 1 T<sub>1</sub>
- 2 T<sub>2</sub>
- 3 ゲート

TT-6



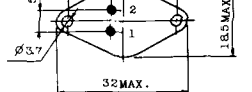
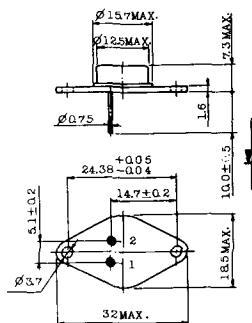
- 1 T<sub>1</sub>
- 2 T<sub>2</sub> (放熱板)
- 3 ゲート

TT-7

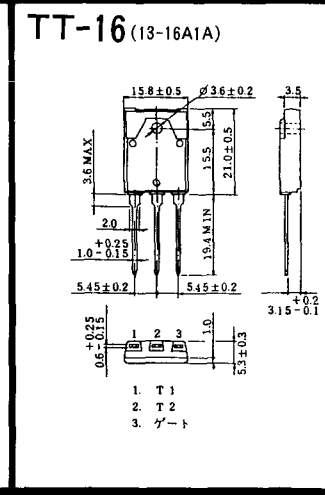
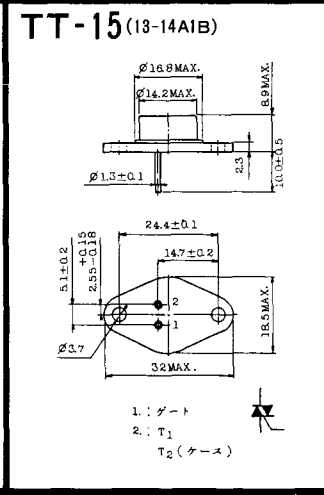
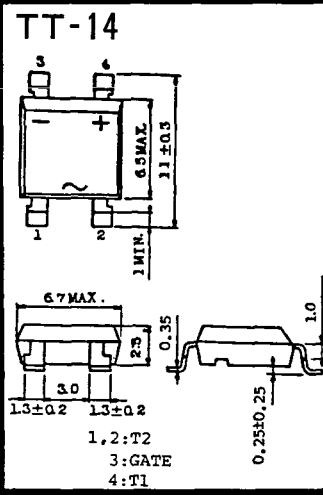
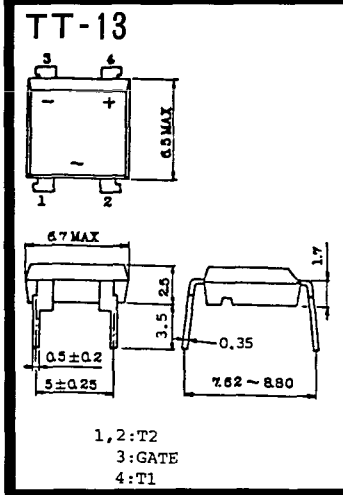
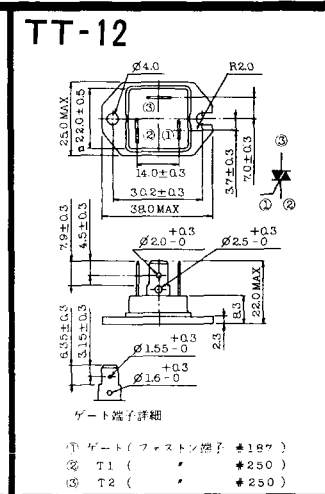
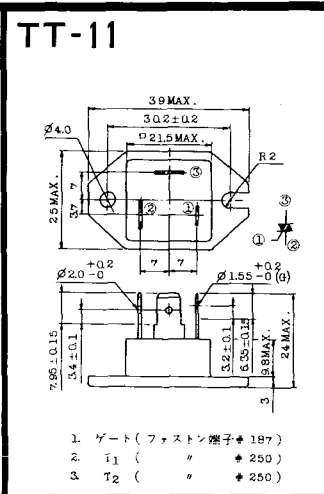
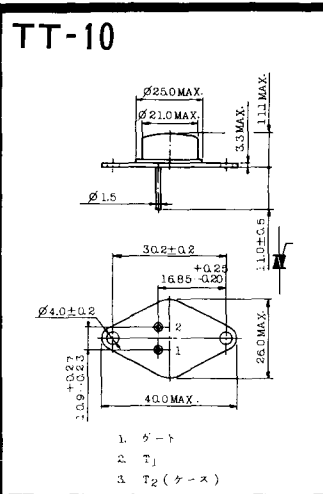
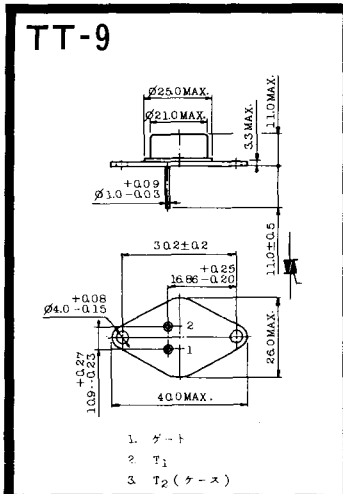


- 1. T<sub>1</sub>
- 2. T<sub>2</sub>
- 3. ゲート

TT-8



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



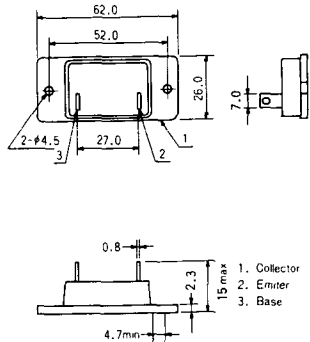


TS-8

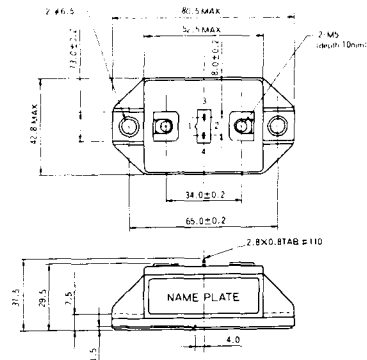


1. ベース
2. エミッタ  
コレクタ  
(ケース)

