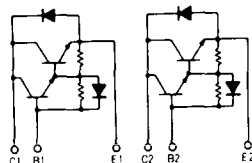


トランジスタ・モジュール (NPN, ダーリントン接続, 2個内蔵)

- ダーリントン・トランジスタを2個内蔵
- フリーホイール・ダイオード付
- 絶縁形
- 直流電流増幅率は100以上(定格電流にて)
- UL認定品: No. E76102 (M)

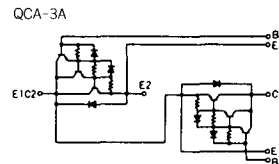
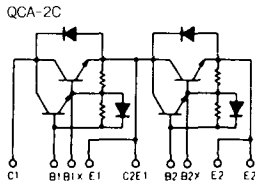
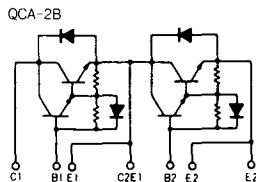
■等価回路

QBB-2A



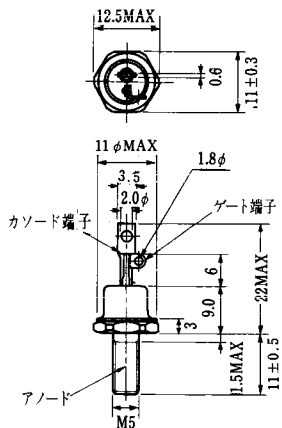
注1. $T_c = 25^\circ\text{C}$. 注2. AC, 1分間.

| 型名 | 最大定格 ($T_c = 25^\circ\text{C}$) | | | | | | | | | | 電気的特性 | | | | | | | | | | |
|-------------|-----------------------------------|-----------------|-----------|-------|----------------|-------|-------|----------------|-------|----------------------|----------------------|-----------|----------------|----------|-----------|----------|-----------------|----------|----------|-------|-----|
| | V_{cbo} | V_{CEX} (sus) | V_{EBO} | I_c | I_{CP} (1ms) | I_B | I_F | I_{FM} (1ms) | P_c | T_j | T_{Vj} | V_{iso} | I_{cbo} (mA) | V_{CB} | I_{EBO} | V_{EB} | V_{CE0} (sus) | h_{FE} | V_{CE} | I_c | |
| | (V) | (V) | (V) | (A) | (A) | (A) | (A) | (A) | (W) | ($^\circ\text{C}$) | ($^\circ\text{C}$) | (V) | 最大 | 最大 | 最大 | 最小 | 最小 | (V) | (A) | | |
| QBB100A40 | 400 | 400 | 10 | 100 | 200 | 6.0 | 100 | | 620 | 150 | -40~125 | 2500 | 1.0 | 400 | 400 | 10 | 300 | 1.0 | 75/100 | 2/5 | 100 |
| QBB100A60 | 600 | 600 | 10 | 100 | 200 | 6.0 | 100 | | 620 | 150 | -40~125 | 2500 | 1.0 | 600 | 400 | 10 | 450 | 1.0 | 75/100 | 2/5 | 100 |
| QBB150A40 | 400 | 400 | 10 | 150 | 300 | 9.0 | 150 | | 690 | 150 | -40~125 | 2500 | 1.0 | 400 | 500 | 10 | 300 | 1.0 | 75/100 | 2/5 | 150 |
| QBB150A60 | 600 | 600 | 10 | 150 | 300 | 9.0 | 150 | | 690 | 150 | -40~125 | 2500 | 1.0 | 600 | 500 | 10 | 450 | 1.0 | 75/100 | 2/5 | 150 |
| QCA30B40 | 400 | 400 | 10 | 30 | 60 | 2.0 | 30 | | 250 | 150 | -40~125 | 2500 | 1.0 | 400 | 300 | 10 | 300 | 1.0 | 75/100 | 2/5 | 30 |
| QCA30B60 | 600 | 600 | 10 | 30 | 60 | 2.0 | 30 | | 250 | 150 | -40~125 | 2500 | 1.0 | 600 | 300 | 10 | 450 | 1.0 | 75/100 | 2/5 | 30 |
| QCA50B40 | 400 | 400 | 10 | 50 | 100 | 3.0 | 50 | | 300 | 150 | -40~125 | 2500 | 1.0 | 400 | 300 | 10 | 300 | 1.0 | 75/100 | 2/5 | 50 |
| QCA50B60 | 600 | 600 | 10 | 50 | 100 | 3.0 | 50 | | 300 | 150 | -40~125 | 2500 | 1.0 | 600 | 300 | 10 | 450 | 1.0 | 75/100 | 2/5 | 50 |
| QCA50AA100 | 1000 | 1000 | 7 | 50 | | 3.0 | 50 | | 400 | 150 | -40~125 | 2500 | 1.0 | 1000 | 200 | 7 | | | 75/100 | 2.8/5 | 50 |
| QCA50AA120 | 1200 | 1200 | 10 | 50 | | 3.0 | 50 | | 400 | 150 | -40~125 | 2500 | 1.0 | 1200 | 300 | 10 | | | 75 | 5 | 50 |
| QCA75A40 | 400 | 400 | 10 | 75 | 150 | 4.5 | 75 | | 350 | 150 | -40~125 | 2500 | 1.0 | 400 | 300 | 10 | 300 | 1.0 | 75/100 | 2/5 | 75 |
| QCA75A60 | 600 | 600 | 10 | 75 | 150 | 4.5 | 75 | | 350 | 150 | -40~125 | 2500 | 1.0 | 600 | 300 | 10 | 450 | 1.0 | 75/100 | 2/5 | 75 |
| QCA75AA100 | 1000 | 1000 | 7 | 75 | | 4.0 | 75 | | 500 | 150 | -40~125 | 2500 | 1.0 | 1000 | 200 | 7 | | | 75/100 | 2.8/5 | 75 |
| QCA75AA120 | 1200 | 1200 | 10 | 75 | | 4.0 | 75 | | 500 | 150 | -40~125 | 2500 | 1.0 | 1200 | 300 | 10 | | | 75 | 5 | 75 |
| QCA75BA60 | 600 | 600 | 10 | 75 | 150 | 4.5 | 75 | | 350 | 150 | -40~125 | 2500 | 1.0 | 600 | 300 | 10 | 450 | 1.0 | 750 | 2.5 | 75 |
| QCA100A40 | 400 | 400 | 10 | 100 | 200 | 6.0 | 100 | | 620 | 150 | -40~125 | 2500 | 1.0 | 400 | 400 | 10 | 300 | 1.0 | 75/100 | 2/5 | 100 |
| QCA100A60 | 600 | 600 | 10 | 100 | 200 | 6.0 | 100 | | 620 | 150 | -40~125 | 2500 | 1.0 | 600 | 400 | 10 | 450 | 1.0 | 75/100 | 2/5 | 100 |
| QCA100AA100 | 1000 | 1000 | 7 | 100 | | 5.0 | 100 | | 800 | 150 | -40~125 | 2500 | 2.0 | 1000 | 400 | 7 | | | 75/100 | 2.8/5 | 100 |
| QCA100AA120 | 1200 | 1200 | 10 | 100 | | 5.0 | 100 | | 800 | 150 | -40~125 | 2500 | 2.0 | 1200 | 600 | 10 | | | 75 | 5 | 100 |
| QCA100BA60 | 600 | 600 | 10 | 100 | 200 | 6.0 | 100 | | 620 | 150 | -40~125 | 2500 | 2.0 | 600 | 400 | 10 | 450 | 1.0 | 750 | 2.5 | 100 |

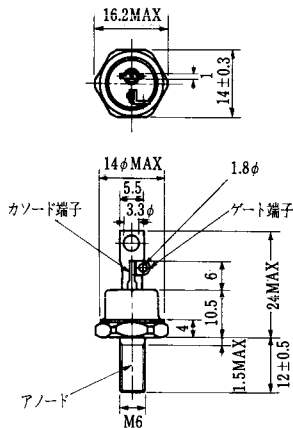


| (T _j = 25°C) | | | | | | | | | | エミッタ・コレクタ間ダイオード | | | | | 熱抵抗 | | 等価回路 | 外形図 | 記 | 事 | 型 | 名 | |
|-------------------------|-----------------|----------------|----------------|-----------------|------------------|----------------|-----------------|-----------------|-----------------|-----------------|-----------------------|------------------------|-------------------------|-------|-----------------|------------------------------|------|--------|----------|---------|--------------------|------------|----|
| 飽和電圧 (V) | | I _c | I _B | スイッチング時間 (μs) | | | I _{B1} | I _{B2} | V _{cc} | I _c | V _F (V) | I _F (μs) | t _{rr} (μs) | * 標準値 | di/dt (A/μs) | R _{th (j-c)} (°C/W) | | | | | | | |
| V _{ce} | V _{BE} | | | t _{on} | t _{off} | t _r | | | | | | | | | | 最大 | | | | | | | 最大 |
| 2.0 | 2.5 | 100 | 1.4 | 2.0 | 12 | 3.0 | 2.0 | -2.0 | 300 | 100 | 1.4 | 100 | | | | 0.2 | 0.6 | QBB-2A | S-98B1B | UL認定品 | QBB100A40 | | |
| 2.0 | 2.5 | 100 | 1.4 | 2.0 | 12 | 3.0 | 2.0 | -2.0 | 300 | 100 | 1.4 | 100 | | | | 0.2 | 0.6 | QBB-2A | S-98B1B | UL認定品 | QBB100A60 | | |
| 2.0 | 2.5 | 150 | 2.0 | 2.0 | 12 | 3.0 | 2.0 | -2.0 | 300 | 150 | 1.4 | 150 | | | | 0.18 | 0.6 | QBB-2A | S-98B1B | UL認定品 | QBB150A40 | | |
| 2.0 | 2.5 | 150 | 2.0 | 2.0 | 12 | 3.0 | 2.0 | -2.0 | 300 | 150 | 1.4 | 150 | | | | 0.18 | 0.6 | QBB-2A | S-98B1B | UL認定品 | QBB150A60 | | |
| 2.0 | 2.5 | 30 | 0.4 | 1.0 | 12 | 2.0 | 0.6 | -0.6 | 300 | 30 | 1.4 | 30 | | | | 0.5 | 1.6 | QCA-2B | S-94B1A | UL認定品 | QCA30B40 | | |
| 2.0 | 2.5 | 30 | 0.4 | 1.0 | 12 | 2.0 | 0.6 | -0.6 | 300 | 30 | 1.4 | 30 | | | | 0.5 | 1.6 | QCA-2B | S-94B1A | UL認定品 | QCA30B60 | | |
| 2.0 | 2.5 | 50 | 0.67 | 1.0 | 12 | 2.0 | 1.0 | -1.0 | 300 | 50 | 1.4 | 50 | | | | 0.4 | 1.3 | QCA-2B | S-94B1A | UL認定品 | QCA50B40 | | |
| 2.0 | 2.5 | 50 | 0.67 | 1.0 | 12 | 2.0 | 1.0 | -1.0 | 300 | 50 | 1.4 | 50 | | | | 0.4 | 1.3 | QCA-2B | S-94B1A | UL認定品 | QCA50B60 | | |
| 2.5 | 3.5 | 50 | 1.0 | 2.5 | 15 | 3.0 | 1.0 | -1.0 | 600 | 50 | 1.8 | 50 | | | | 0.31 | 1.2 | QCA-3A | S-94B1B | UL認定品 | QCA50AA100 | | |
| 3.0 | 3.5 | 50 | 1.0 | 2.5 | 15 | 3.0 | 1.0 | -1.0 | 600 | 50 | 1.8 | 50 | | | | 0.31 | 1.2 | QCA-3A | S-94B1B | UL認定品 | QCA50AA120 | | |
| 2.0 | 2.5 | 75 | 1.0 | 2.0 | 12 | 3.0 | 1.0 | -1.0 | 300 | 75 | 1.4 | 75 | | | | 0.35 | 1.3 | QCA-2B | S-94B1A | UL認定品 | QCA75A40 | | |
| 2.0 | 2.5 | 75 | 1.0 | 2.0 | 12 | 3.0 | 1.0 | -1.0 | 300 | 75 | 1.4 | 75 | | | | 0.35 | 1.3 | QCA-2B | S-94B1A | UL認定品 | QCA75A60 | | |
| 2.5 | 3.5 | 75 | 1.5 | 2.5 | 15 | 3.0 | 1.5 | -1.5 | 600 | 75 | 1.8 | 75 | | | | 0.25 | 1.2 | QCA-3A | S-108B1B | UL認定品 | QCA75AA100 | | |
| 3.0 | 3.5 | 75 | 1.5 | 2.5 | 15 | 3.0 | 1.5 | -1.5 | 600 | 75 | 1.8 | 75 | | | | 0.25 | 1.2 | QCA-3A | S-108B1B | UL認定品 | QCA75AA120 | | |
| 2.5 | 3.0 | 75 | 0.1 | 2.0 | 8.0 | 2.0 | 0.15 | -1.5 | 300 | 75 | 1.9 | 75 | 0.2 * | 75 | -5 | 75 | 0.35 | 1.3 | QCA-3A | S-94B1A | 高H _{FE} 品 | QCA75BA60 | |
| 2.0 | 2.5 | 100 | 1.4 | 2.0 | 12 | 3.0 | 2.0 | -2.0 | 300 | 100 | 1.4 | 100 | | | | 0.2 | 0.6 | QCA-2C | S-95B1A | UL認定品 | QCA100A40 | | |
| 2.0 | 2.5 | 100 | 1.4 | 2.0 | 12 | 3.0 | 2.0 | -2.0 | 300 | 100 | 1.4 | 100 | | | | 0.2 | 0.6 | QCA-2C | S-95B1A | UL認定品 | QCA100A60 | | |
| 2.5 | 3.5 | 100 | 2.0 | 3.0 | 15 | 3.0 | 2.0 | -2.0 | 600 | 100 | 1.8 | 100 | | | | 0.155 | 0.65 | QCA-3B | S-108B2A | UL認定品 | QCA100AA100 | | |
| 3.0 | 3.5 | 100 | 2.0 | 3.0 | 15 | 3.0 | 2.0 | -2.0 | 600 | 100 | 1.8 | 100 | | | | 0.155 | 0.65 | QCA-3B | S-108B2A | UL認定品 | QCA100AA120 | | |
| 2.5 | 3.0 | 100 | 0.13 | 2.0 | 8.0 | 2.0 | 0.2 | -2.0 | 300 | 100 | 1.8 | 100 | 0.2 * | 100 | -5 | 100 | 0.2 | 0.6 | QCA-3B | S-95B1A | 高H _{FE} 品 | QCA100BA60 | |

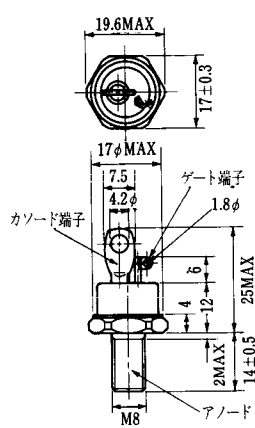
FD-1



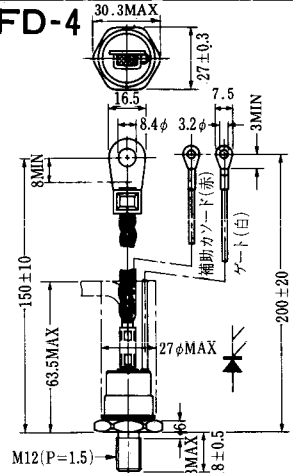
FD-2



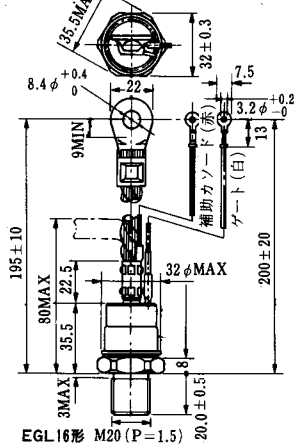
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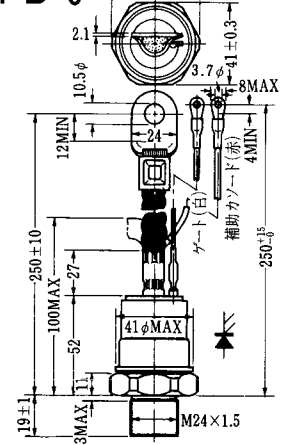
FD-4



