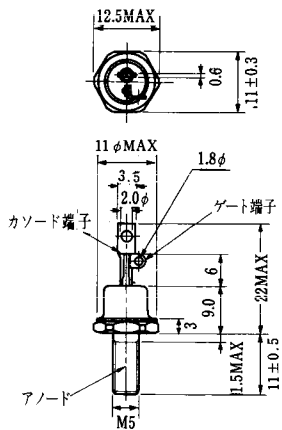


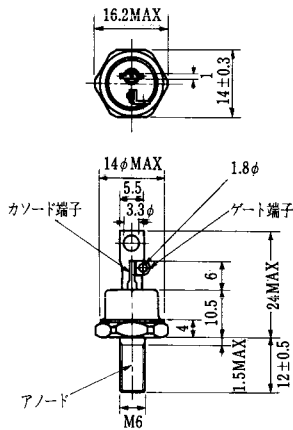
SG2000 [†] FXF, GXH ₂ I (VRRM)				■外形図番号 T-36 (13-120E1A)					
■最大定格				■電気的特性					
記号	SG2000FXF21 (VRRM)	SG2000GXH21 (VRRM)	単位	記号	測定条件	Min	Typ	Max	単位
V_{RRM}	3000	4000	V	I_{RRM}	$T_j=115^{\circ}\text{C}$, $V_D=V_{RRM}$			150	mA
V_{DRM}	3300	4500		I_{DRM}	$T_j=115^{\circ}\text{C}$, $V_D=V_{DRM}$, $R_{GK}=5\Omega$			150	mA
I_{TQM}	2000 ($V_D=\frac{1}{2}V_{DRM}$, $V_{DM}=\frac{2}{3}V_{DRM}$, $C_i=6\mu\text{F}$, $R_s=20\Omega$, $T_j=115^{\circ}\text{C}$)			V_{TM}	$T_c=25^{\circ}\text{C}$, $I_{TM}=2000\text{A}$			3	V
I_{TRMS}	800 ($T_f=70^{\circ}\text{C}$)			V_{GT}	$T_c=25^{\circ}\text{C}$, $V_D=24\text{V}$			1.5	V
I_{TSM}	18000/20000 (50Hz/60Hz, 正弦半波1サイクル)			I_{GT}	$R_L=0.2\Omega$			1500	mA
$I^2 \cdot t$				V_{GD}	$T_c=115^{\circ}\text{C}$, $V_D=\frac{1}{2}V_{DRM}$	0.3			V
di/dt	300 ($I_{GP}=20\text{A}$, $t_r=1\mu\text{s}$, $V_D=\frac{1}{2}V_{DRM}$, $I_{TM}=2000\text{A}$, $f=50\text{Hz}$, $T_j=115^{\circ}\text{C}$)			I_{GD}		10			mA
I_{GFM}	40 (パルス幅: max. 20 μs , duty: max. 20%)			t_d	$T_c=25^{\circ}\text{C}$, $V_D=\frac{1}{2}V_{DRM}$, $I_{GP}=20\text{A}$			8	μs
$P_{CF(AV)}$	14			t_{st}	$I_{TM}=2000\text{A}$, $di/dt=300\text{A}/\mu\text{s}$			15	
I_{GRMS}				dv/dt	$T_j=115^{\circ}\text{C}$, $V_D=\frac{2}{3}V_{DRM}$, $V_{GK}=-4\text{V}$	900			V/ μs
P_{GRM}	10000 (パルス幅: max. 20 μs , duty: max. 2%)			I_H	$T_c=25^{\circ}\text{C}$, $R_L=0.2\Omega$			80	A
V_{GRM}	15			t_b	$T_c=110^{\circ}\text{C}$, $I_{TM}=2000\text{A}$			21	
T_j	115			t_{qs}	$V_D=\frac{1}{2}V_{DRM}$, $V_{DM}=\frac{2}{3}V_{DRM}$			23	μs
T_{stg}	-40~115			t_{rail}	$C_i=6\mu\text{F}$, $R_s=20\Omega$			250	
				I_{GR}	$dig/dt=-40\text{A}/\mu\text{s}$		400	450	A
				R_{th}	接合~フィン間, DC			0.02	$^{\circ}\text{C}/\text{W}$