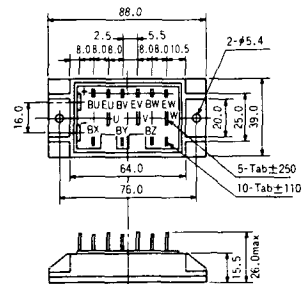
### S-62A1A



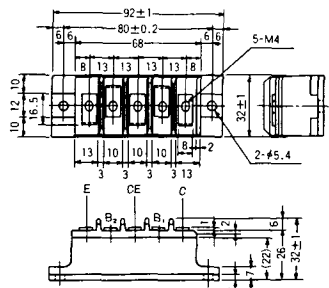
### S-80A1A



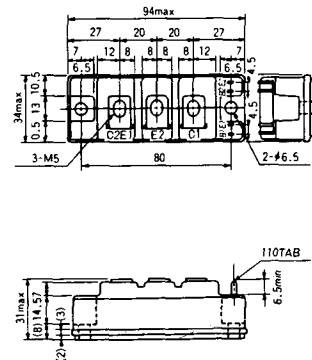
### S-88D1A



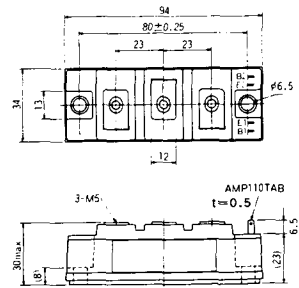
### S-92B1A



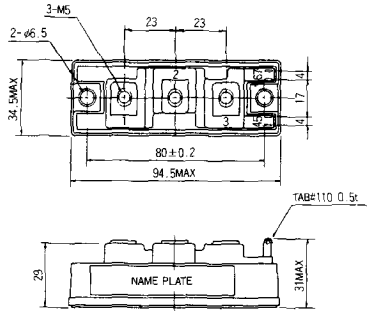
### S-94B1A



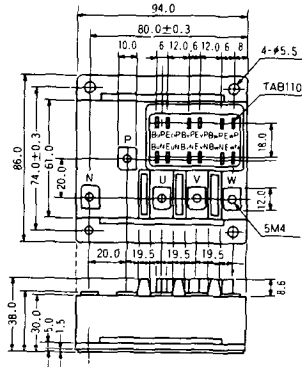
### S-94B1B



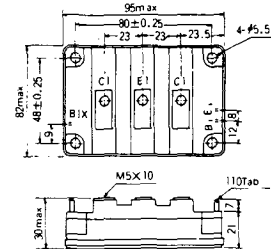
S-94B2A



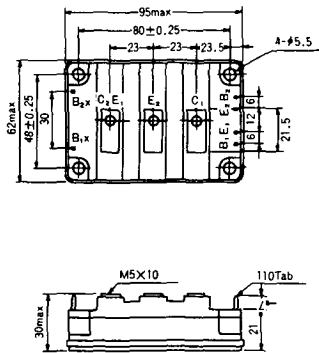
S-94D1A



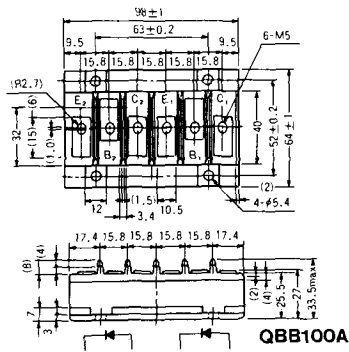
S-95A1A



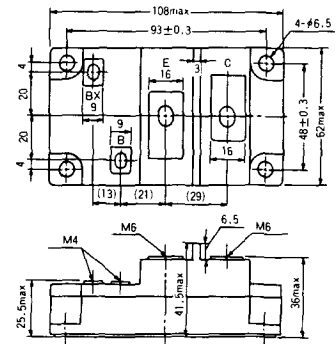
S-95B1A



S-98B1B



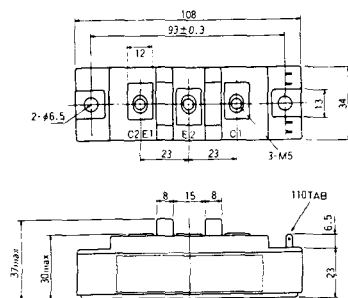
S-108A2A



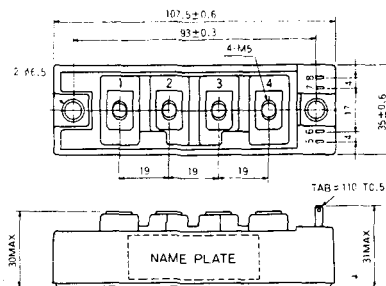
S-108B1A



S-108B1B



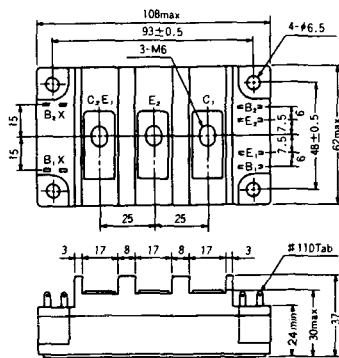
S-108B1C



S-108B2A



S-108B2B





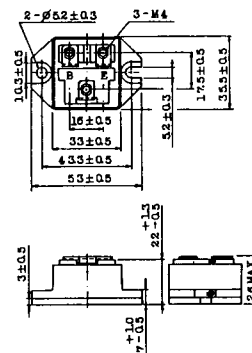
### 2-22B1A



### 2-27A4A



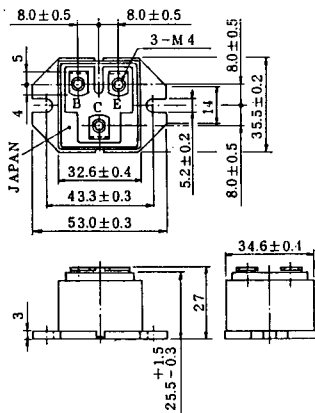