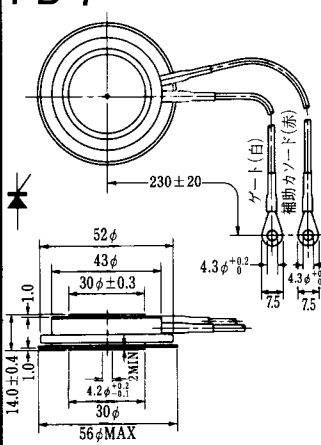
FD-5



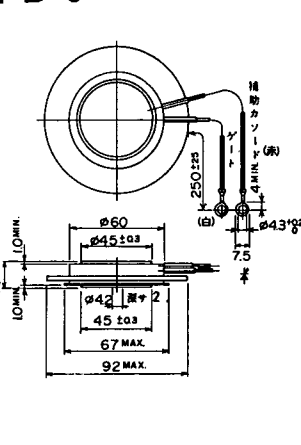
FD-6



FD-7



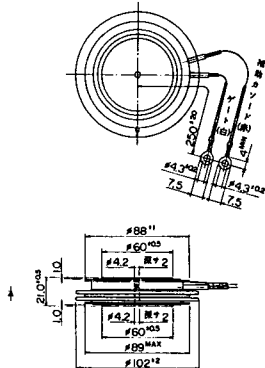
FD-8



FD-9

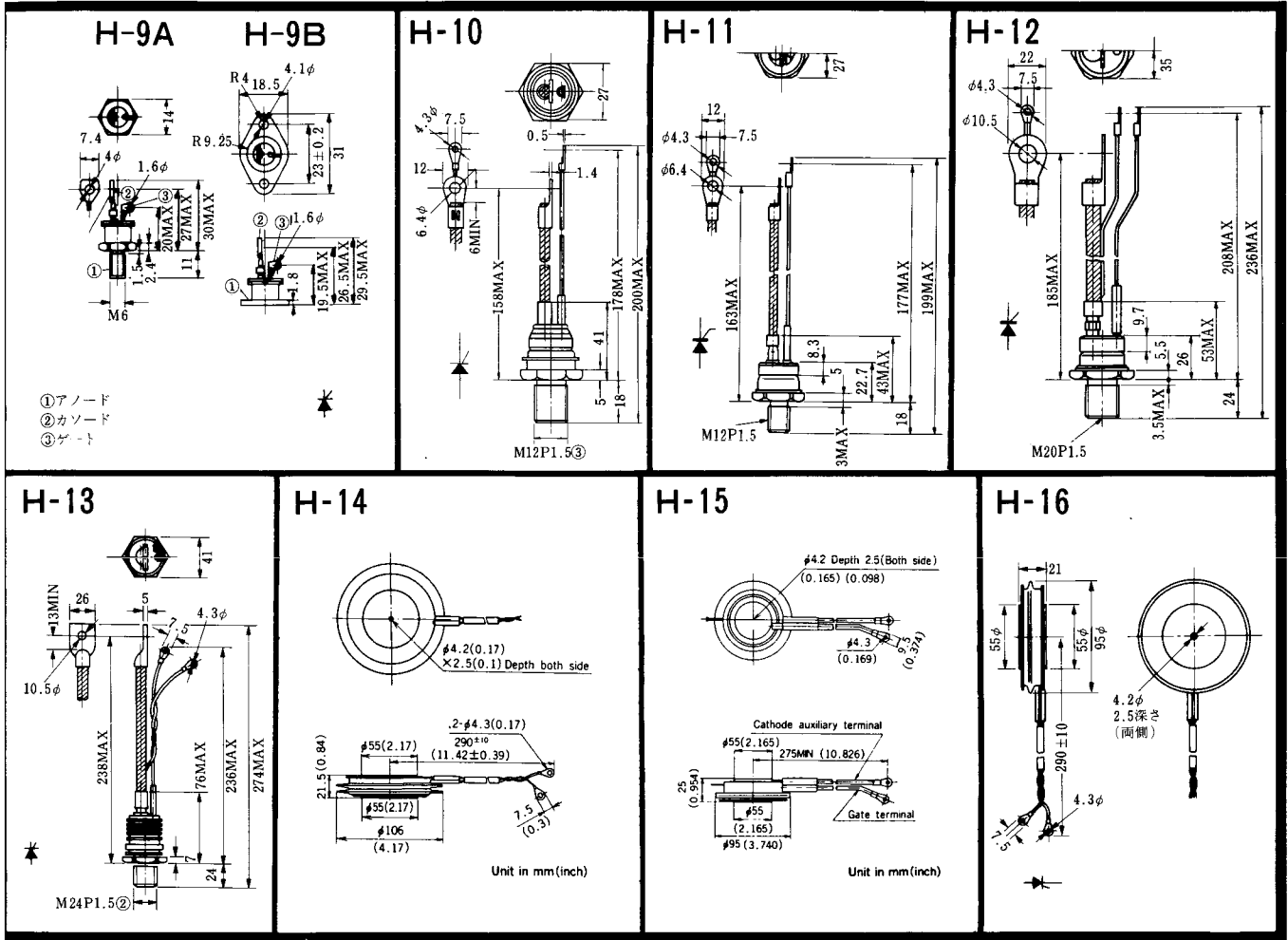


FD-10

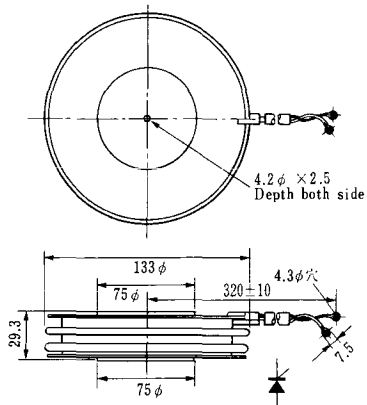


FD-12

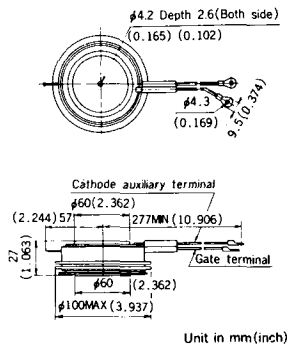




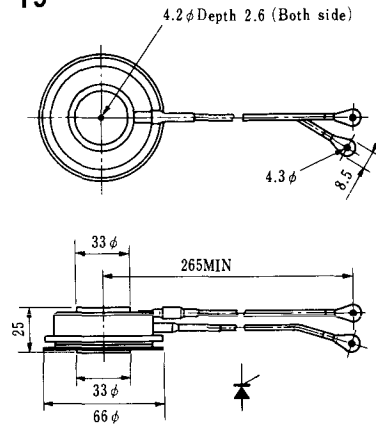
H-17



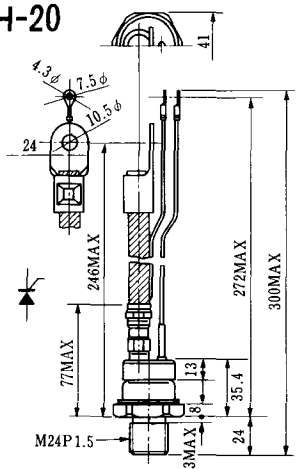
H-18



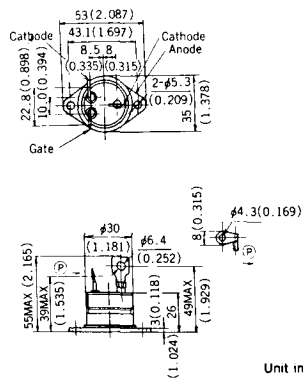
H-19



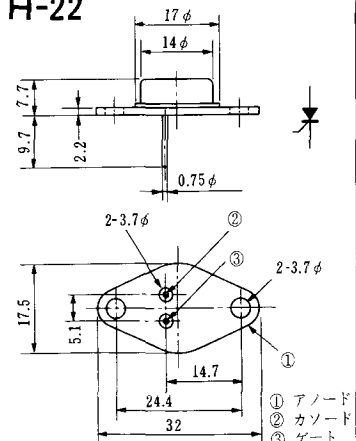
H-20



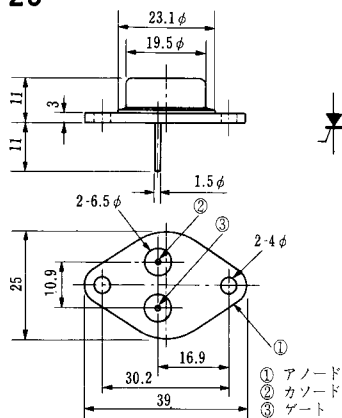
H-21



H-22

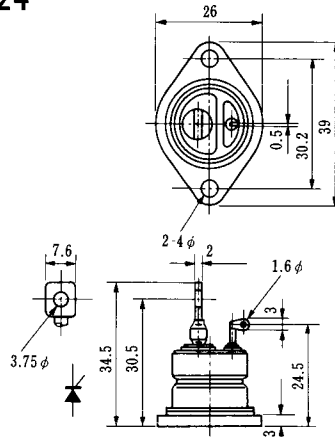


H-23

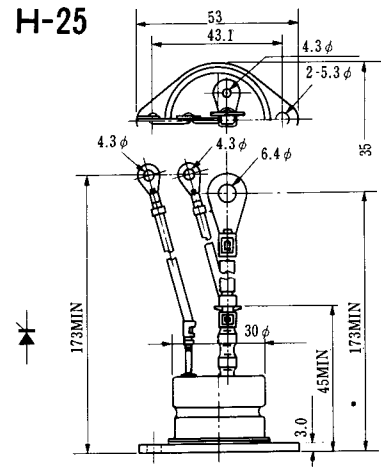


① アノード
② カソード
③ ゲート

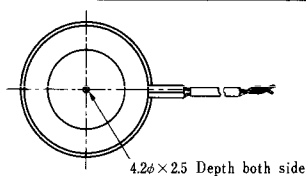
H-24



H-25

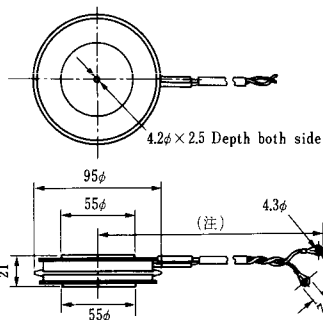


H-26



4.2φ × 2.5 Depth both side

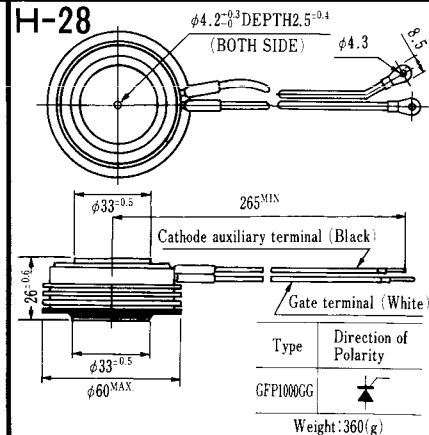
H-27



4.2φ × 2.5 Depth both side

(注) CC11V : 400 ± 10
CF11V : 250 ± 10

H-28



φ4.2^{-0.3}DEPTH2.5^{+0.4}
(BOTH SIDE) φ4.3

265^{MIN}
Cathode auxiliary terminal (Black)

Gate terminal (White)

| Type | Direction of Polarity |
|----------|-----------------------|
| GFP100GG | |

Weight: 360(g)

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

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

CA12

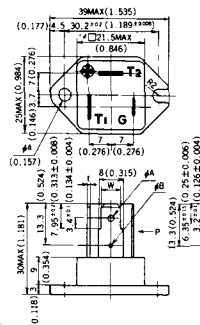


Note: The thickness is a dimension in press at the rated mounting force. Weight: 870(g)



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

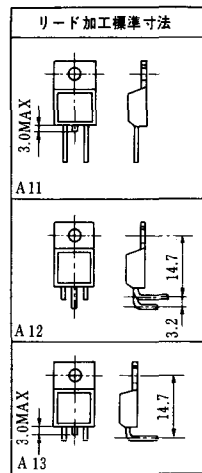
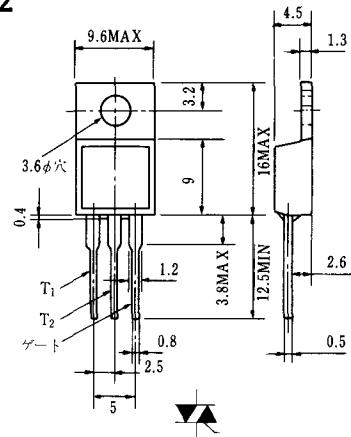
HT-1



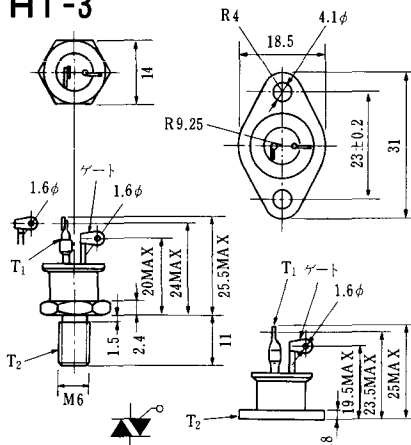
| TERMINAL | t | W | φA | φB |
|----------------|----------------------------|---------------------------|---|----------------|
| T ₁ | 0.8±0.025 (0.031±0.001) | 6.35±0.1 (0.250±0.004) | 2.00 ^{+0.1} ₋₀ (0.079±0.004) | 1.3 (0.051) |
| T ₂ | 0.8±0.025 (0.031±0.001) | 6.35±0.1 (0.250±0.004) | 2.00 ^{+0.1} ₋₀ (0.079±0.004) | 1.3 (0.051) |
| G | 0.5±0.025 (0.020±0.001) | 4.75±0.1 (0.187±0.004) | 1.55 ^{+0.1} ₋₀ (0.061±0.004) | 1.3 (0.051) |

Unit in mm (inch)

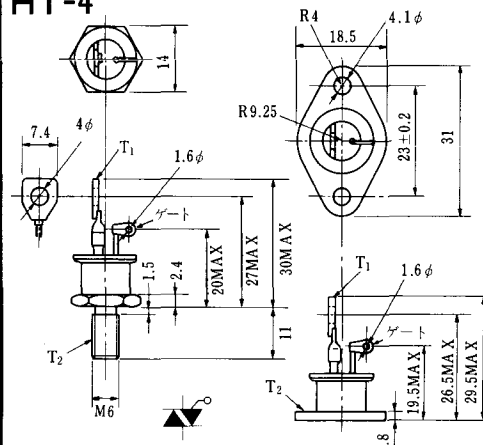
HT-2



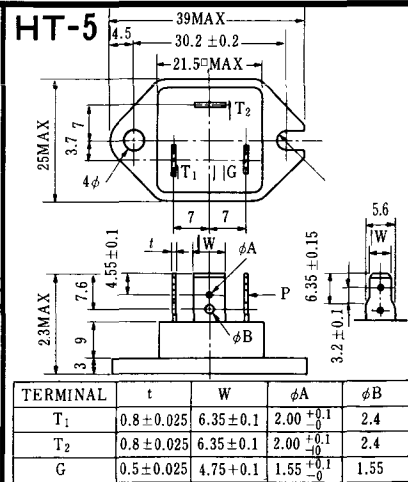
HT-3



HT-4



HT-5



| TERMINAL | t | W | φA | φB |
|----------------|-----------|----------|------------------------------------|------|
| T ₁ | 0.8±0.025 | 6.35±0.1 | 2.00 ^{+0.1} ₋₀ | 2.4 |
| T ₂ | 0.8±0.025 | 6.35±0.1 | 2.00 ^{+0.1} ₋₀ | 2.4 |
| G | 0.5±0.025 | 4.75±0.1 | 1.55 ^{+0.1} ₋₀ | 1.55 |