SG2000 [†] R, U, W, EX ₂ 2				■外形図番号 T-48 (13-93C1A)							
○チョップパ, インバータ用				■電気的特性							
○700A, 1300~2500V											
■最大定格				■電気的特性							
記号	SG2000R22	SG2000U22	SG2000W22	SG2000EX22	単位	記号	測定条件	Min	Typ	Max	単位
V_{RRM}	15				V	I_{RRM}	$T_j=125^{\circ}\text{C}$, $V_D=V_{RRM}$			100	mA
V_{DRM}	1300	1600	1800	2500		I_{DRM}	$T_j=125^{\circ}\text{C}$, $V_D=V_{DRM}$, $R_{GK}=10\Omega$			50	mA
I_{TQM}	2000 ($V_{DM}=\frac{2}{3}V_{DRM}$, $C_i=4\mu\text{F}$, $R_s=5\Omega$, $T_j=125^{\circ}\text{C}$)				V_{TM}	$T_c=25^{\circ}\text{C}$, $I_{TM}=2000\text{A}$			2.8	V	
I_{TRMS}	700 ($T_f=70^{\circ}\text{C}$)				V_{GT}	$T_c=25^{\circ}\text{C}$, $V_D=24\text{V}$			1.2	V	
I_{TSM}	14000/15400 (50Hz/60Hz, 正弦半波1サイクル)				I_{GT}	$R_L=0.1\Omega$			2.5	A	
$I^2 \cdot t$					V_{GD}	$T_c=125^{\circ}\text{C}$, $V_D=\frac{1}{2}V_{DRM}$	0.3			V	
di/dt	300 ($I_{GP}=30\text{A}$, $t_r=1\mu\text{s}$, $V_D=\frac{1}{2}V_{DRM}$, $I_{TM}=2000\text{A}$, $f=50\text{Hz}$, $T_j=125^{\circ}\text{C}$)				I_{GD}		10			mA	
I_{GFM}	70 (パルス幅: max. 30 μs , duty: max. 20%)				t_d	$T_c=25^{\circ}\text{C}$, $V_D=\frac{1}{2}V_{DRM}$, $I_{GP}=30\text{A}$			4	μs	
$P_{CF(AV)}$	14				t_{st}	$I_{TM}=2000\text{A}$, $di/dt=300\text{A}/\mu\text{s}$			15		
I_{GRMS}	60				dv/dt	$T_j=125^{\circ}\text{C}$, $V_D=\frac{2}{3}V_{DRM}$, $V_{GK}=-4\text{V}$	500			V/ μs	
P_{GRM}	15000 (パルス幅: max. 50 μs , duty: max. 2%)				I_H	$T_c=25^{\circ}\text{C}$, $R_L=0.1\Omega$		40		A	
V_{GRM}	15				t_b	$T_c=120^{\circ}\text{C}$, $I_{TM}=2000\text{A}$			20		
T_j	125				t_{qs}	$V_D=\frac{1}{2}V_{DRM}$, $V_{DM}=\frac{2}{3}V_{DRM}$			23	μs	
T_{stg}	-40~125				t_{rail}	$C_i=4\mu\text{F}$, $R_s=5\Omega$			60		
					I_{GR}	$dig/dt=-40\text{A}/\mu\text{s}$		400	480	A	
					R_{th}	接合~フィン間, DC			0.025	$^{\circ}\text{C}/\text{W}$	