### 2-33C1A



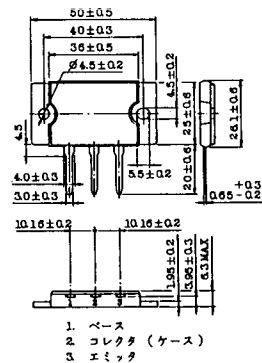
### 2-33D1A



### 2-33F1A



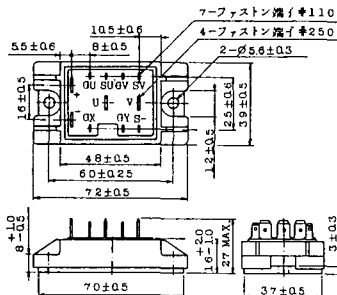
### 2-37A1A



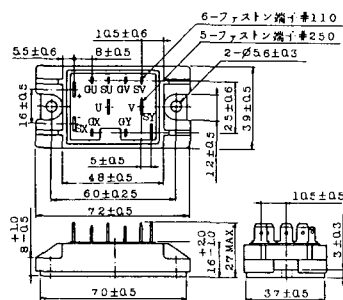
2-48A3A



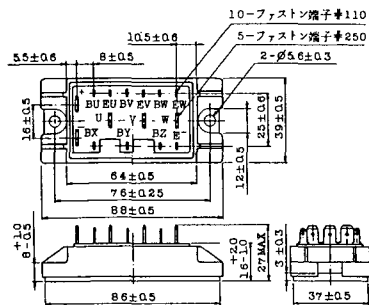
2-48A3B



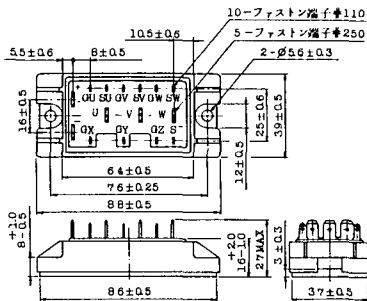
2-48A4A



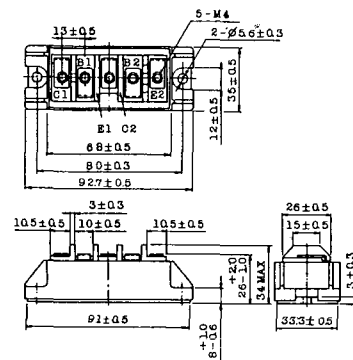
2-64A2A



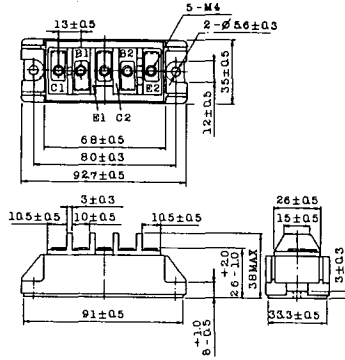
2-64A2B



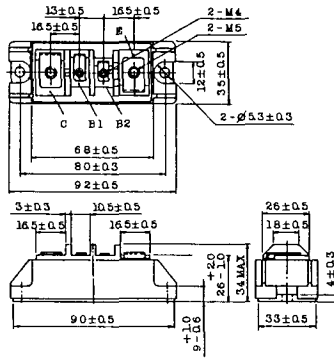
2-68A2A



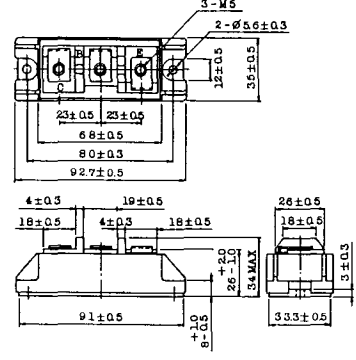
2-68B2A



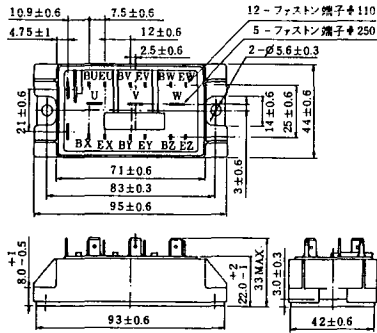
2-68C1A



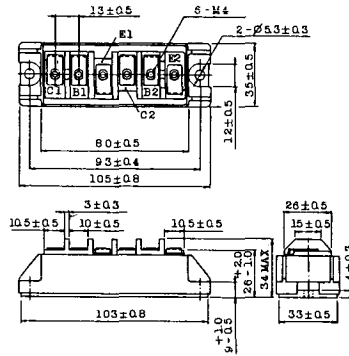
2-68D2A



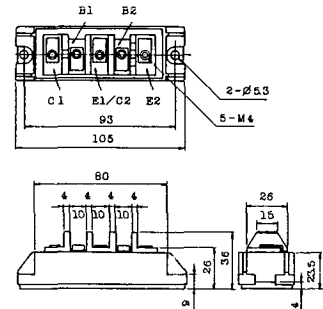
2-72A3A



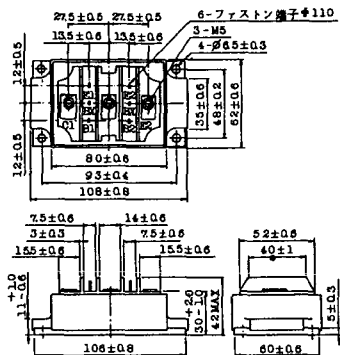
2-80A1A



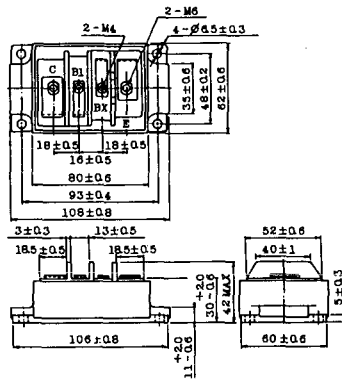
2-80B1A



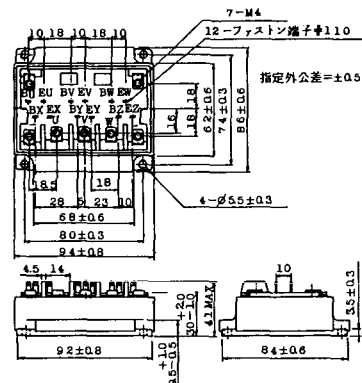
### 2-80C1A



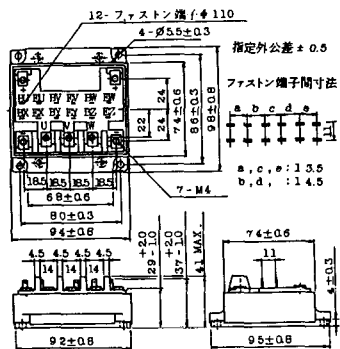
### 2-80D2A



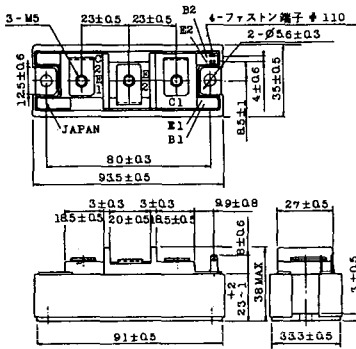