M-1



M-2



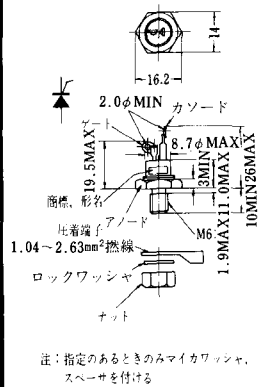
M-3



M-4



M-5



M-6



M-7



M-8



M-9



M-10



M-11



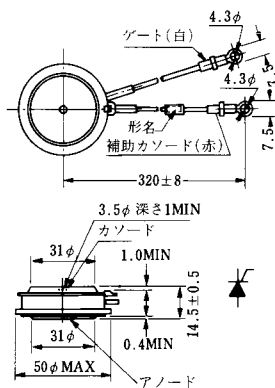
M-12



M-13



M-14



M-15



M-16





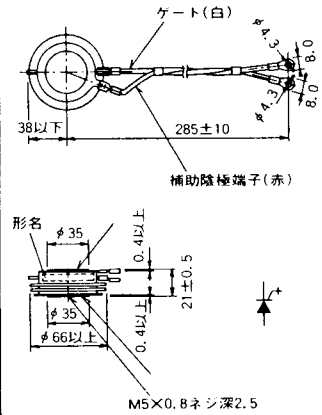
M-25



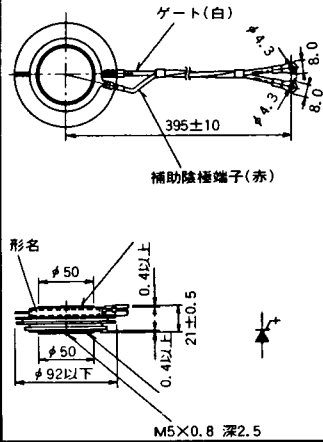
M-26



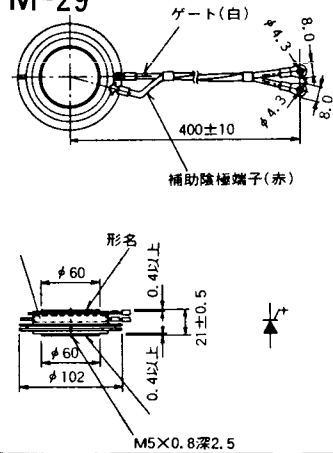
M-27



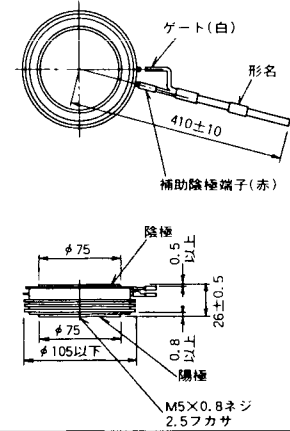
M-28



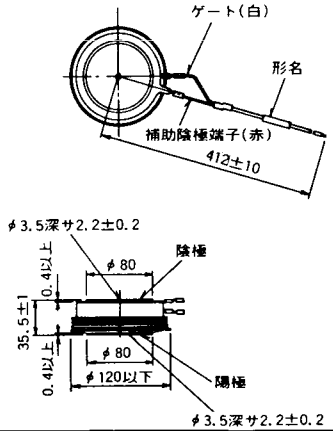
M-29



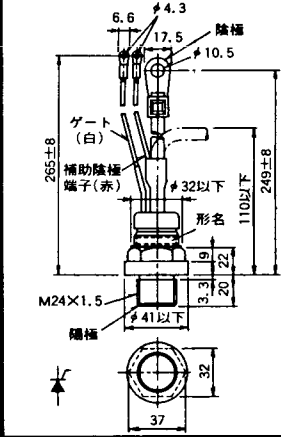
M-30



M-31



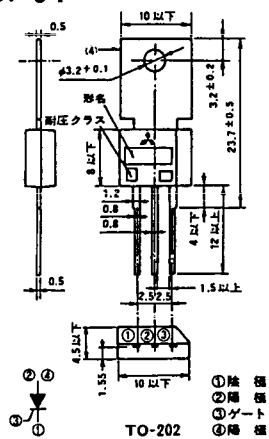
M-32



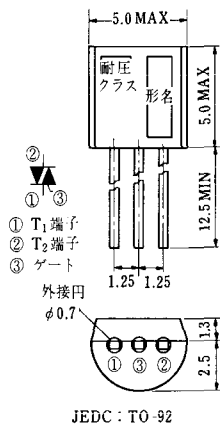
M-33



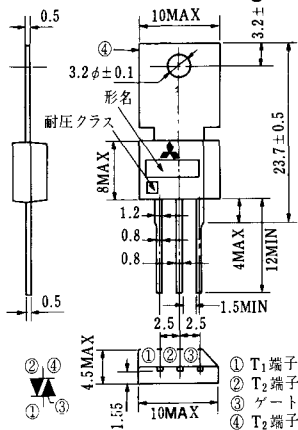
M-34



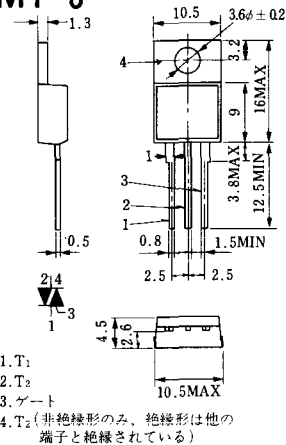
MT-1



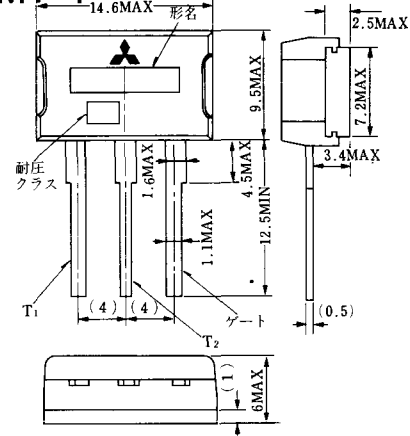
MT-2



MT-3



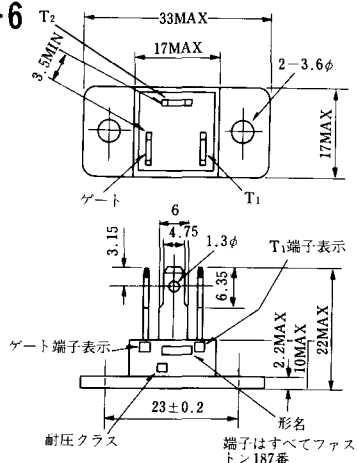
MT-4



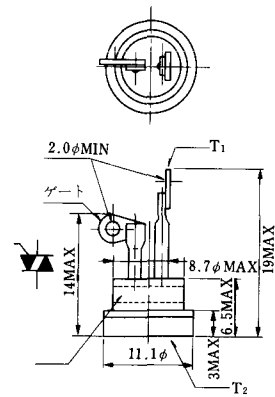
MT-5



MT-6



MT-7

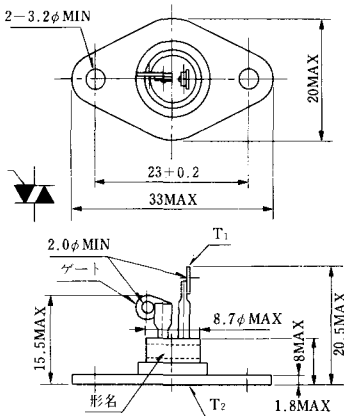


1. T₁
2. T₂
3. ゲート
4. T₂ (非絶縁形のみ、絶縁形は他の端子と絶縁されている)

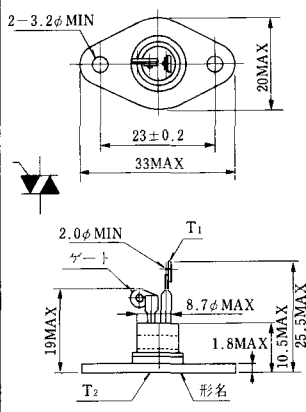
MT-8



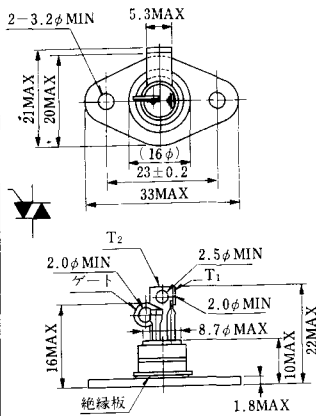
MT-9



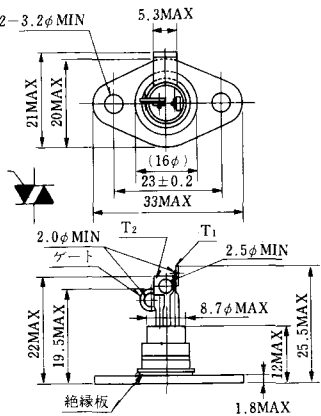
MT-10



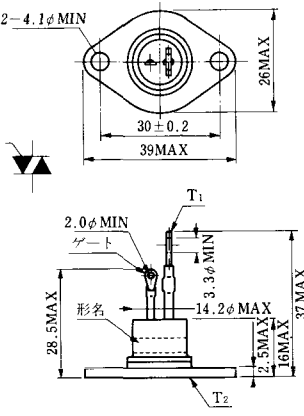
MT-11



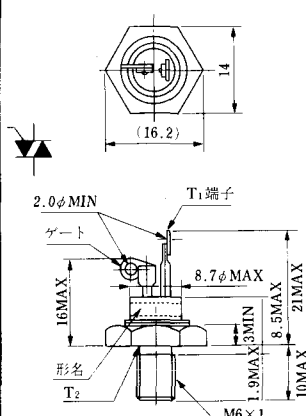
MT-12



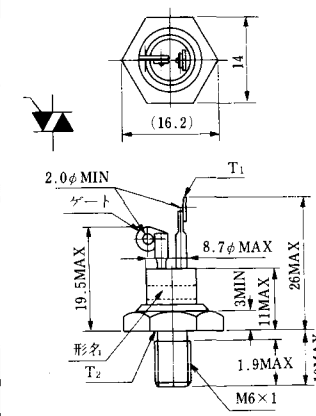
MT-13



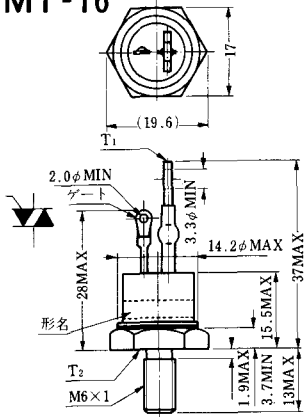
MT-14



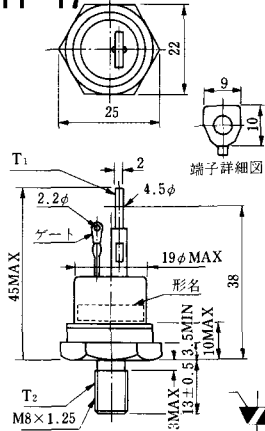
MT-15



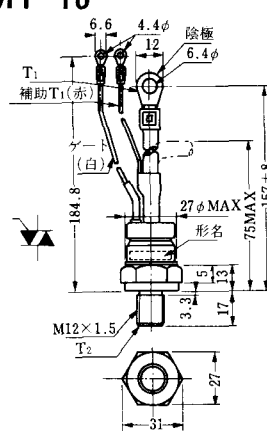
MT-16



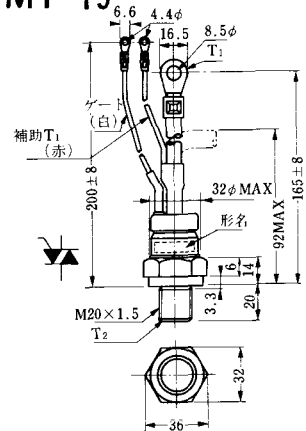
MT-17



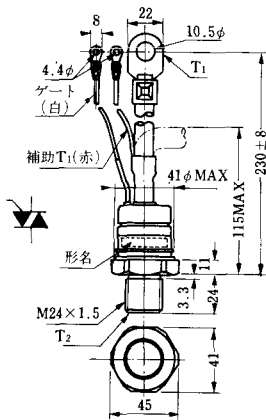
MT-18



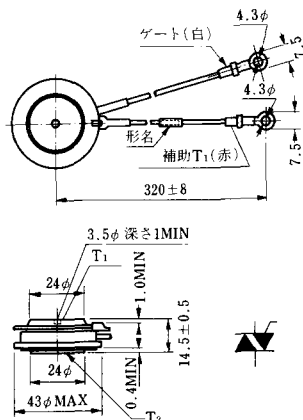
MT-19



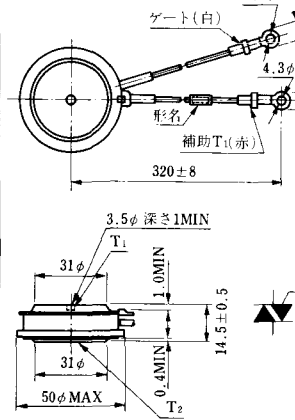
MT-20



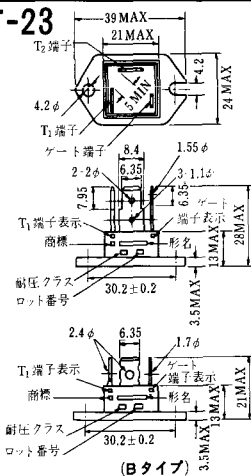
MT-21



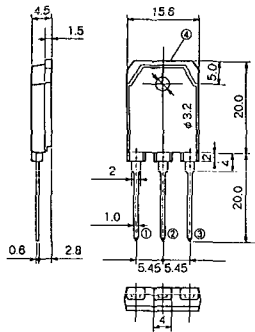
MT-22



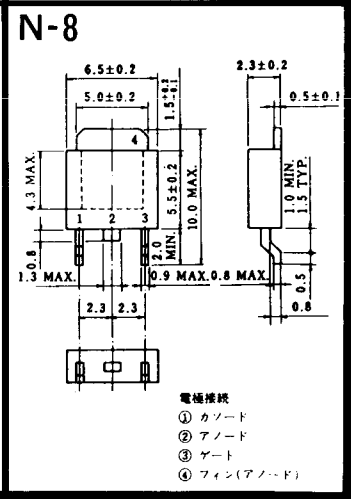
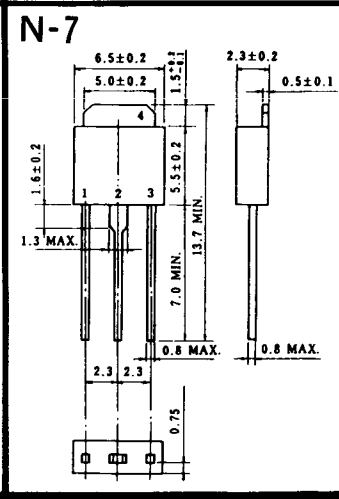
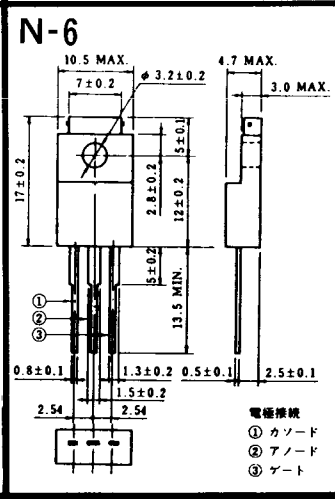
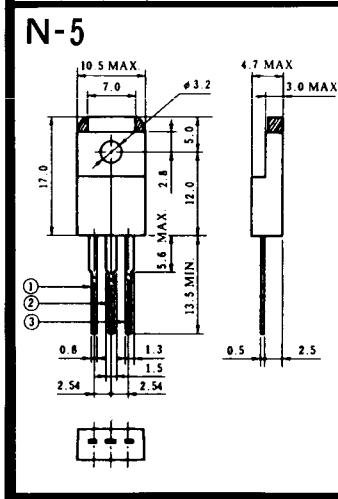
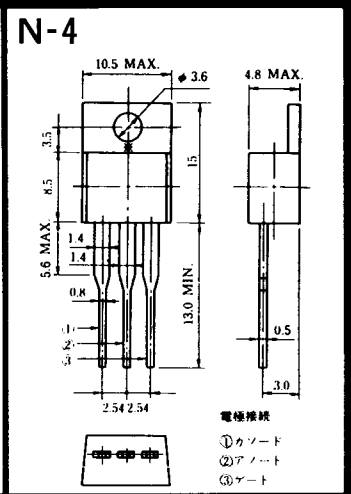
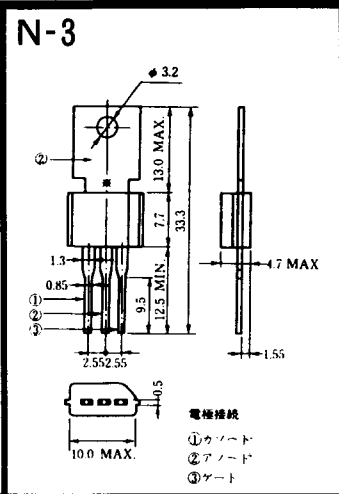
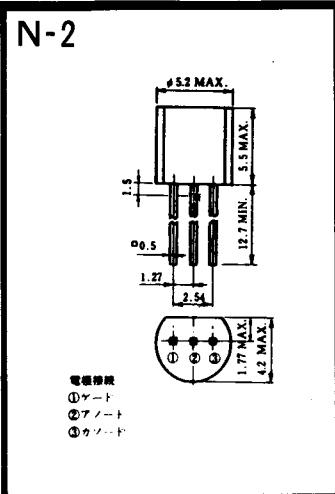
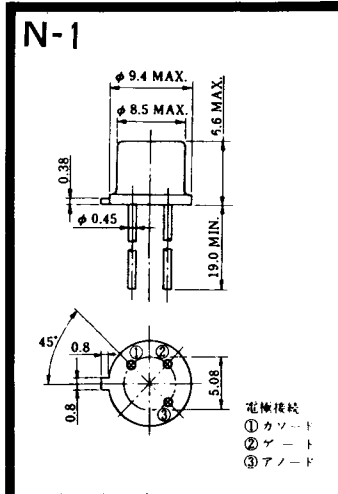
MT-23



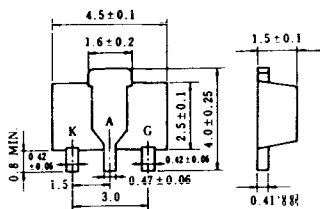
MT-24



TO - 3P



N-9



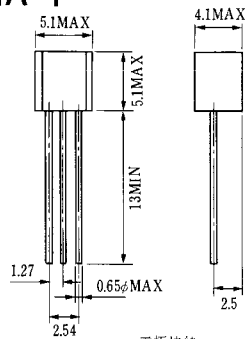
電極接続

K : カソード

A : アノード

G : ギャート

NA-1



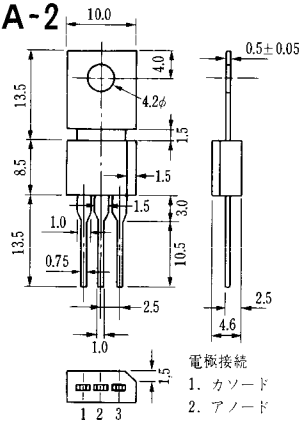
電極接続

1. ゲート
2. アノード
3. カソード

JEDEC: TO-92



NA-2



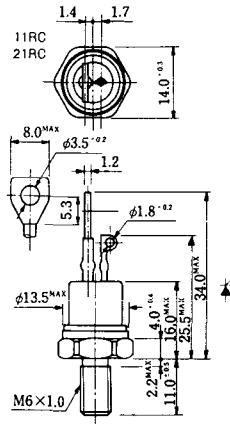
電極接続

1. カソード
2. アノード
3. ゲート

JEDEC: TO-202AA

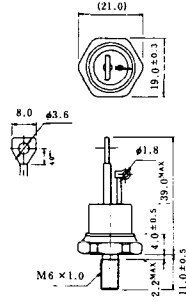


NI-1



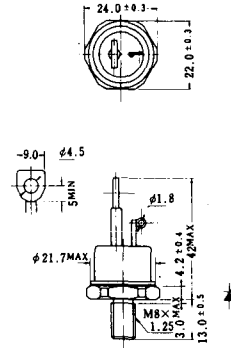
NI-2

29RD



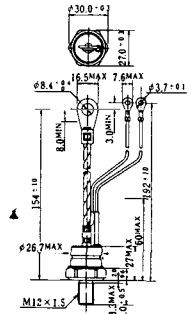
NI-3

39RC
59RC
39RF
59RF



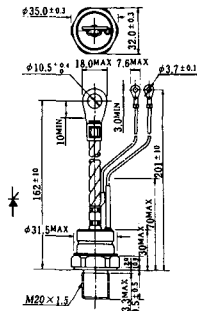
NI-4

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



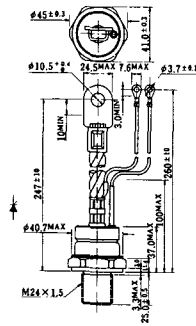
NI-5

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



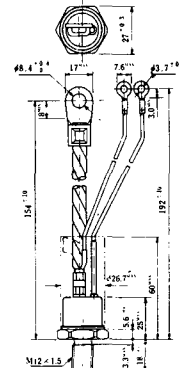
NI-6

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



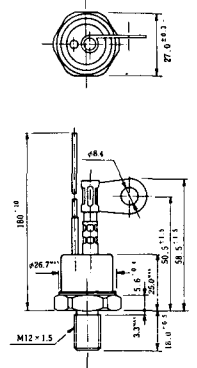
NI-7

89RW_JL
129RW_JL



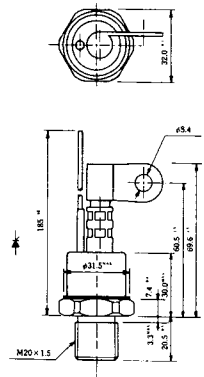
NI-8

89RW
129RW



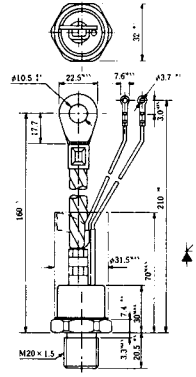
NI-9

259RW
309RW



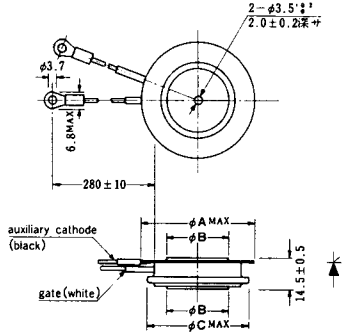
NI-10

259RW_{JL}
309RW_{JL}



NI-11

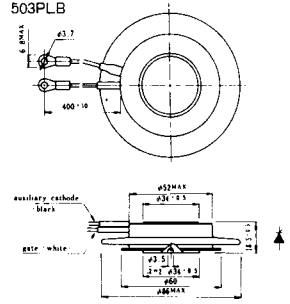
103PA
253PA
503PA
553PA
803PA
103PLE
103PLG
103PLH
203PLG
253PLE
253PLH
353PLG
403PLE
403PLH



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

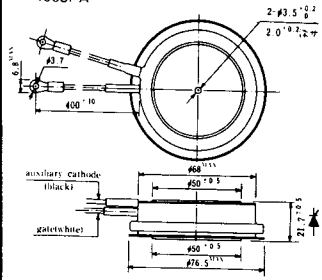
NI-12

403PAB
503PAB
503PLB



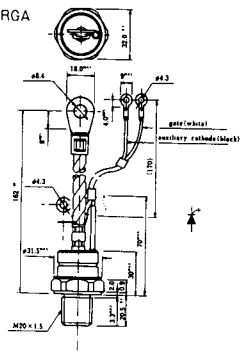
NI-13

1003PA
1003PAB
1003PLF
1003PLH
1503PA



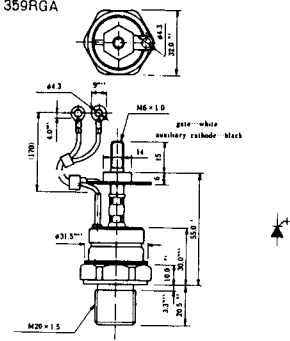
NI-14

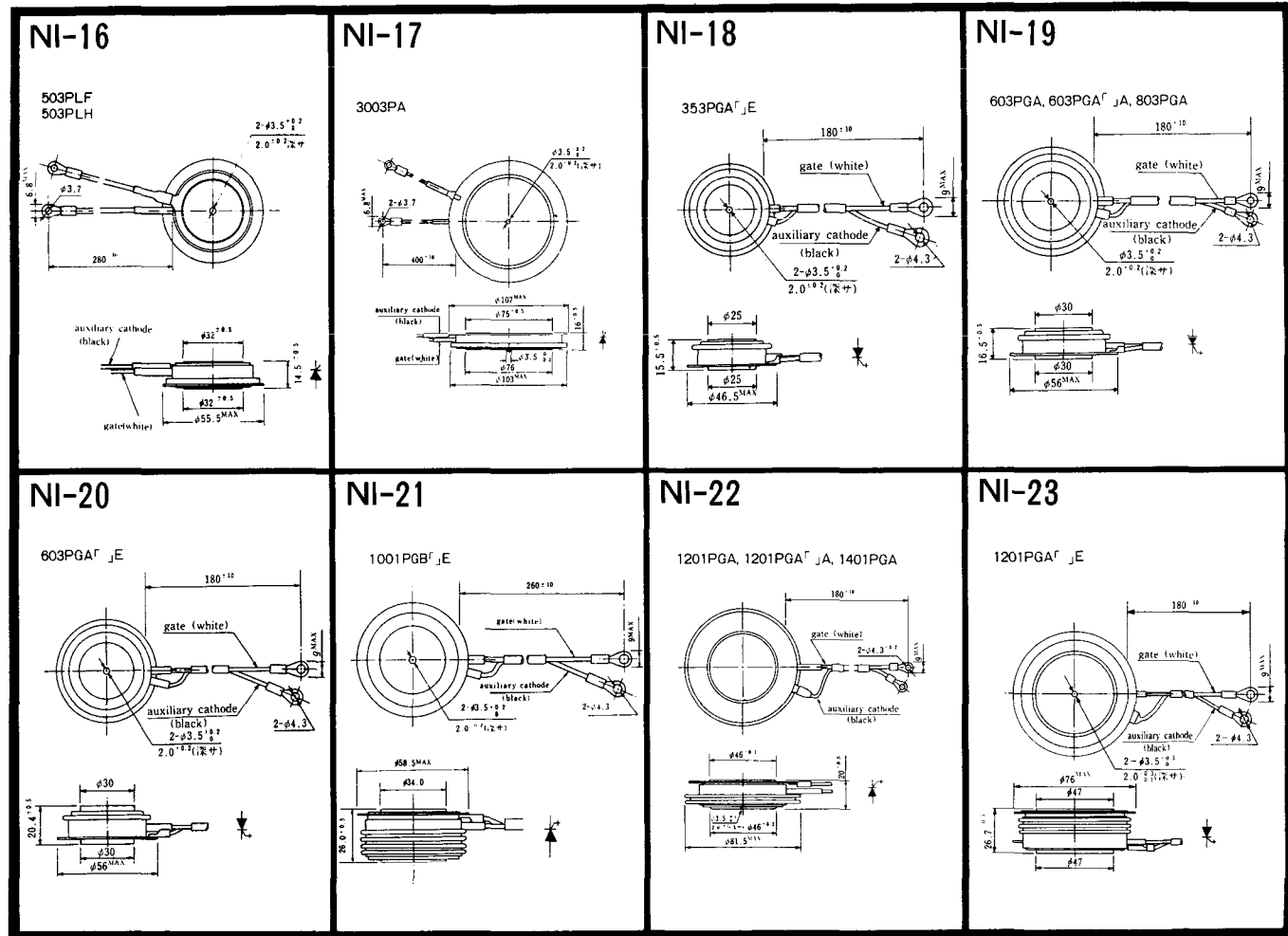
358RGA



NI-15

359RGA





NI-24

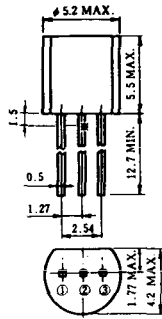
2001PGB^r JE



NI-25

NI-26

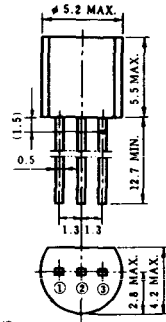
NT-1



電極接続

- ① T₁
- ② ゲート
- ③ T₂

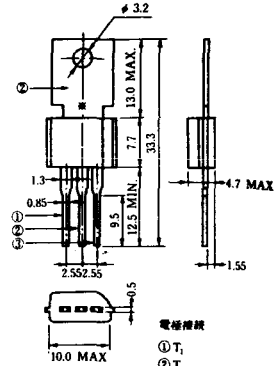
NT-2



電極接続

- ① T₁
- ② ゲート
- ③ T₂

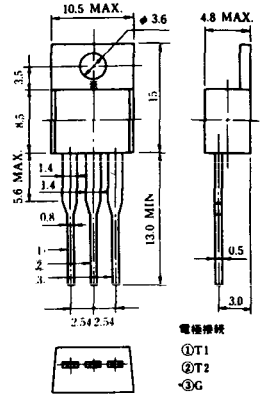
NT-3



電極接続

- ① T₁
- ② T₂
- ③ ゲート

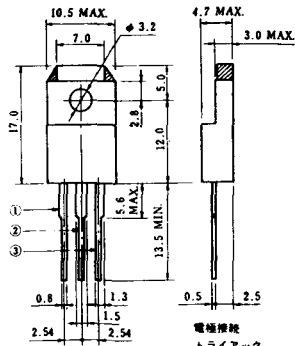
NT-4



電極接続

- ① T₁
- ② T₂
- ③ G

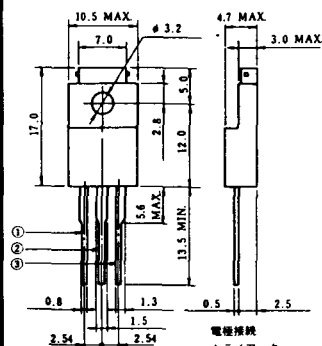
NT-5



電極接続
トライアック

- ① T₁
- ② T₂
- ③ ゲート

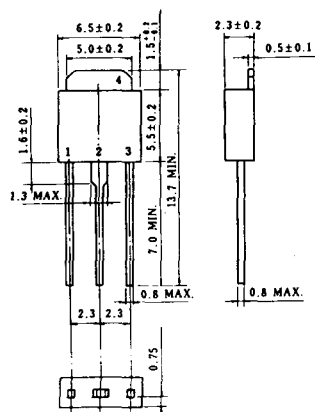
NT-6



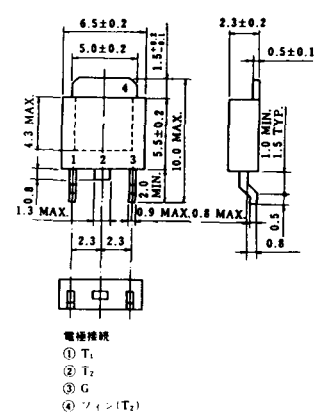
電極接続
トライアック

- ① T₁
- ② T₂
- ③ ゲート

NT-7



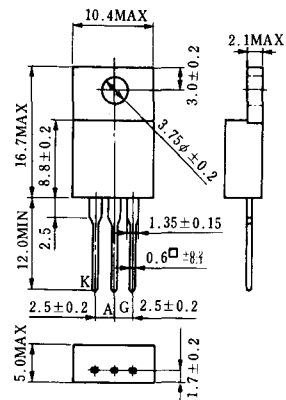
NT-8



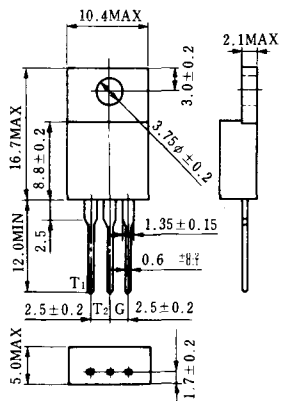
電極接続

- ① T₁
- ② T₂
- ③ G
- ④ シフト(T₂)

S-1



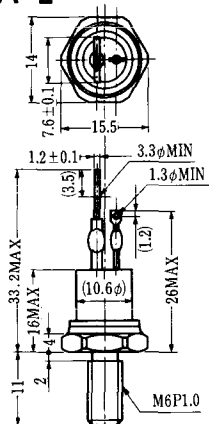
ST-1



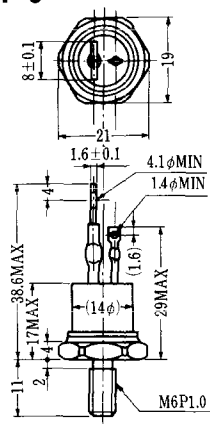
SA-1



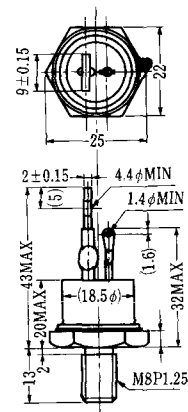
SA-2



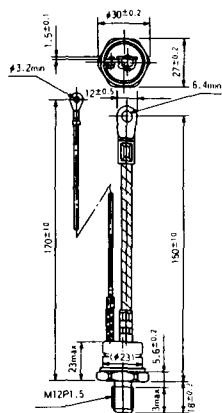
SA-3



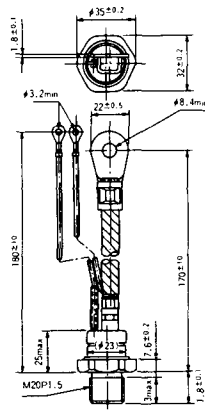
SA-4



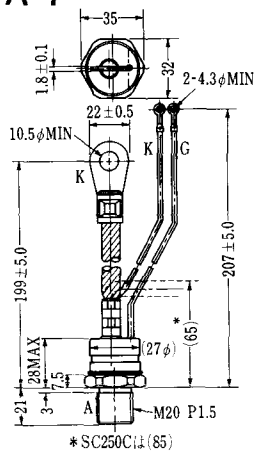
SA-5



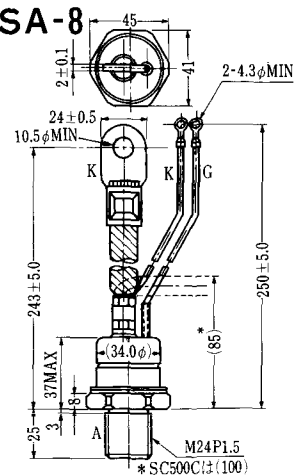
SA-6



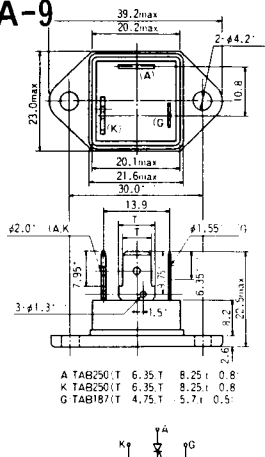
SA-7



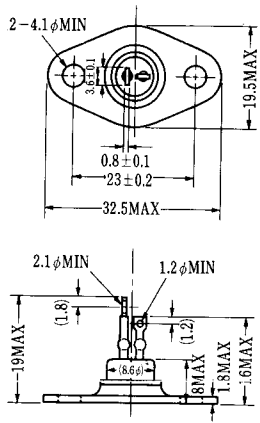
SA-8



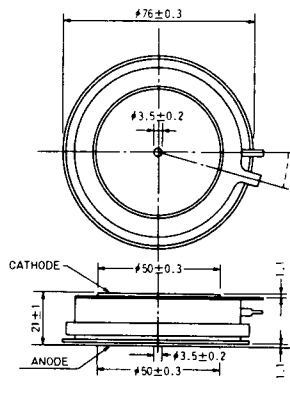
SA-9



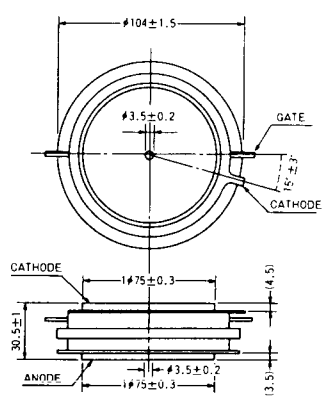
SA-10



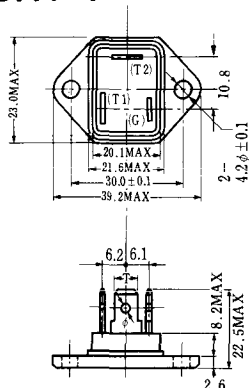
SA-11



SA-12

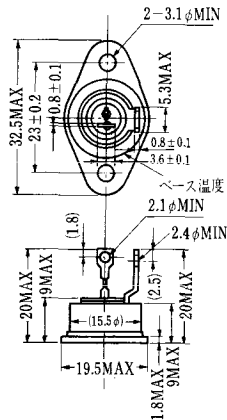


SAT-1

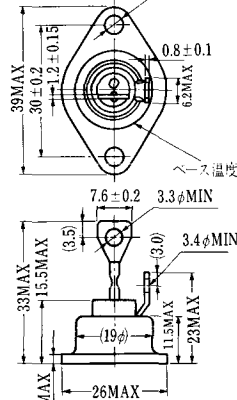


T1 端子: フラスト > 250 (T=6.35, t=0.8, φ=1.65)
 T2 端子: フラスト > 250 (T=6.35, t=0.8, φ=1.65)
 C 端子: フラスト > 187 (T=4.75, t=0.5, φ=1.3)

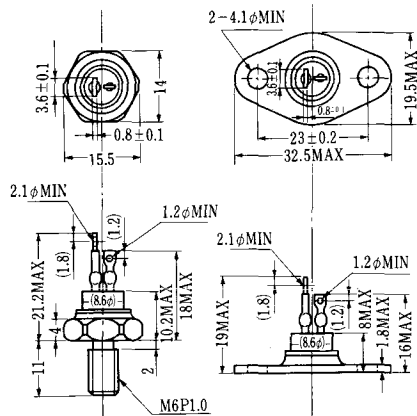
SAT-2



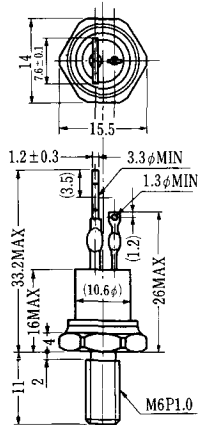
SAT-3



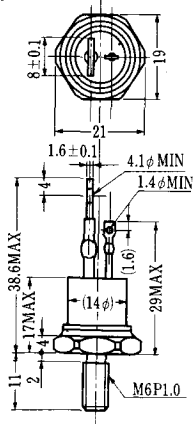
SAT-4



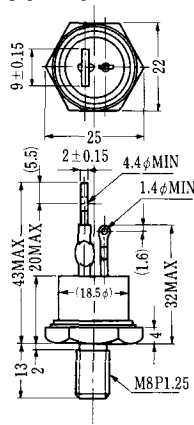
SAT-5



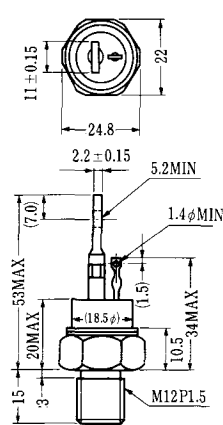
SAT-6



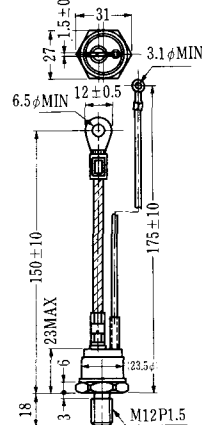
SAT-7



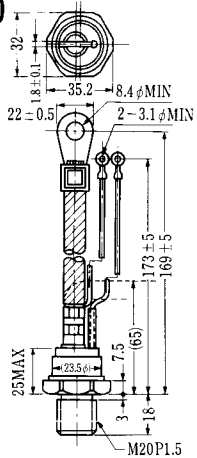
SAT-8



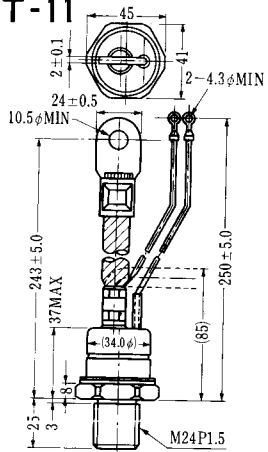
SAT-9



SAT-10



SAT-11

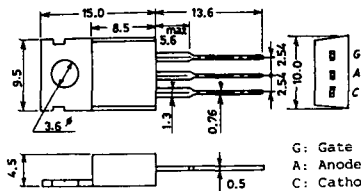


SY-1 (1096A)



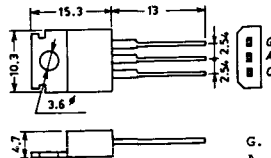
C: Cathode
A: Anode
G: Gate

SY-2 (1151)



G: Gate
A: Anode
C: Cathode

SY-3 (1104)



G: Gate
A: Anode
C: Cathode

SY-4 (1150)



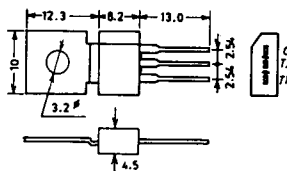
G: Gate
A: Anode
C: Cathode

1097A



G: Gate

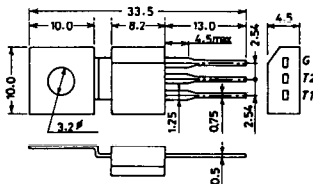
1102



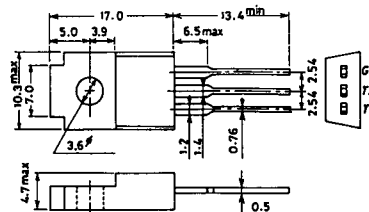
1141



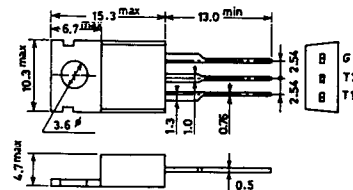
1142



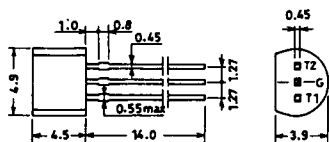
1144



1155

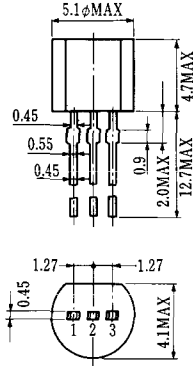


1192A



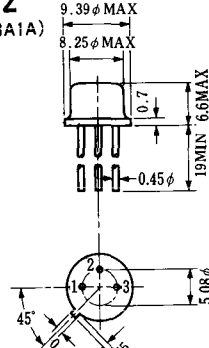
G: Gate

T-1 (13-5A1A)



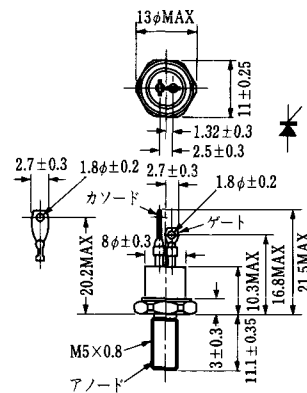
- 1 ゲート
- 2 アノード
- 3 カソード

T-2 (13-8A1A)



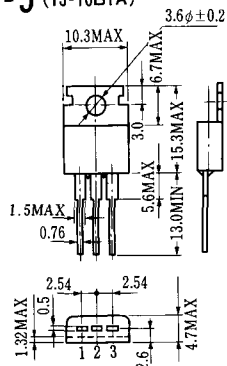
1. カソード
2. ゲート
3. アノード(ケース)

T-3 (13-8C1A)



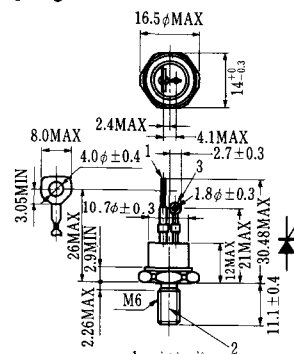
- 1 カソード
- 2 アノード
- 3 ゲート

T-5 (13-10B1A)



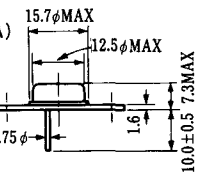
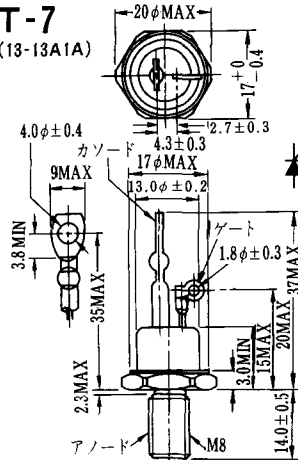
- 1 カソード
- 2 アノード
- 3 ゲート

T-6 (13-11D1A)



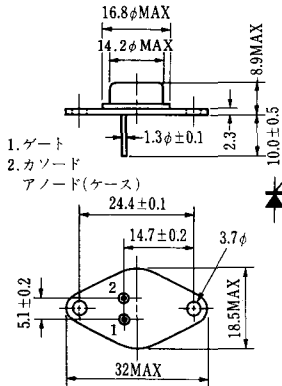
- 1 カソード
- 2 アノード
- 3 ゲート

T-7 (13-13A1A)



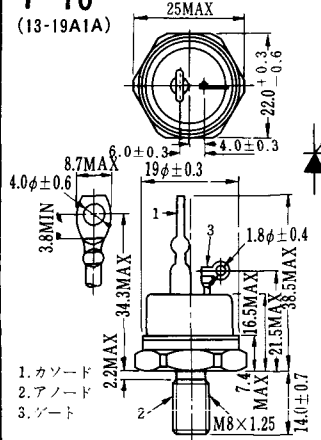
1. ゲート
2. カソード
3. アノード(ケース)

T-9 (13-14A1A)



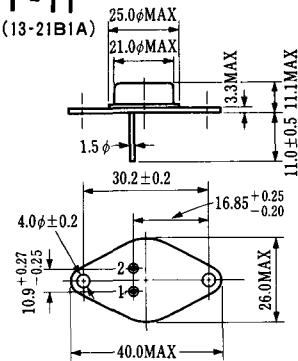
1. ゲート
2. カソード
- アノード(ケース)

T-10 (13-19A1A)



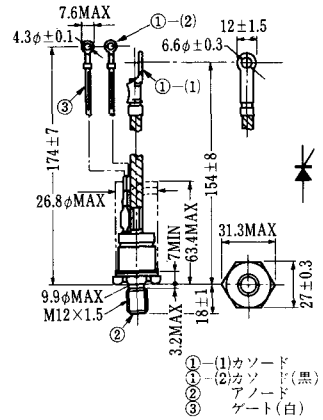
1. カソード
2. アノード
3. ゲート

T-11 (13-21B1A)



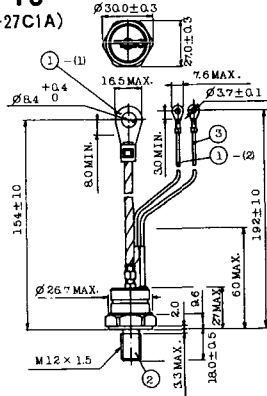
1. ゲート
2. カソード
- アノード(ケース)