### 2-94A2A



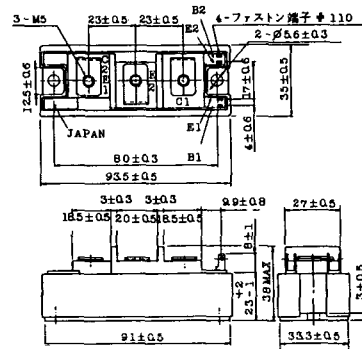
### 2-94B1A



### 2-94C2A



### 2-94C3A



### 2-94D1A



### 2-96A3A



### 2-96A4A



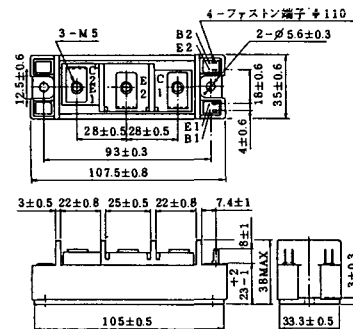
### 2-98B1A



### 2-98C2A



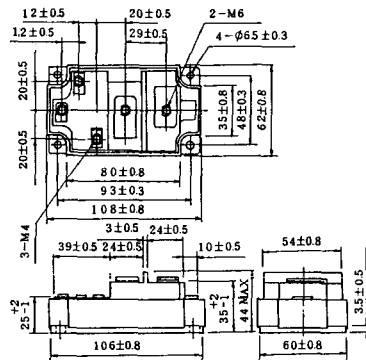
### 2-108A2A



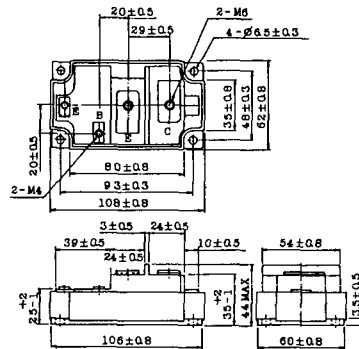
### 2-108B1A



### 2-109A3A



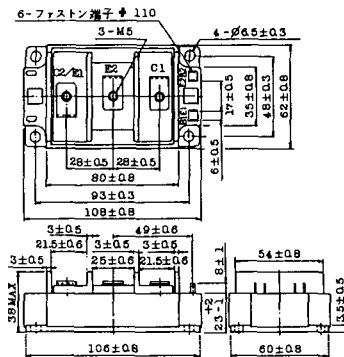
### 2-109A4A



### 2-109B3A

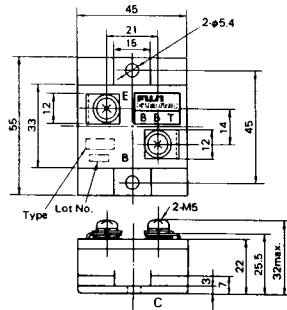


### 2-109B4A



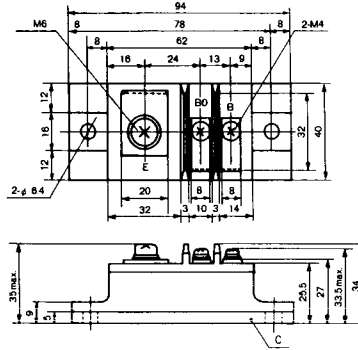
### BBT-II

BBTII  
1D200A-020



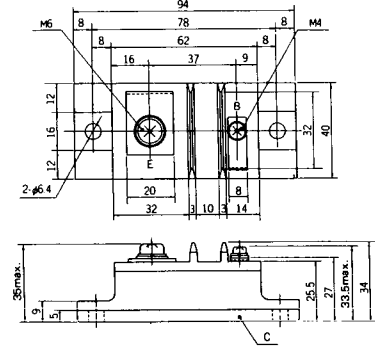
### BBT-III

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



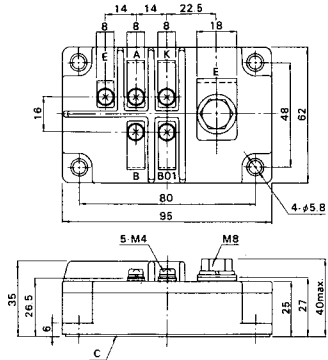
### BBT-III

BBTIII  
ETN01-055  
ET1257

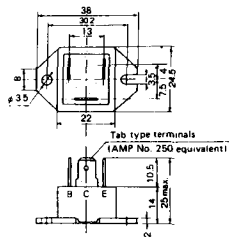


### BBT-IV

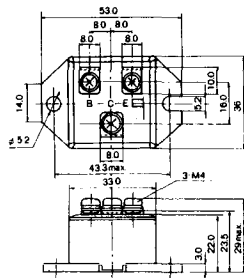
BBTIV  
1D500A-030