T-12 (13-27B1B)



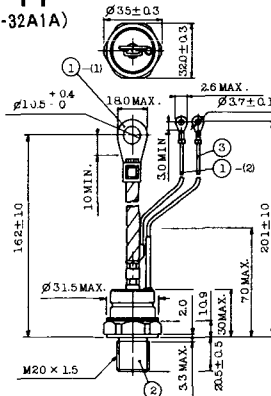
- ① (1) カソード
- ① (2) カソード(黒)
- ② アノード
- ③ ゲート(白)

T-13 (13-27C1A)



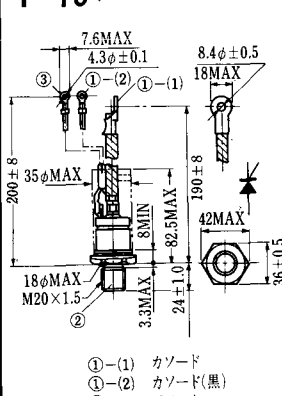
- 1-(1) カソード
- 1-(2) カソード(黒)
- 2 アノード
- 3 ゲート(白)

T-14 (13-32A1A)



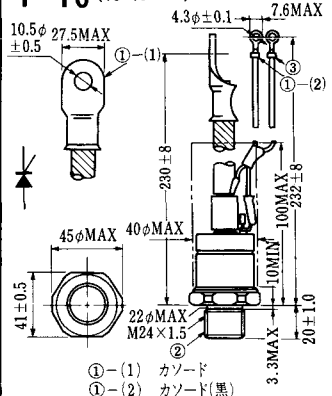
- 1-(1) カソード
- 1-(2) カソード(黒)
- 2 アノード
- 3 ゲート(白)

T-15 (13-35C1B)



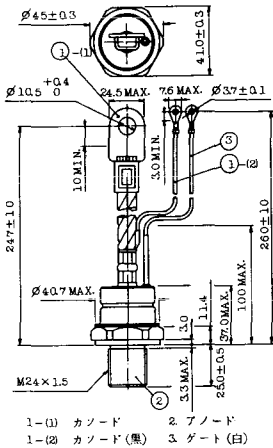
- ① (1) カソード
- ① (2) カソード(黒)
- ② アノード
- ③ ゲート(白)

T-16 (13-40B1A)

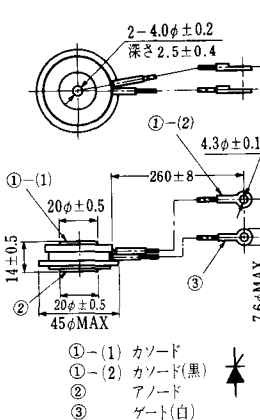


- ① (1) カソード
- ① (2) カソード(黒)
- ② アノード
- ③ ゲート(白)

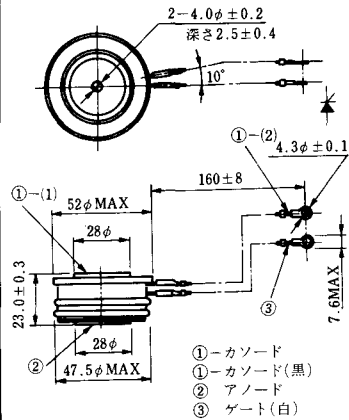
T-17 (13-42A1A)



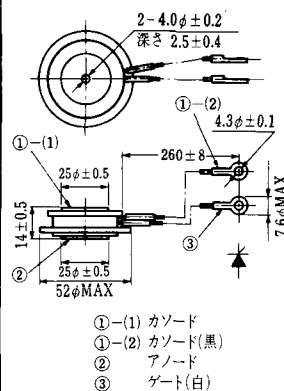
T-18 (13-45D1A)



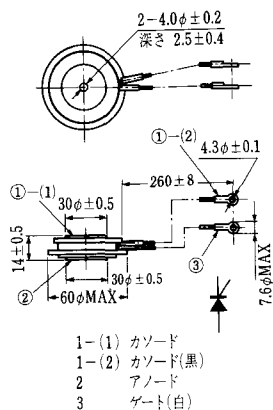
T-19 (13-52B1A)



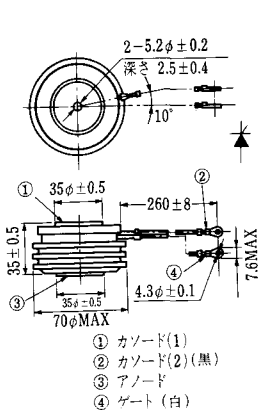
T-20 (13-52C1A)



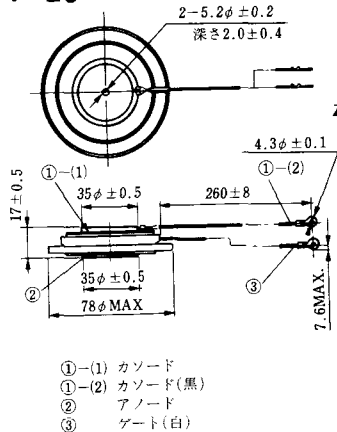
T-21 (13-60A1A)



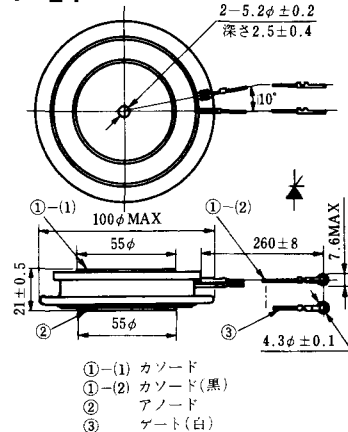
T-22 (13-70C1A)



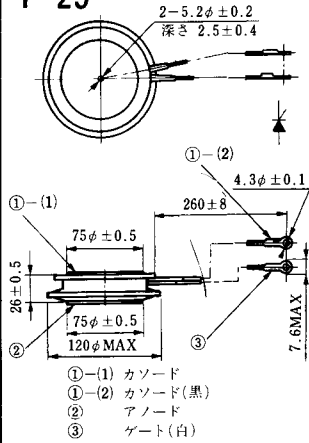
T-23 (13-78A1A)



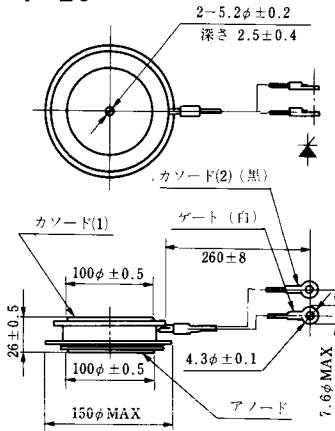
T-24 (13-100C1A)



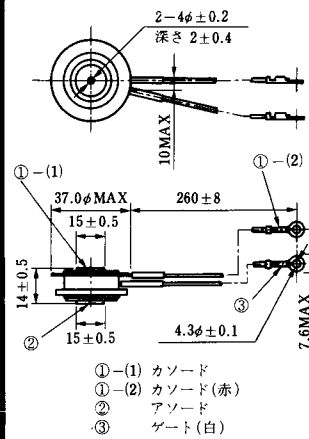
T-25 (13-120A2A)



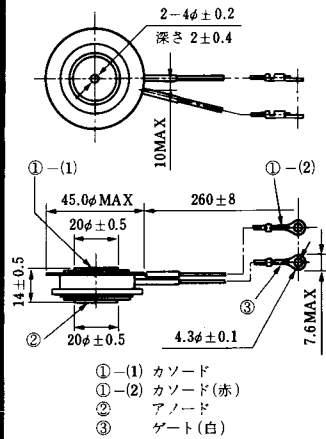
T-26 (13-150A1A)



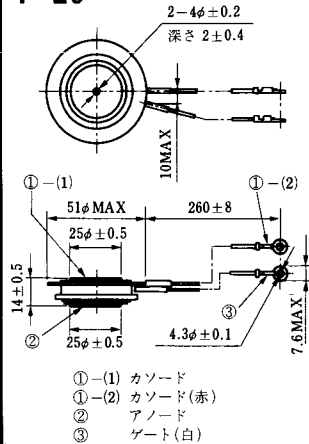
T-27 (13-37A1A)



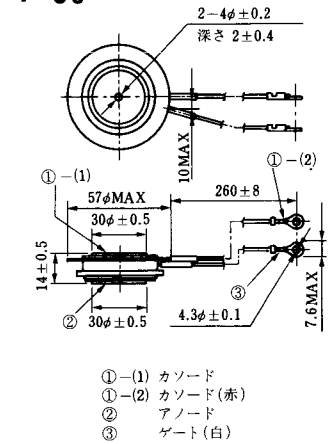
T-28 (13-45E1A)



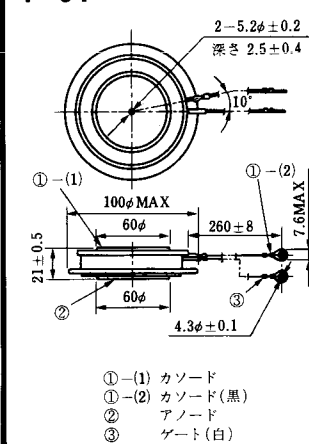
T-29 (13-51A1A)



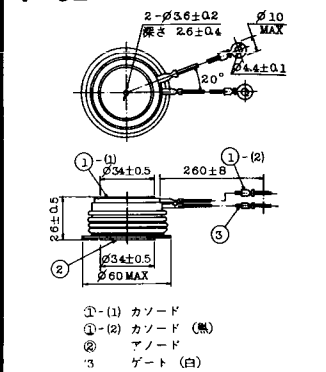
T-30 (13-57A1A)



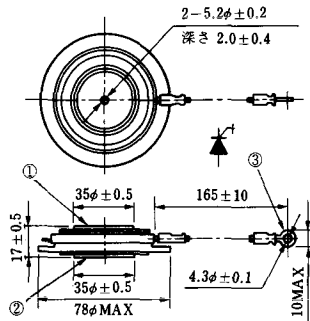
T-31 (13-100E1A)



T-32 (13-60E3A)

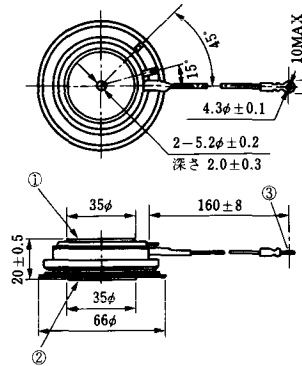


T-33 (13-78B1A)



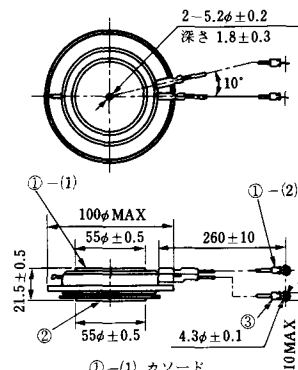
- ① カソード
- ② アノード
- ③ ゲート

T-34 (13-66A1A)



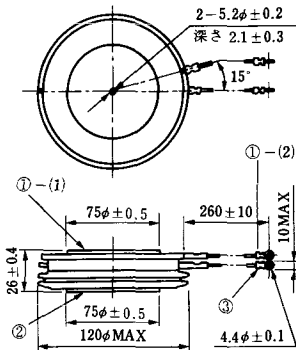
- ① カソード
- ② アノード
- ③ ゲート

T-35 (13-100D1A)



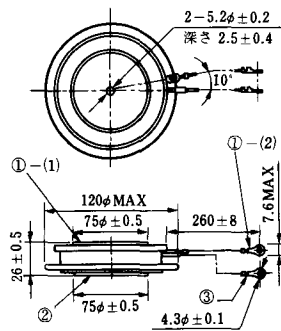
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

T-36 (13-120E1A)



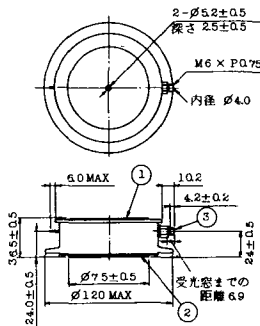
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

T-37 (13-120A1A)



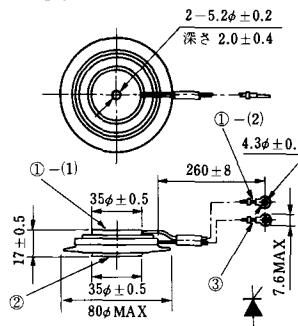
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

T-38 (13-120C1A)



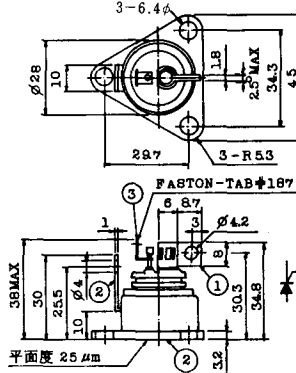
- ① カソード
- ② アノード
- ③ ゲート

T-39 (13-80B1A)



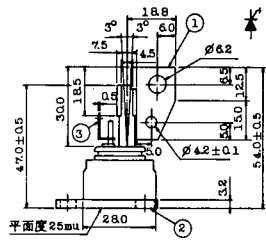
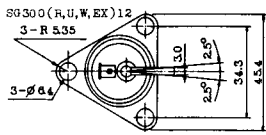
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

T-40 (13-28A1A)



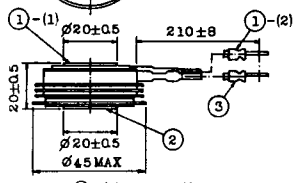
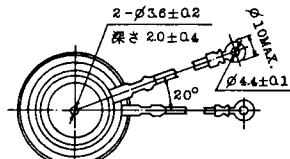
- 1. カソード
- 2. アノード
- 3. ゲート

T-41 (13-28A2A)



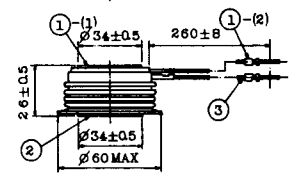
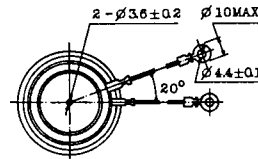
- 1 カソード
- 2 アノード
- 3 ゲート

T-42 (13-45F1A)



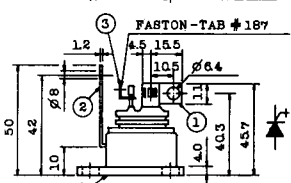
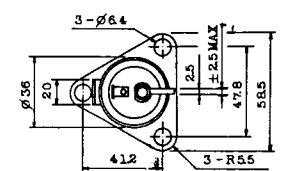
- ①-①) カソード
- ①-②) カソード(黒)
- ②) アノード
- ③) ゲート(白)

T-43 (13-60E2A)



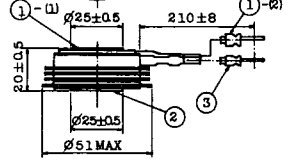
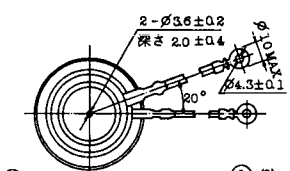
- ①-①) カソード
- ①-②) カソード(黒)
- ②) アノード
- ③) ゲート(白)

T-44 (13-36A1A)



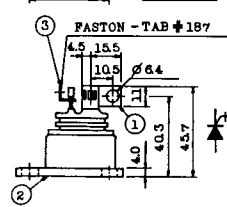
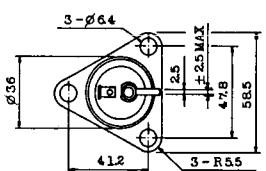
- 1 カソード
- 2 アノード
- 3 ゲート

T-45 (13-51B1A)



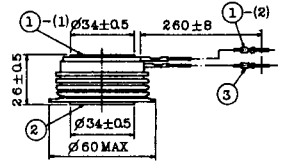
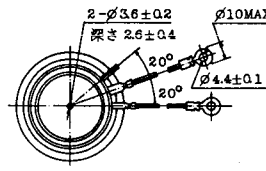
- ①-①) カソード
- ①-②) カソード(黒)
- ②) アノード
- ③) ゲート(白)

T-46 (13-36B1A)



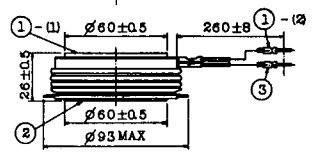
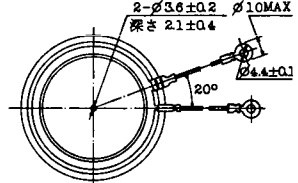
- 1 カソード
- 2 アノード
- 3 ゲート

T-47 (13-60E1A)



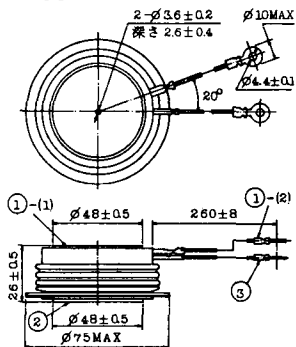
- ①-①) カソード
- ①-②) カソード(黒)
- ②) アノード
- ③) ゲート(白)

T-48 (13-93C1A)



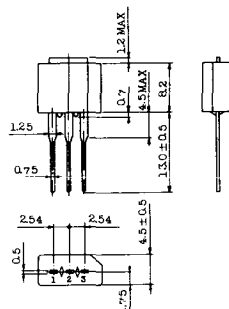
- ①-①) カソード
- ①-②) カソード(黒色)
- ②) アノード
- ③) ゲート(白色)

T-49 (13-75A1A)



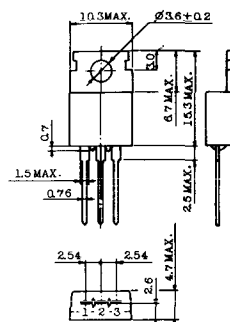
- 1-(1) カソード
- 1-(2) カソード (黒)
- 2 アノード
- 3 ゲート (白)

T-50 (13-10A3A)



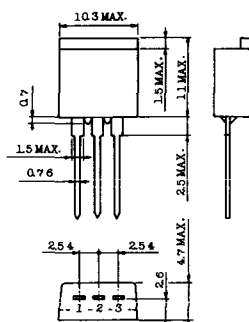
- 1 カソード
- 2 アノード
- 3 ゲート

T-51 (13-10D1A)



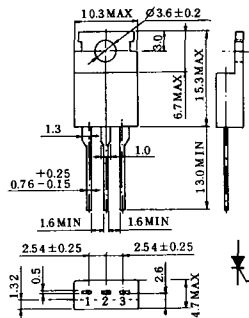
- 1 カソード
- 2 アノード
- 3 ゲート

T-52 (13-10D2A)



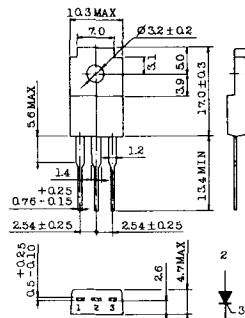
- 1 カソード
- 2 アノード
- 3 ゲート

T-53 (13-10E1B)



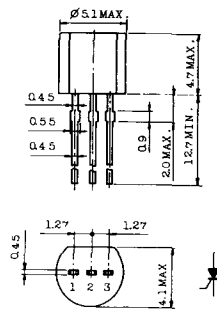
- 1 カソード
- 2 アノード
- 3 ゲート

T-54 (13-10F1B)



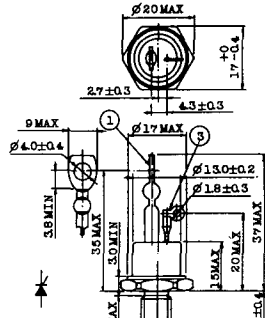
- 1 カソード
- 2 アノード
- 3 ゲート

T-55 (13-5A1D)



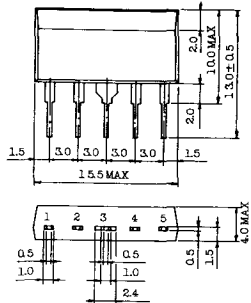
- 1 カソード
- 2 アノード
- 3 アノード

T-56 (13-13C1A)



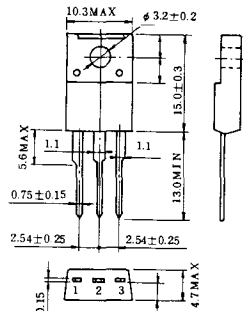
- 1 カソード
- 2 アノード
- 3 ゲート

T-57 (12-16C1A)



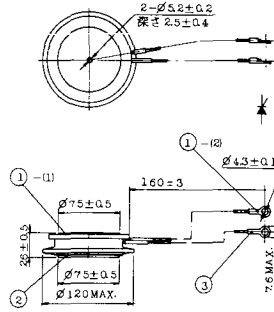
1. アノード (主)
2. ゲート (主)
3. カソード (共通)
4. ゲート (補助)
5. アノード (補助)

T-58 (13-10H1B)



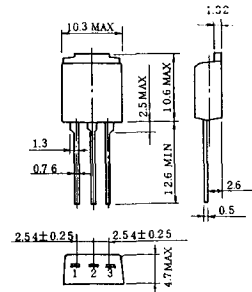
1. カソード
2. アノード
3. ゲート

T-59 (13-120A1A)



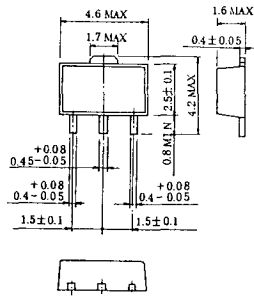
- 1-(1) カソード
- 1-(2) カソード (黒)
2. アノード
3. ゲート (白)

T-60



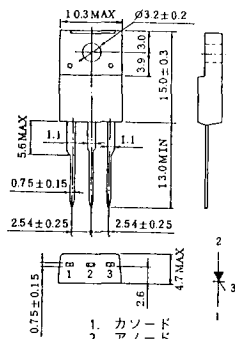
1. カソード
2. アノード
3. ゲート

T-61 (13-5B1A)



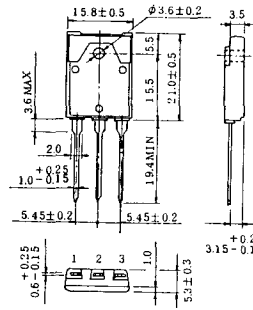
1. ゲート
2. アノード
3. カソード

T-62 (13-10H1A)



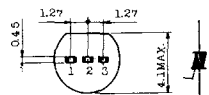
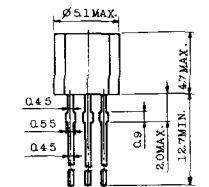
1. カソード
2. アノード
3. ゲート

T-63 (13-16A1B)



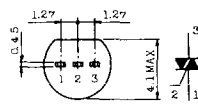
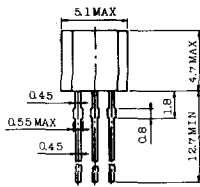
1. カソード
2. アノード
3. ゲート

TT-1



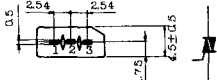
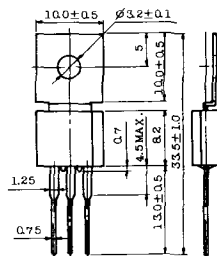
- 1 ゲート
- 2 T₂
- 3 T₁

TT-2



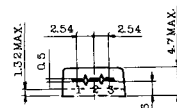
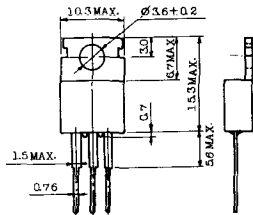
- 1 T₁
- 2 ゲート
- 3 T₂

TT-3



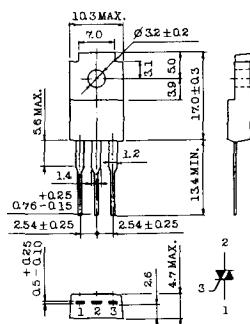
- 1 T₁
- 2 T₂
- 3 ゲート

TT-4



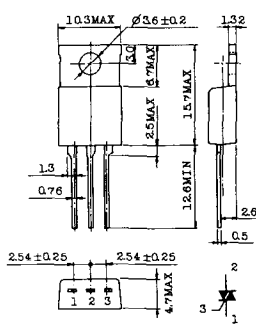
- 1 T₁
- 2 T₂
- 3 ゲート

TT-5



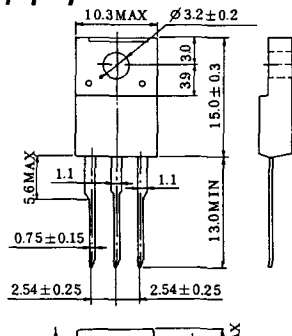
- 1 T₁
- 2 T₂
- 3 ゲート

TT-6



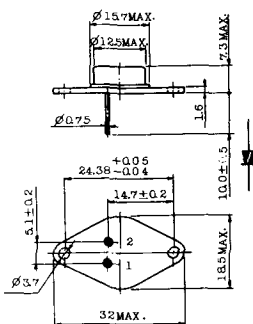
- 1 T₁
- 2 T₂ (放熱板)
- 3 ゲート

TT-7



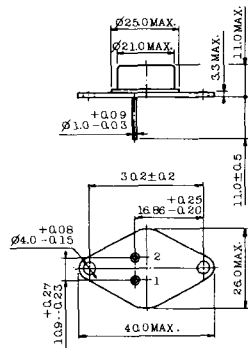
- 1 T₁
- 2 T₂
- 3 ゲート

TT-8



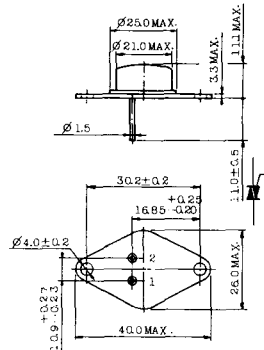
- 1 ゲート
- 2 T₁
- T₂ (ケース)

TT-9



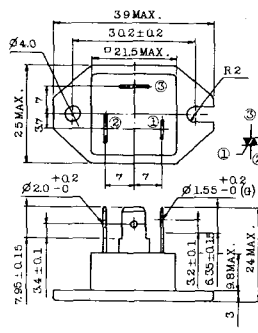
1. ゲート
2. T₁
3. T₂ (ケース)

TT-10



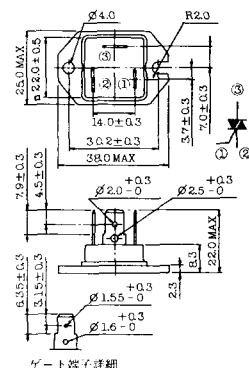
1. ゲート
2. T₁
3. T₂ (ケース)

TT-11



1. ゲート (フーストン端子 #187)
2. T₁ (" #250)
3. T₂ (" #250)

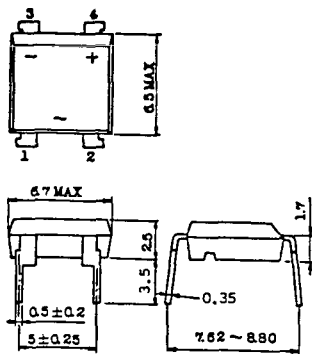
TT-12



ゲート端子詳細

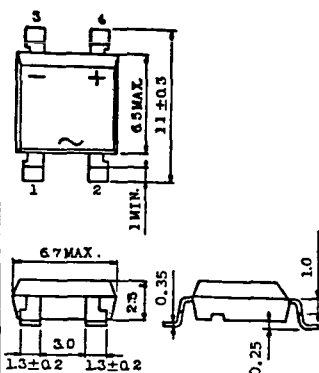
- ① ゲート (フーストン端子 #187)
- ② T₁ (" #250)
- ③ T₂ (" #250)

TT-13



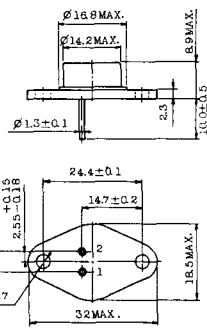
- 1, 2: T₂
- 3: GATE
- 4: T₁

TT-14



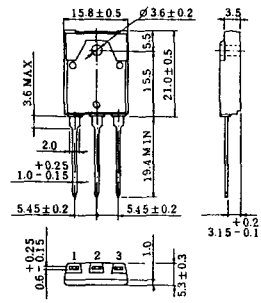
- 1, 2: T₂
- 3: GATE
- 4: T₁

TT-15 (13-14A1B)



1. ゲート
2. T₁
- T₂ (ケース)

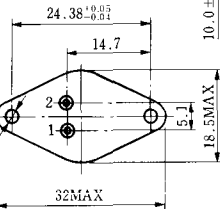
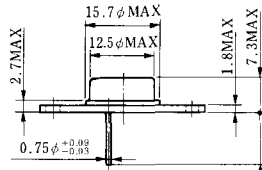
TT-16 (13-16A1A)



1. T₁
2. T₂
3. ゲート

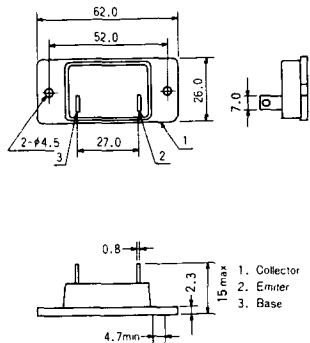


TS-8

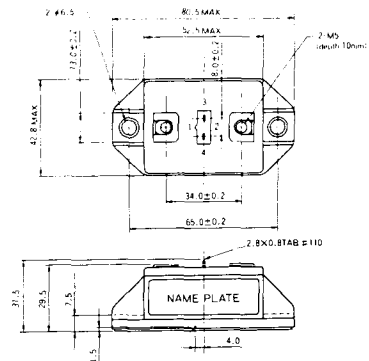


- 1. ベース
- 2. エミッタ
コレクタ
(ケース)