M-101



M-102



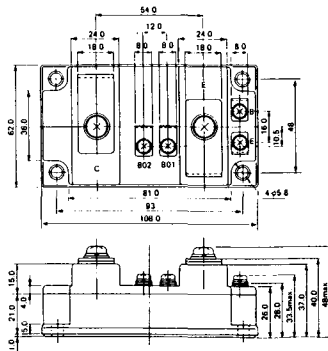
M-103



M-104



M-105



M-106

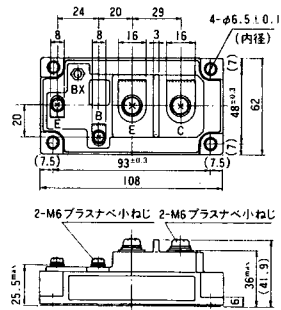




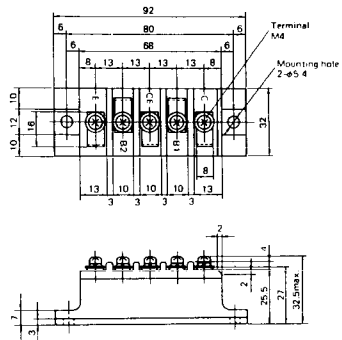
### M-107



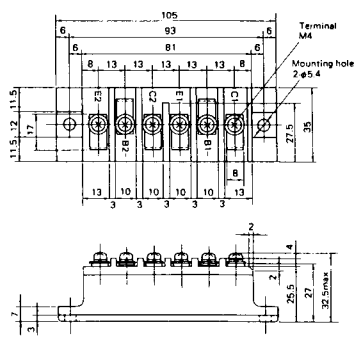
### M-116



M-201



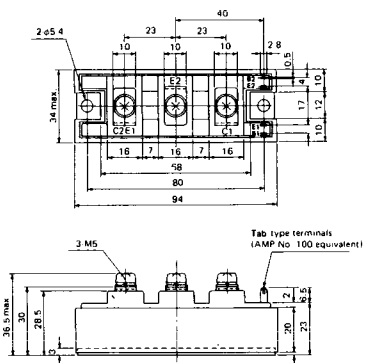
M-202



M-203



M-204



M-205



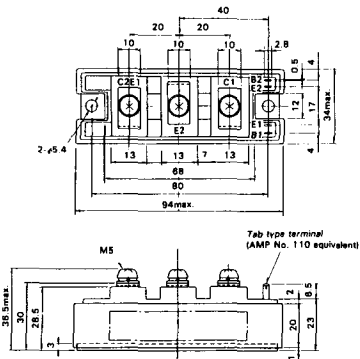
M-206



M-207



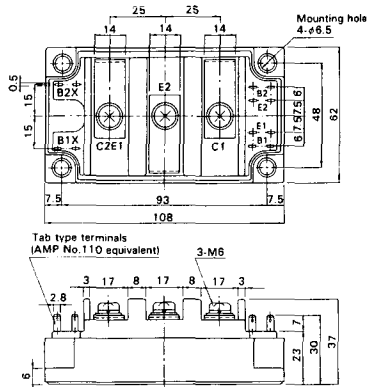
M-208



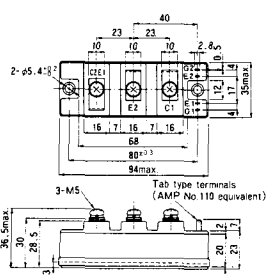
M-209



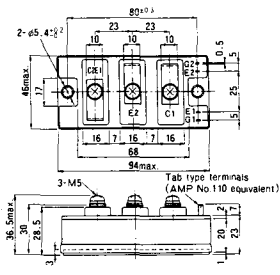
M-210



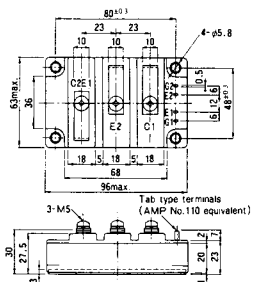
M-211



M-212



M-213

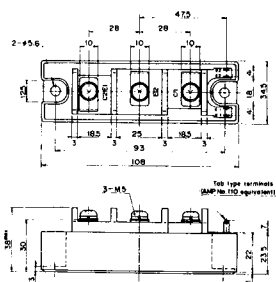


M-214

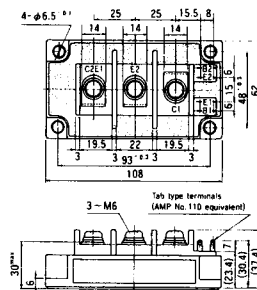
M-215



M-216



M-217



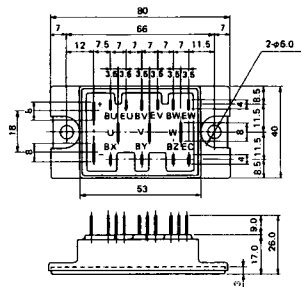
M-218



M-219



M-601



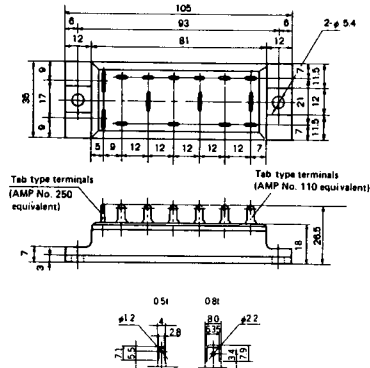
Tab type terminals  
(AMP No. 110 equivalent)