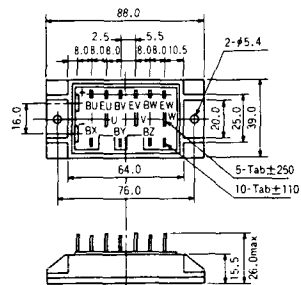
S-62A1A



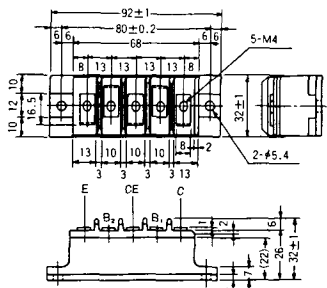
S-80A1A



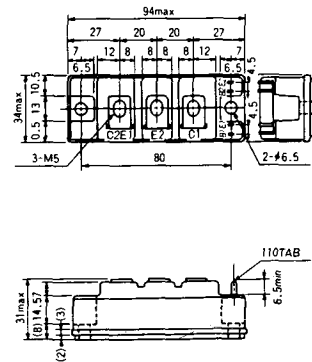
S-88D1A



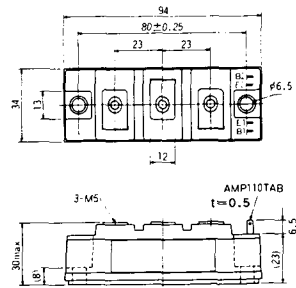
S-92B1A



S-94B1A



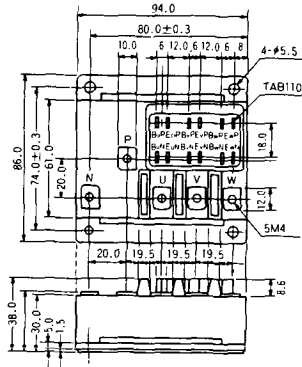
S-94B1B



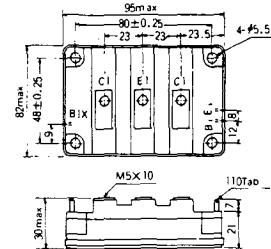
S-94B2A



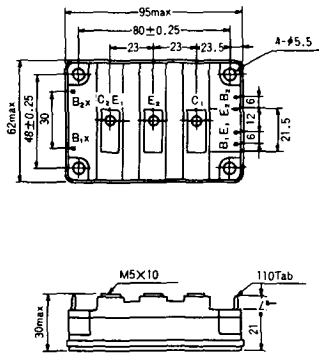
S-94D1A



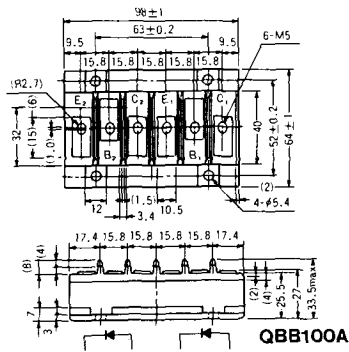
S-95A1A



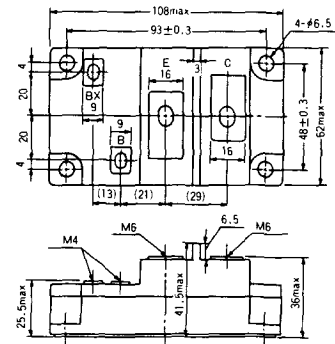
S-95B1A



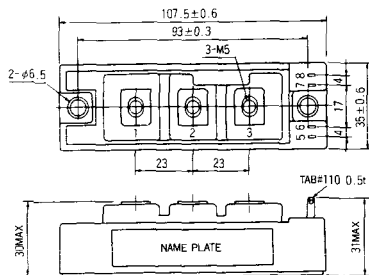
S-98B1B



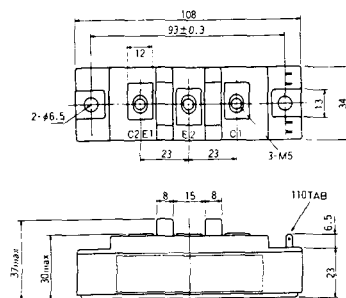
S-108A2A



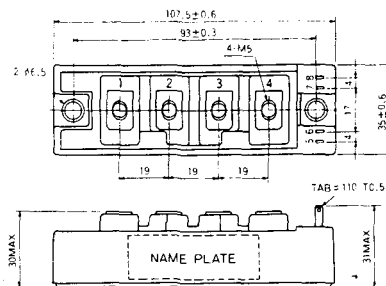
S-108B1A



S-108B1B



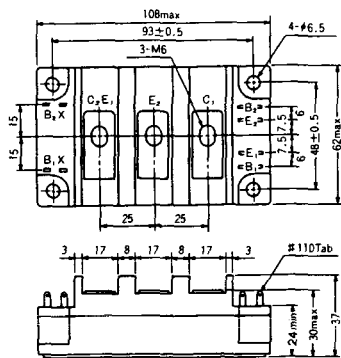
S-108B1C



S-108B2A



S-108B2B



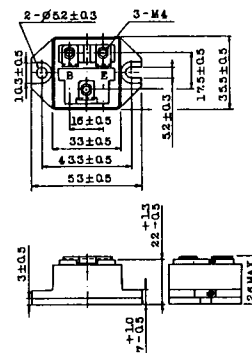
2-22B1A



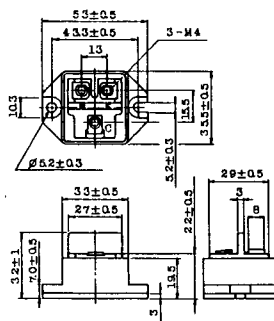
2-27A4A



2-33C1A



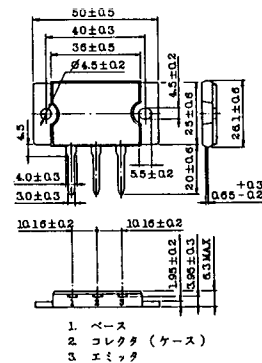
2-33D1A



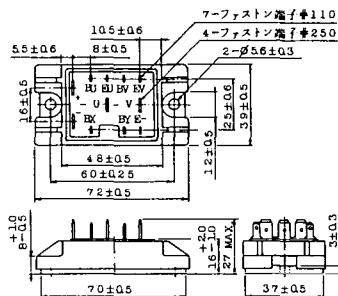
2-33F1A



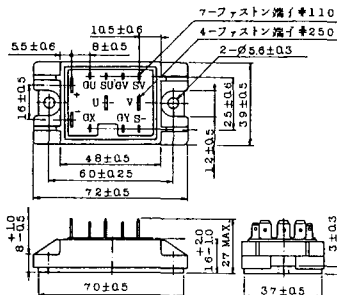
2-37A1A



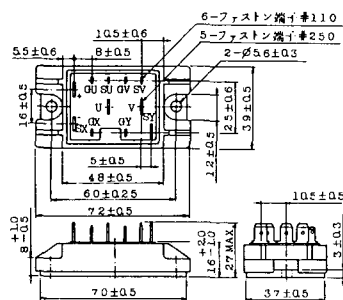
2-48A3A



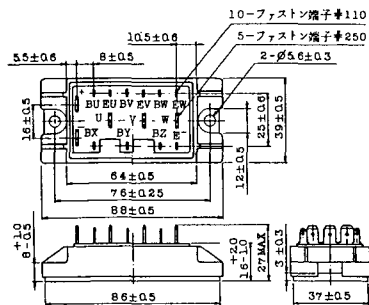
2-48A3B



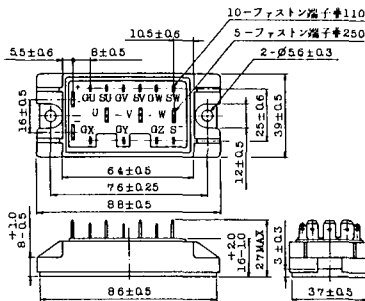
2-48A4A



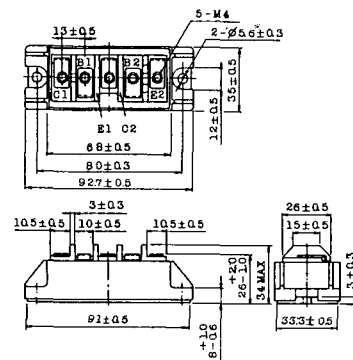
2-64A2A



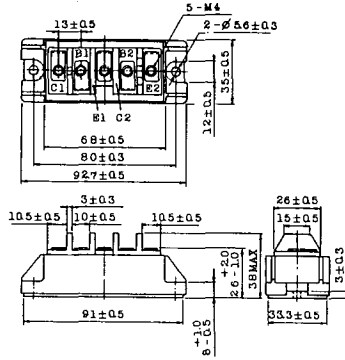
2-64A2B



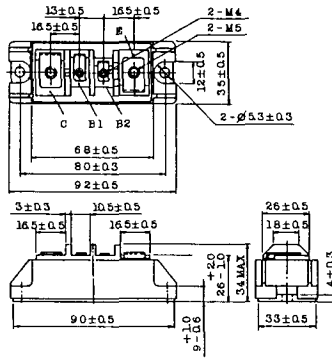
2-68A2A



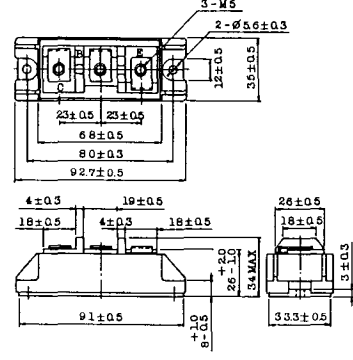
2-68B2A



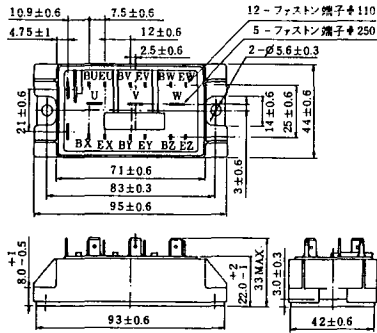
2-68C1A



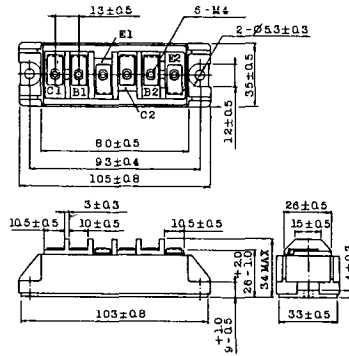
2-68D2A



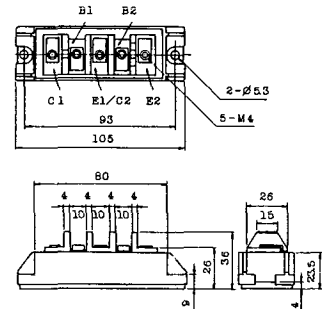
2-72A3A



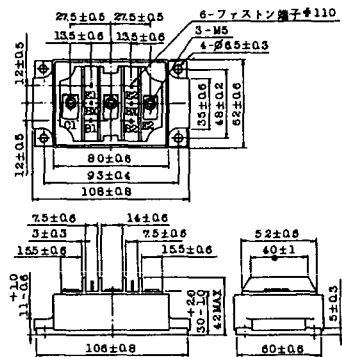
2-80A1A



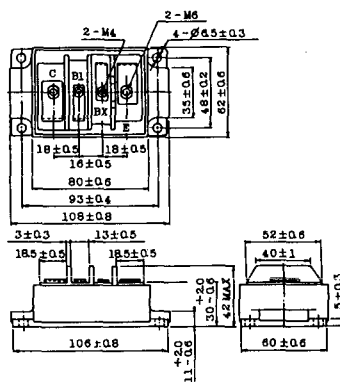
2-80B1A



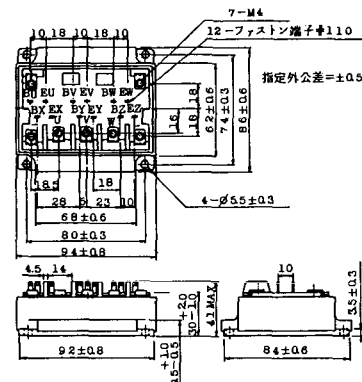
2-80C1A



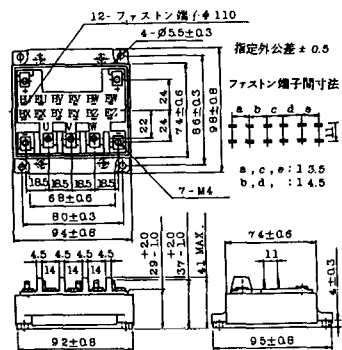
2-80D2A



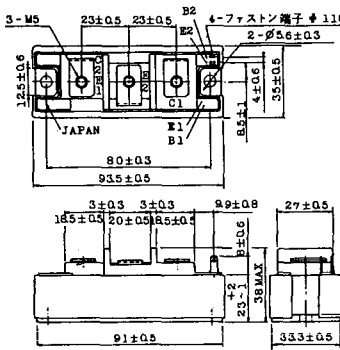
2-94A2A



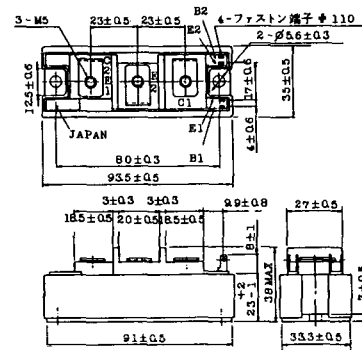
2-94B1A



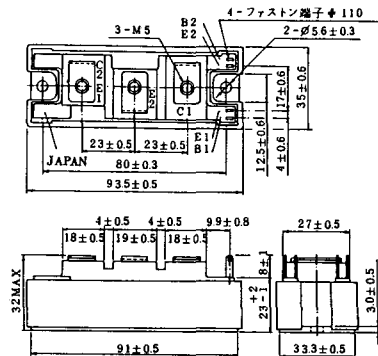
2-94C2A



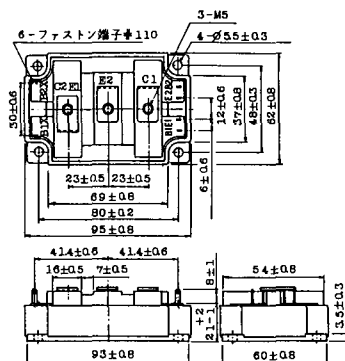
2-94C3A



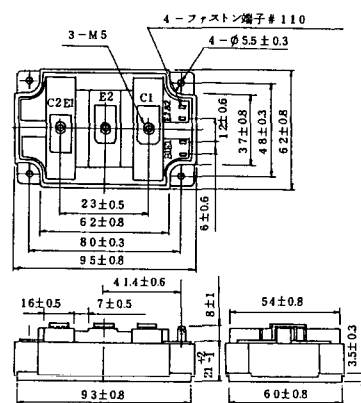
2-94D1A



2-96A3A



2-96A4A



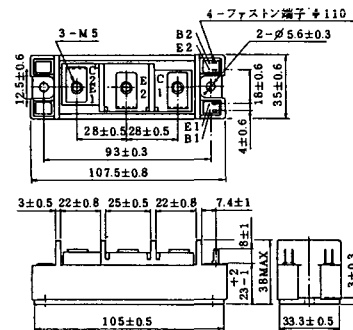
2-98B1A



2-98C2A



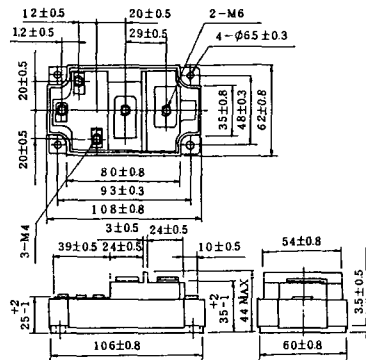
2-108A2A



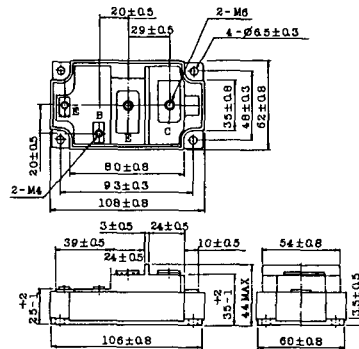
2-108B1A



2-109A3A



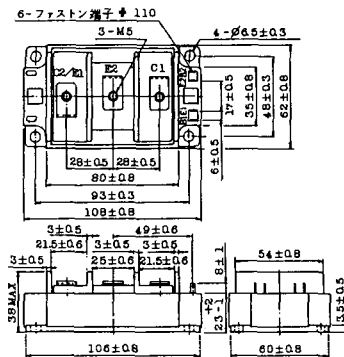
2-109A4A



2-109B3A

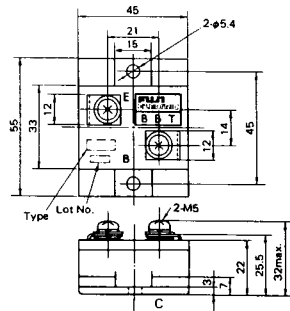


2-109B4A



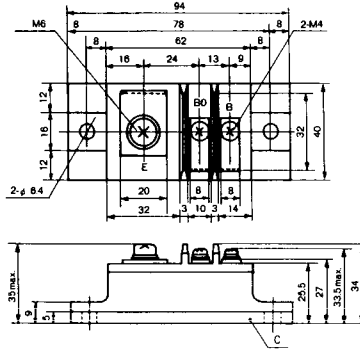
BBT-II

BBTII
1D200A-020



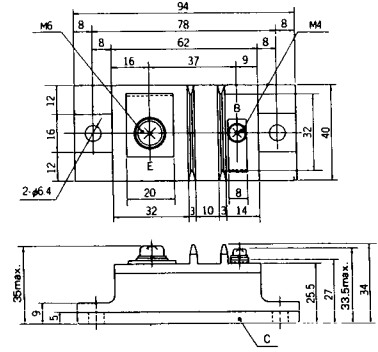
BBT-III

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



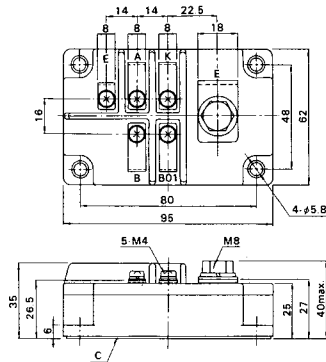
BBT-III

BBTIII
ETN01-055
ET1257

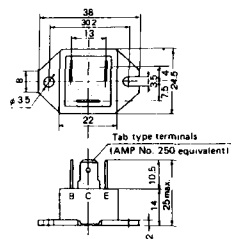


BBT-IV

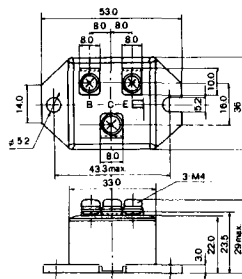
BBTIV
1D500A-030



M-101



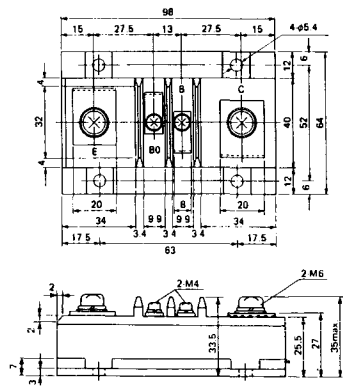
M-102



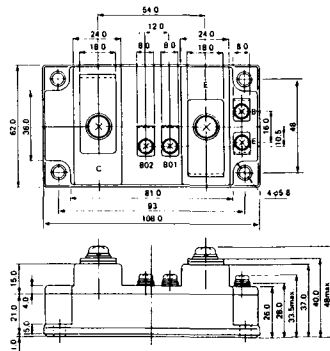
M-103



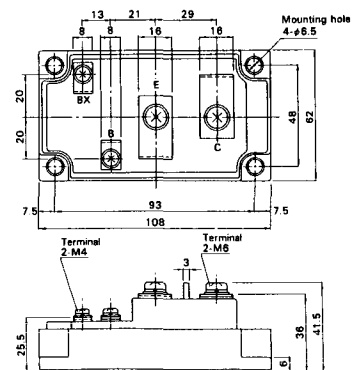
M-104



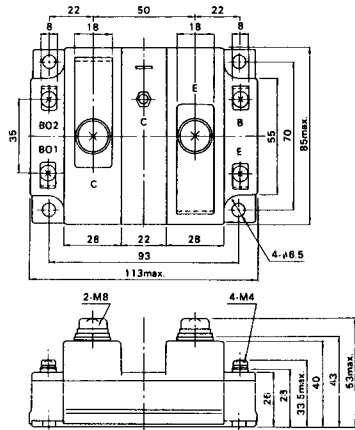
M-105



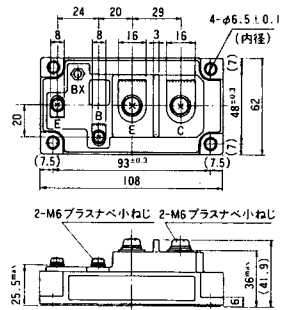
M-106



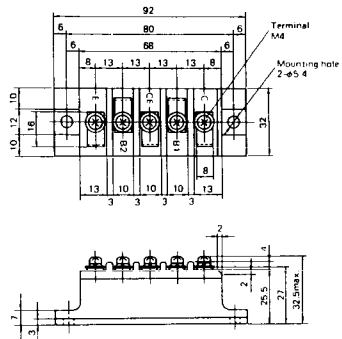
M-107



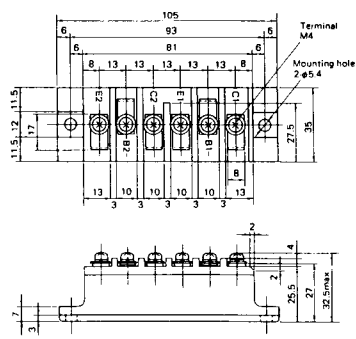
M-116



M-201



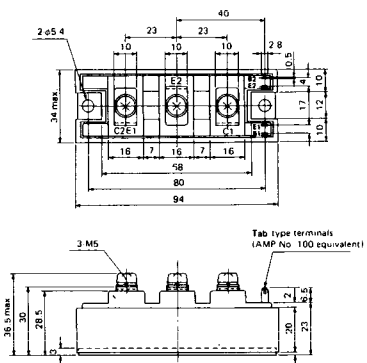
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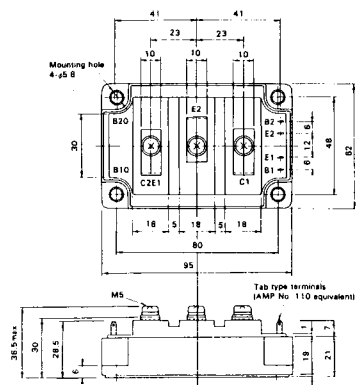
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M-204



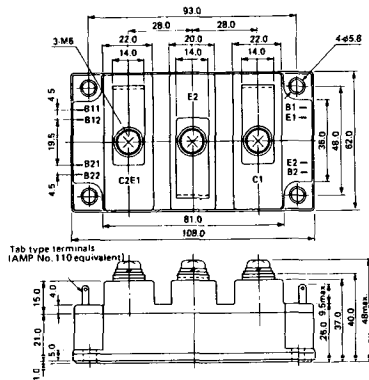
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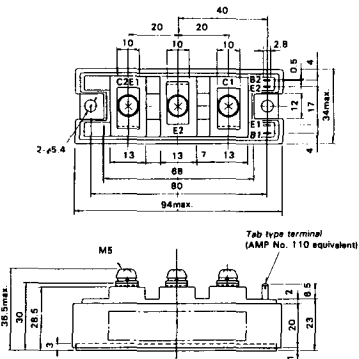
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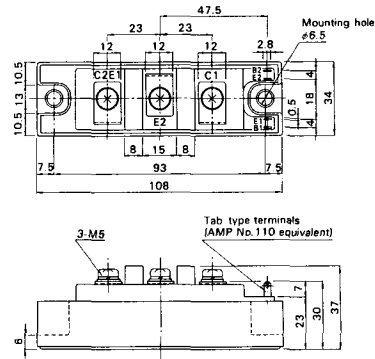
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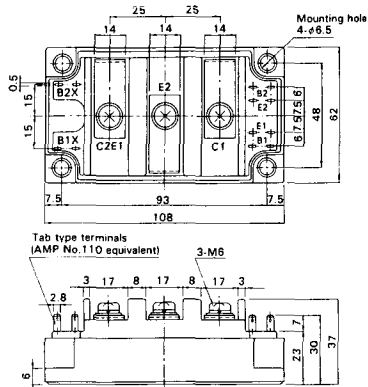
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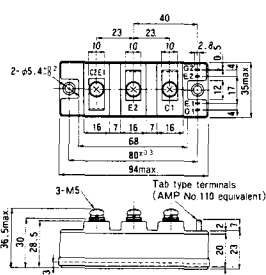
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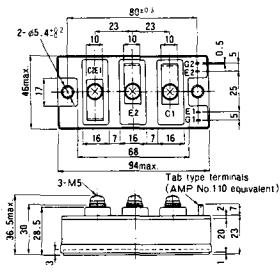
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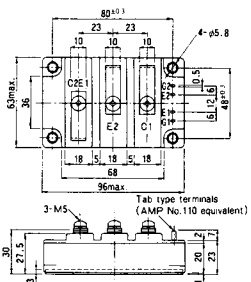
M-211



M-212

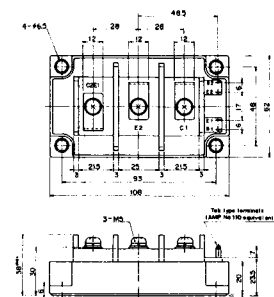


M-213

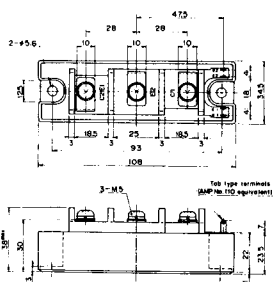


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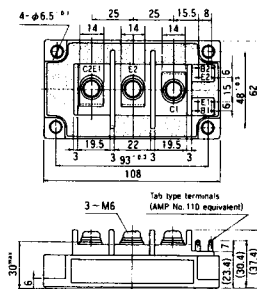
M-215



M-216



M-217



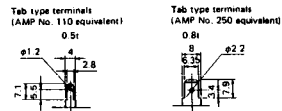
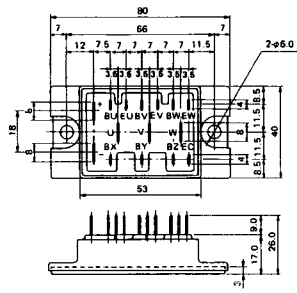
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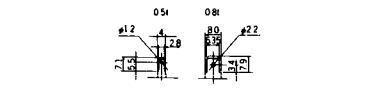
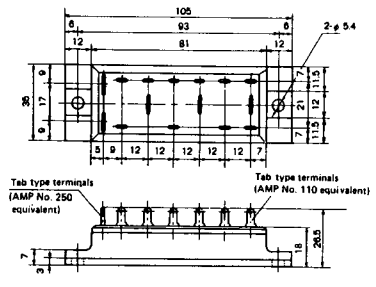
M-219



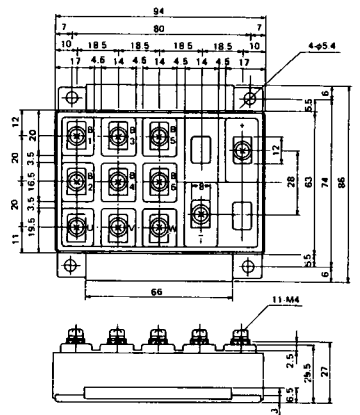
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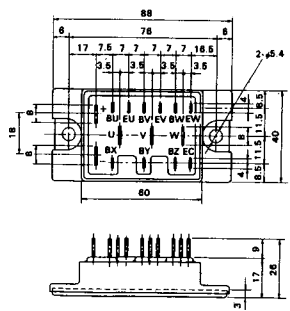
M-602



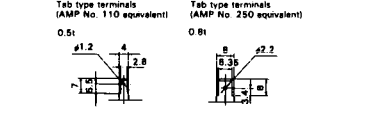
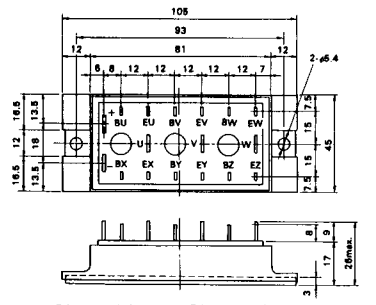
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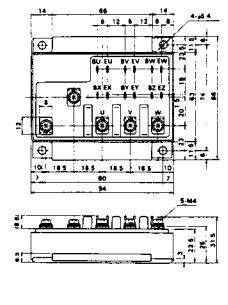
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M-605



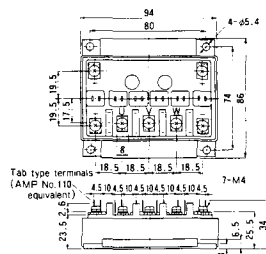
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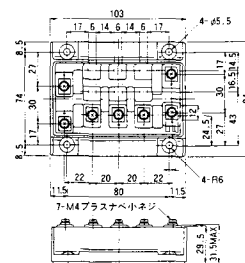
M-607



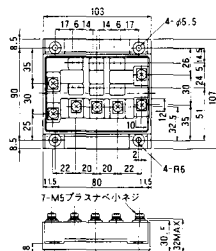
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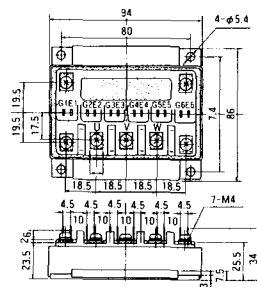
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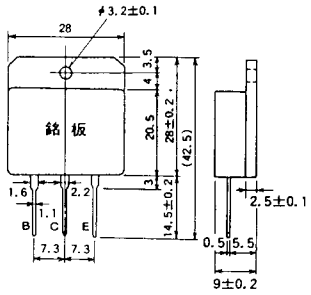
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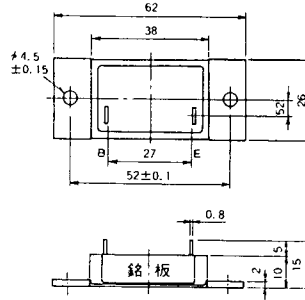
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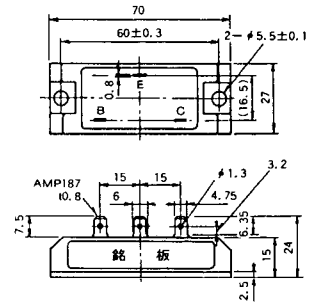
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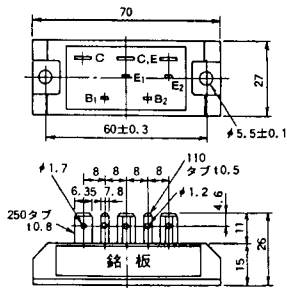
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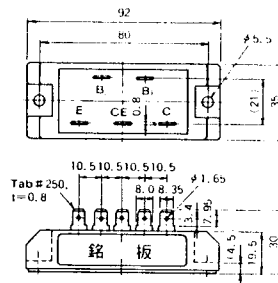
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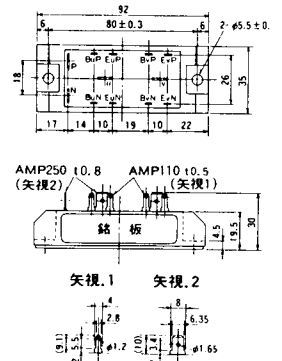
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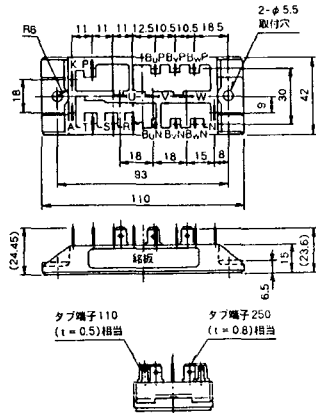
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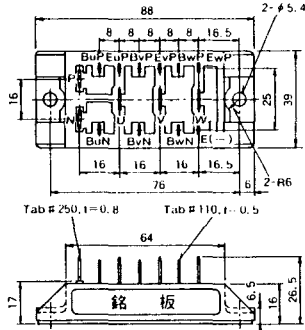
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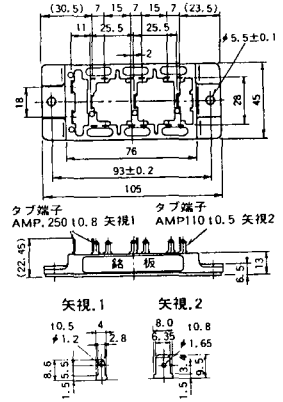
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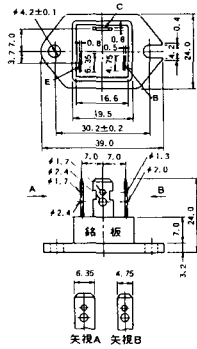
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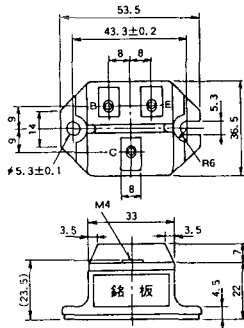
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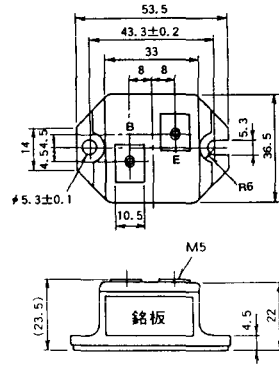
M-3A1A



M-3B1A



M-3B1B



M-3C1A



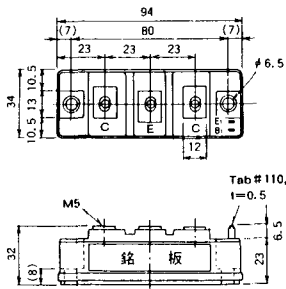
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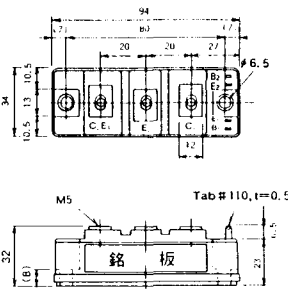
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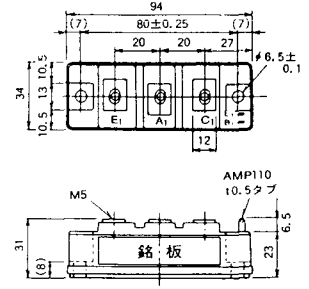
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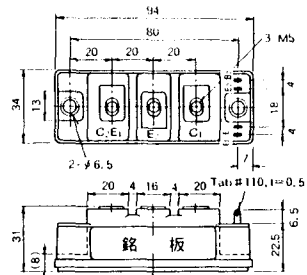
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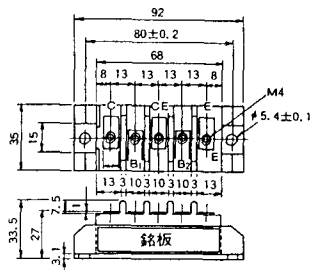
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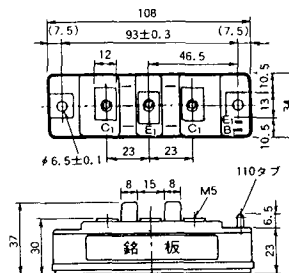
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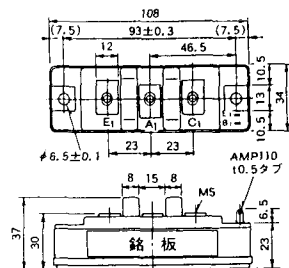
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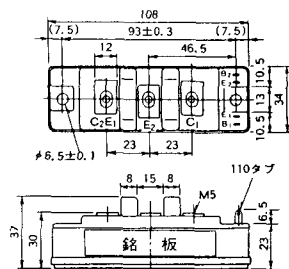
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M-5A1B



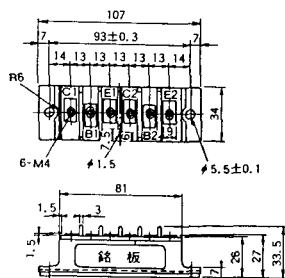
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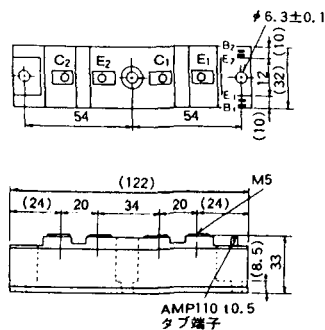
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M-5C2A



M-5D2A



M-6A1A



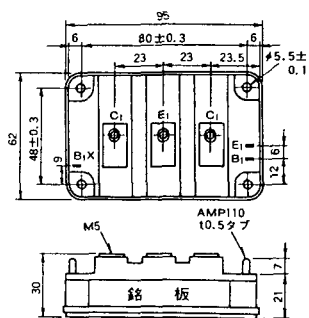
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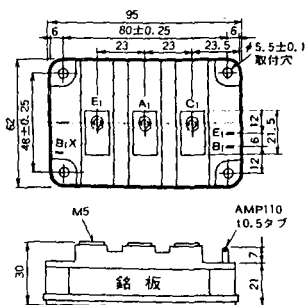
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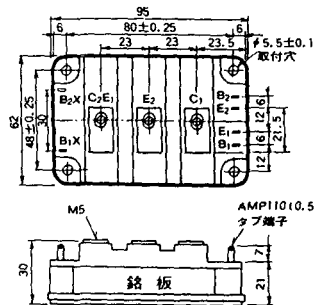
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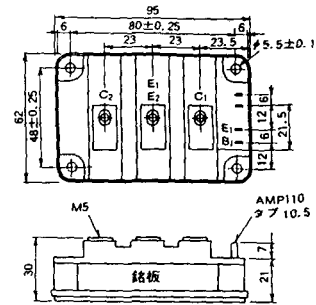
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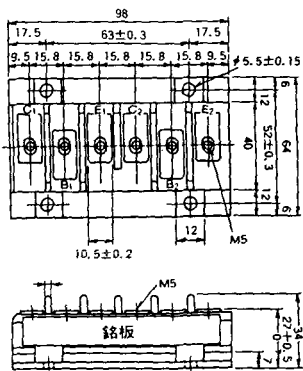
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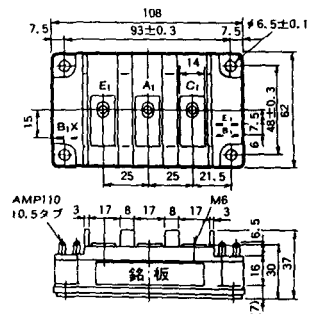
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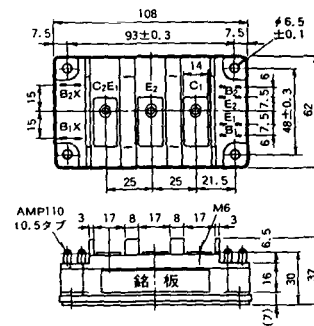
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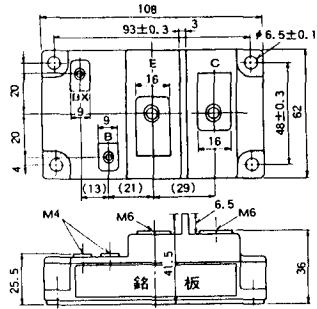
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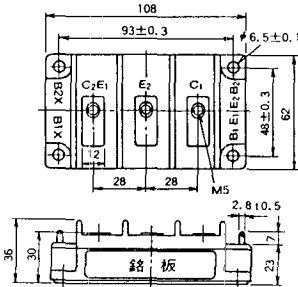
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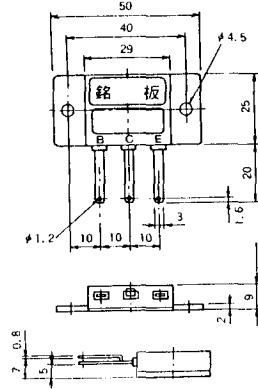
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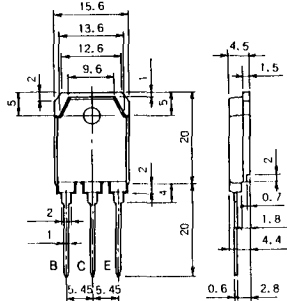
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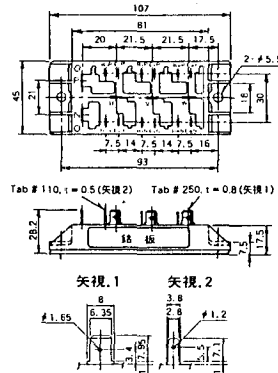
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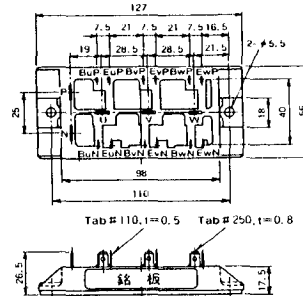
M-1A1C



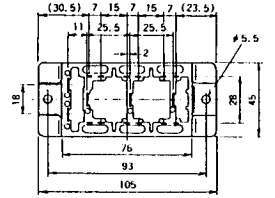
M-2E6B



M-2E6C



M-2G6B

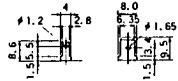


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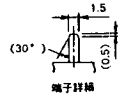
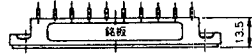
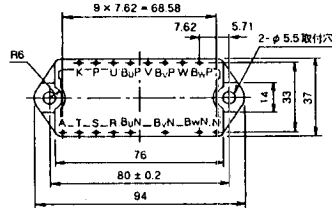


矢視 1

矢視 2

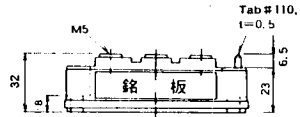
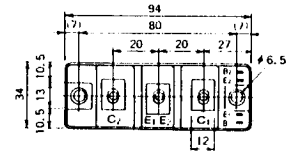


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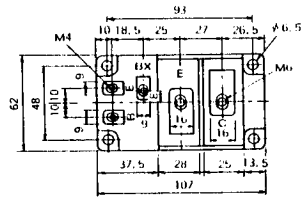


端子詳細

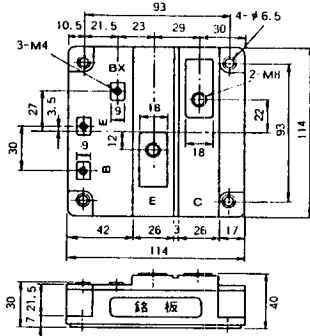
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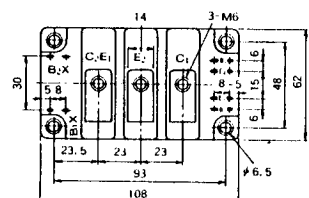
M-7A1B



M-7C1A



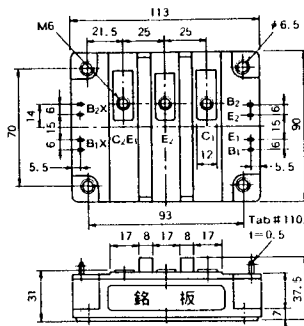
M-8A2C



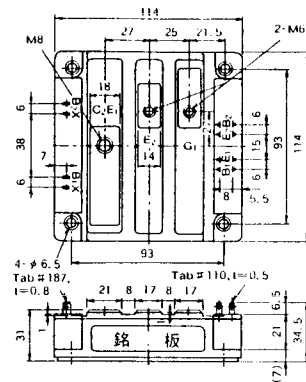
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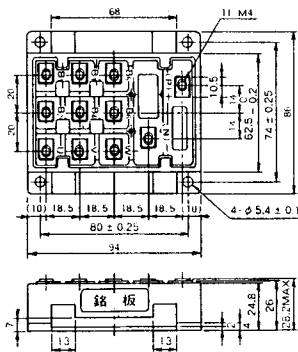
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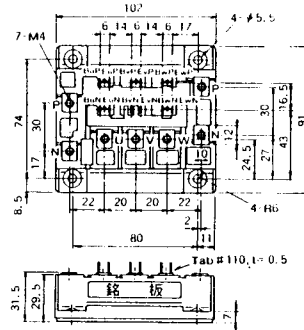
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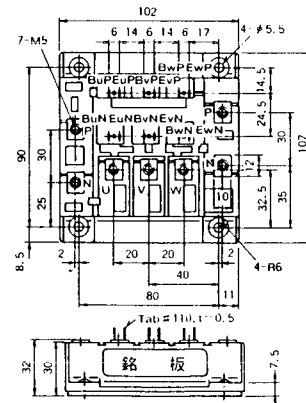
M-12A6A



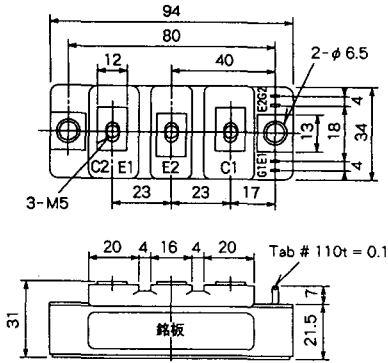
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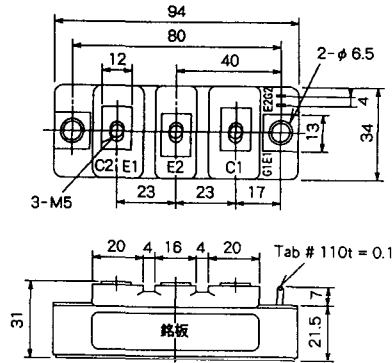
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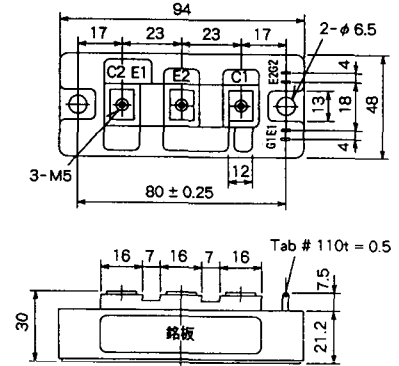
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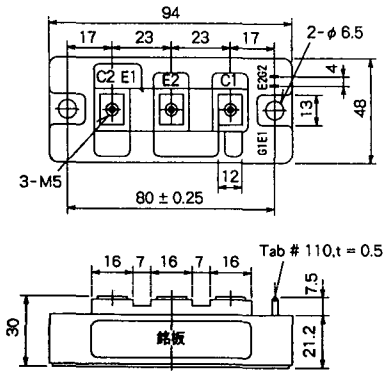
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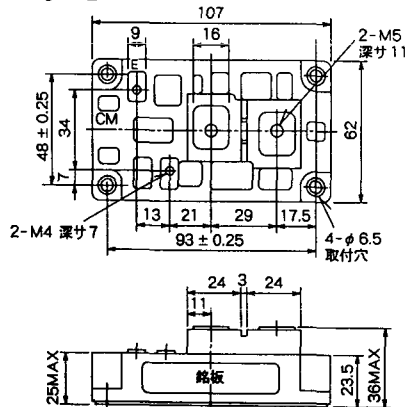
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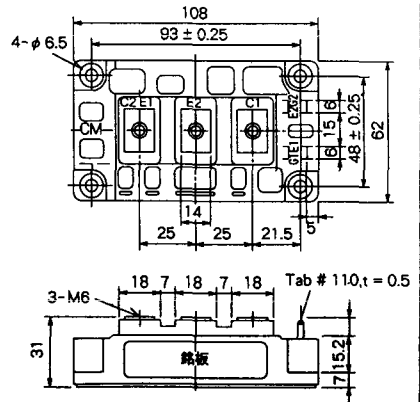
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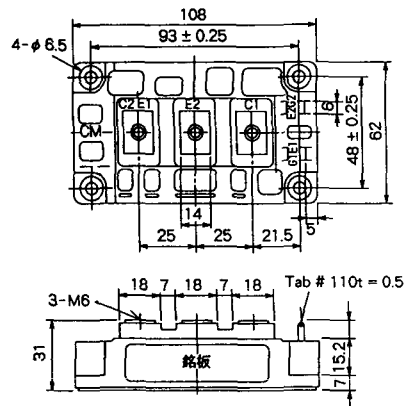
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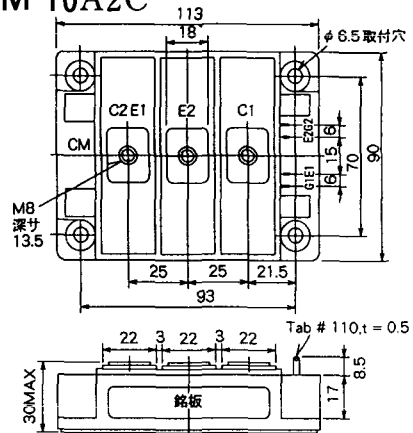
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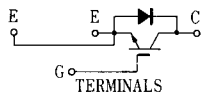
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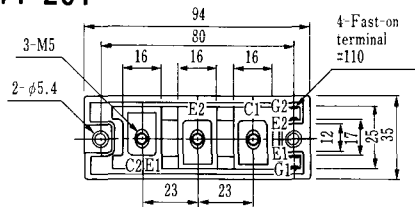


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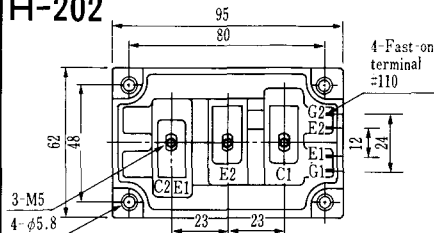
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H-201



Weight: 200g

H-202



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LF-J



LF-K