Tab type terminals  
(AMP No. 250 equivalent)



M-602



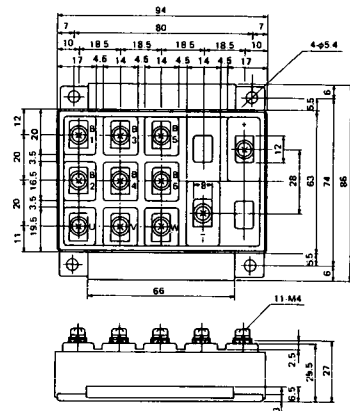
Tab type terminals  
(AMP No. 250 equivalent)



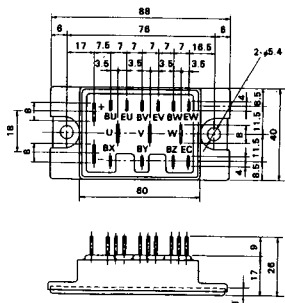
Tab type terminals  
(AMP No. 110 equivalent)



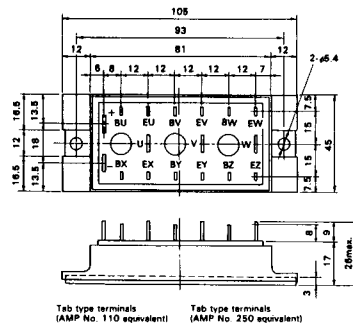
M-603



M-604



M-605



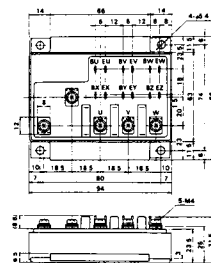
Tab type terminals  
(AMP No. 110 equivalent)



Tab type terminals  
(AMP No. 250 equivalent)



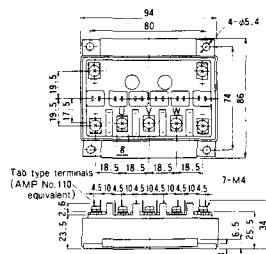
M-606



M-607



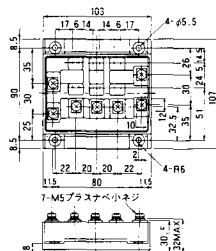
M-608



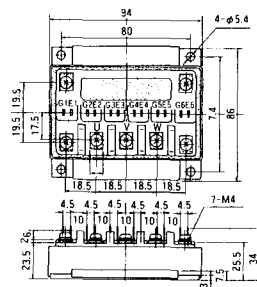
M-609



M-610



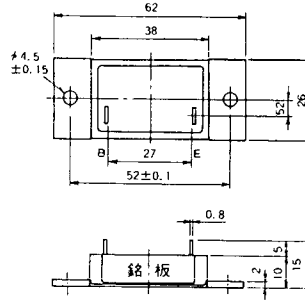
M-616



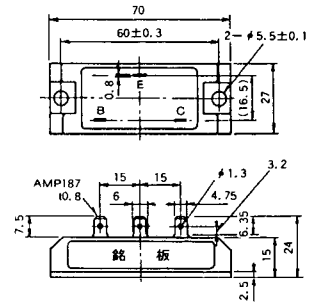
M-1A1A



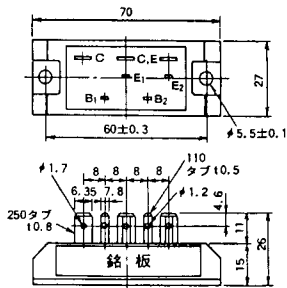
M-2A1A



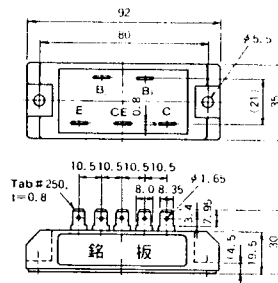
M-2B1A



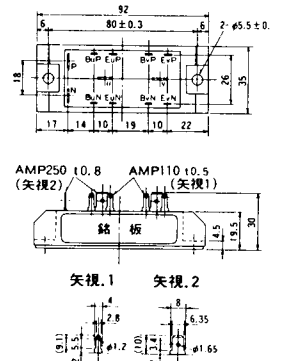
M-2B2A



M-2C2A



M-2D4A







M-3C1A



M-3D6A



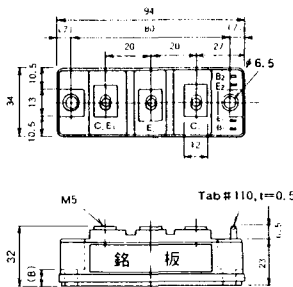
M-3E6A



M-4A1A



M-4A2A



M-4A1B



M-4A2B



M-4B2A



M-5A1A



M-5A1B



M-5A2A



M-5B2A



M-5C2A



M-5D2A



M-6A1A



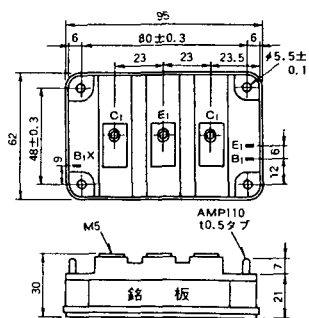
M-7A1A



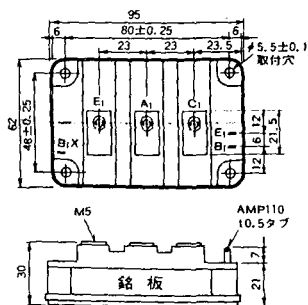
M-7B1A



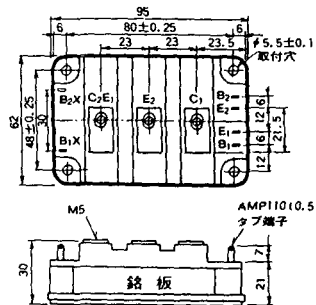
M-8A1A



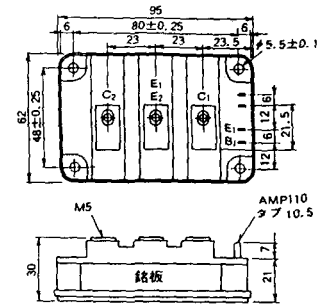
M-8A1B



M-8A2A



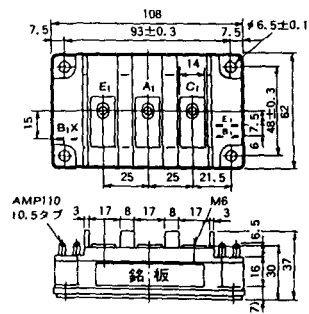
M-8A2B



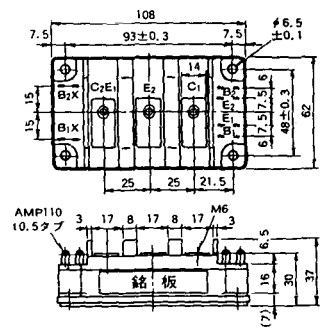
M-8B2A



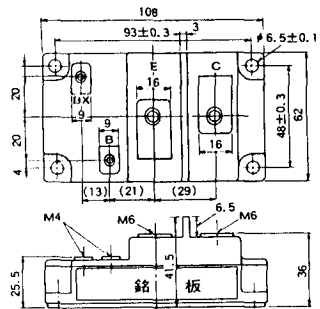
M-9A1A



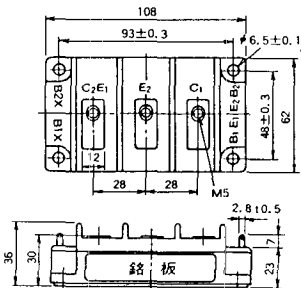
M-9A2A



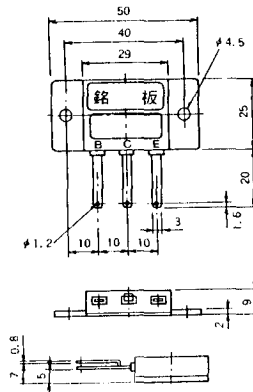
M-9B1A



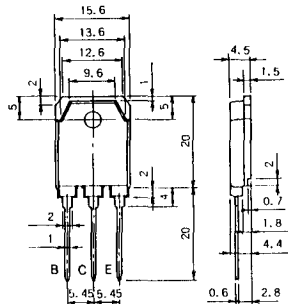
M-9C2A



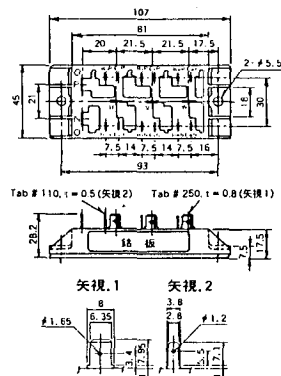
M-1A1B



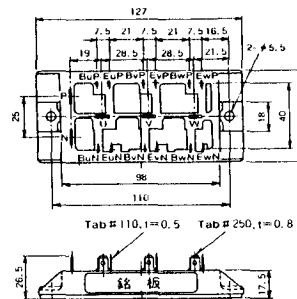
M-1A1C



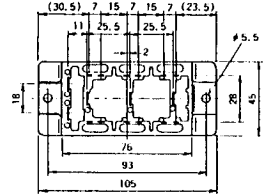
M-2E6B



M-2E6C



### M-2G6B



Tab # 250, t=0.8 (矢視 1) Tab # 110, t=0.5 (矢視 2)

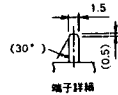
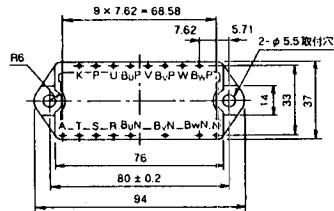


矢視 1

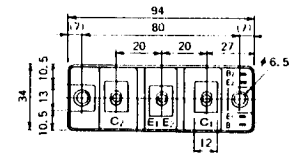
矢視 2



### M-3D6B



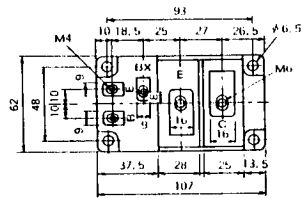
### M-4A2C



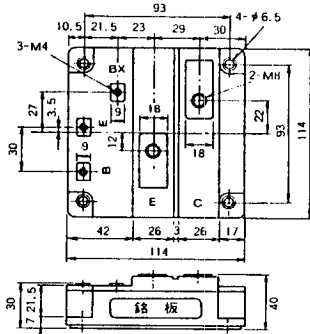
Tab # 110, t=0.5



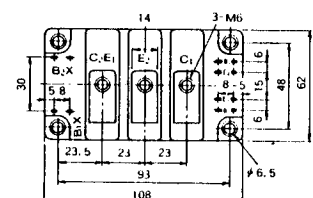
### M-7A1B



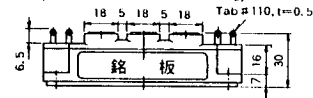
### M-7C1A



### M-8A2C



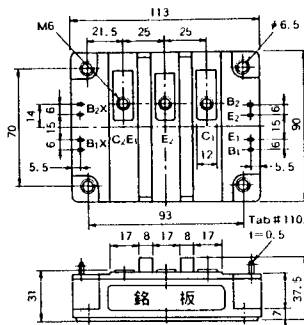
Tab # 110, t=0.5



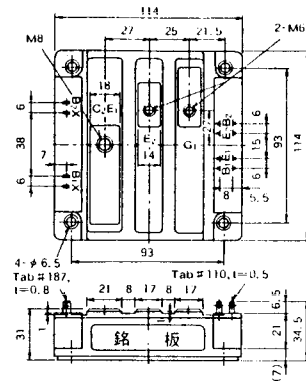
M-10A2A



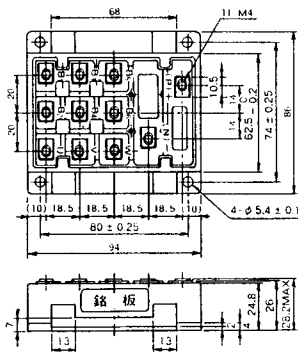
M-10A2B



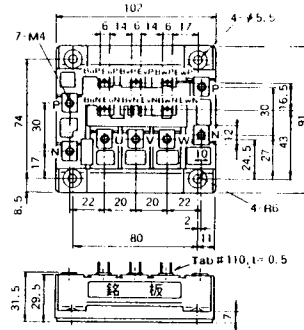
M-11A2A



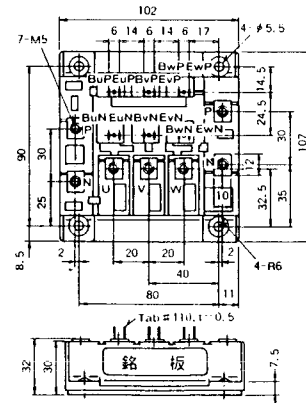
M-12A6A



M-12B6A

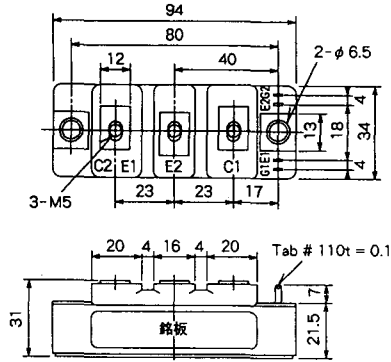


M-12B6B

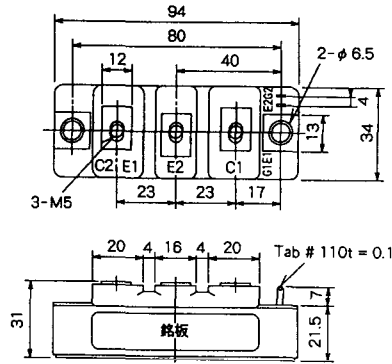




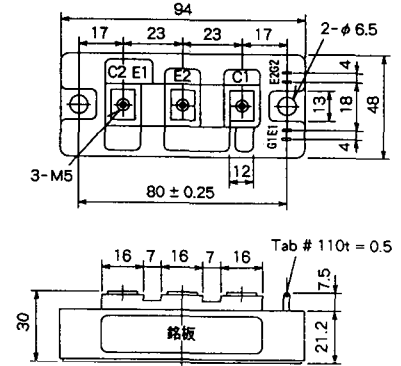
M-4A2D



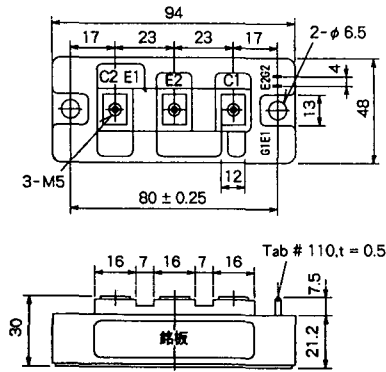
M-4A2E



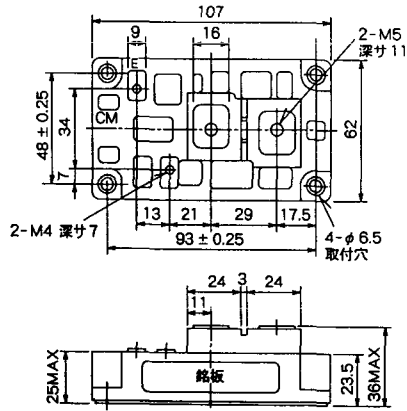
M-4C2A



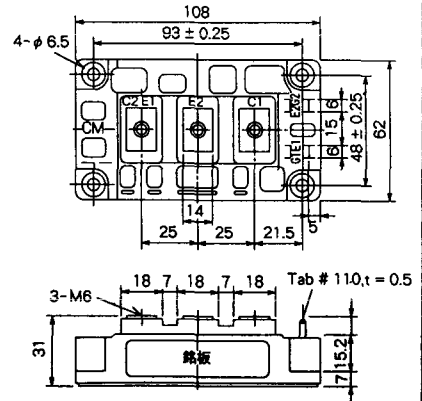
M-4C2B



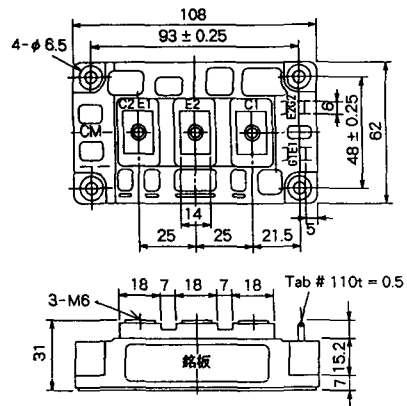
M-9B1C



M-9D2A



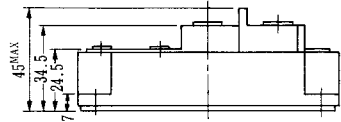
M-9D2B



M-10A2C

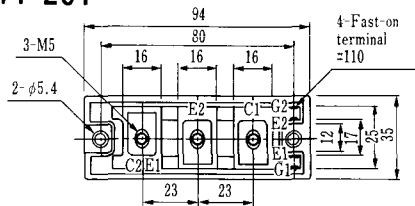


H-101



Weight :480g

### H-201



Weight: 200g

### H-202



Weight: 360g

### LF-J



### LF-K