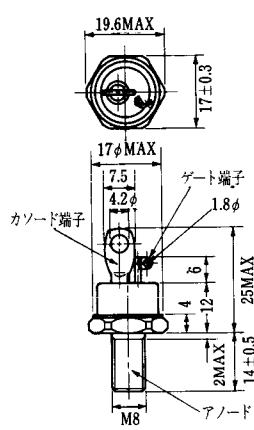
FD-1



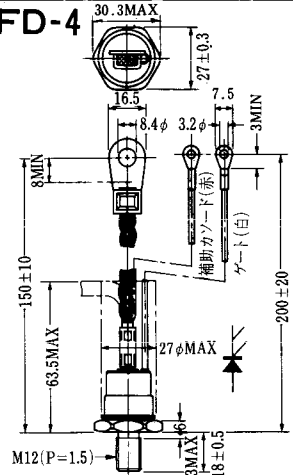
FD-2



FD-3



FD-4



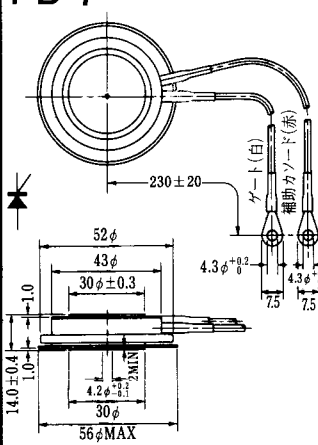
FD-5



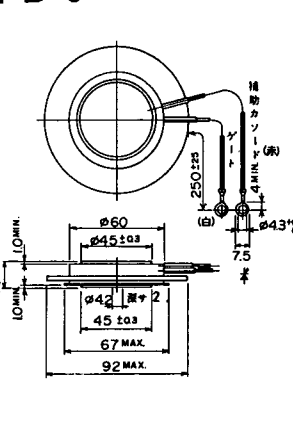
FD-6



FD-7



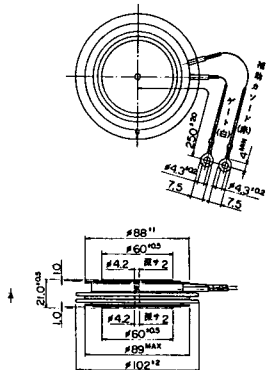
FD-8



FD-9

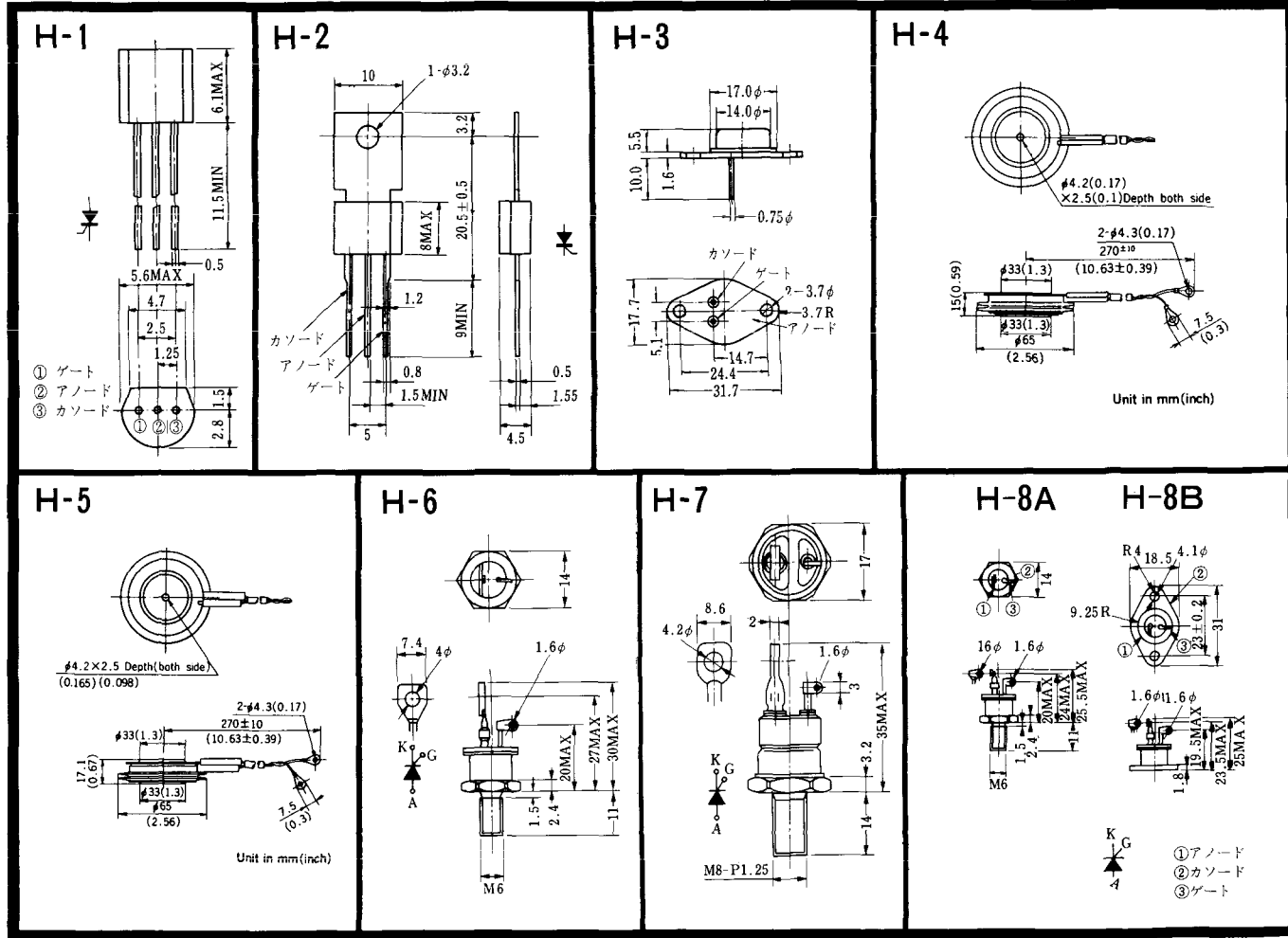


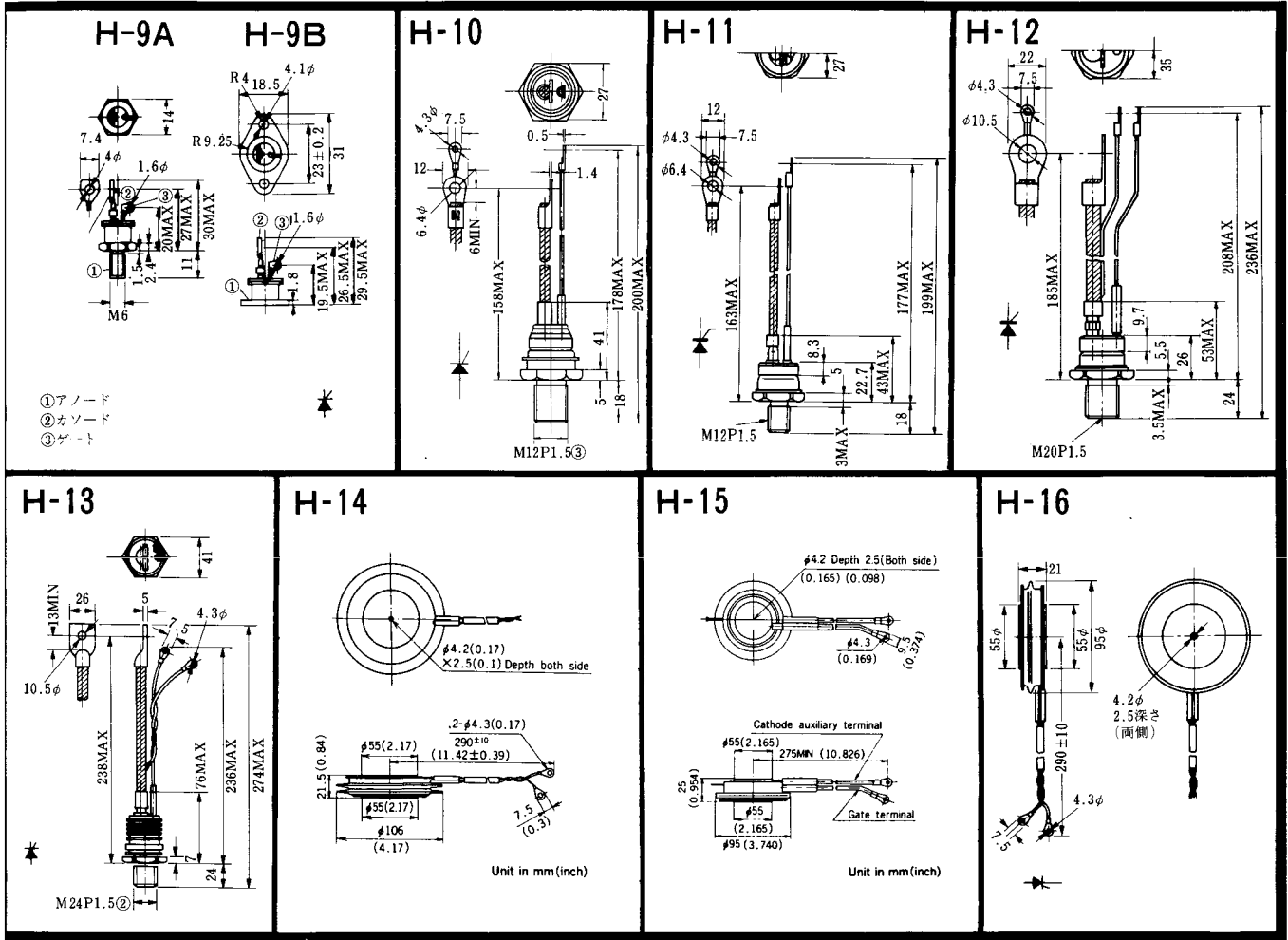
FD-10



FD-11

FD-12







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



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

M-1



M-2



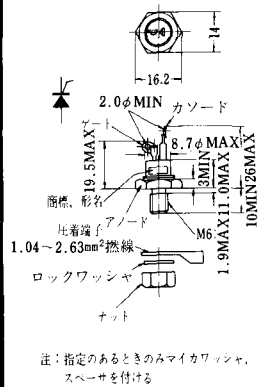
M-3



M-4



M-5



M-6



M-7



M-8



M-9



M-10



M-11



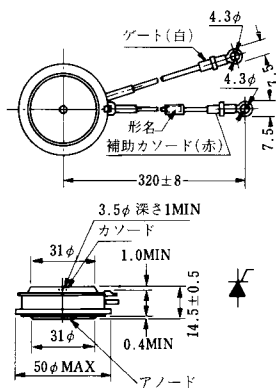
M-12



M-13



M-14



M-15



M-16





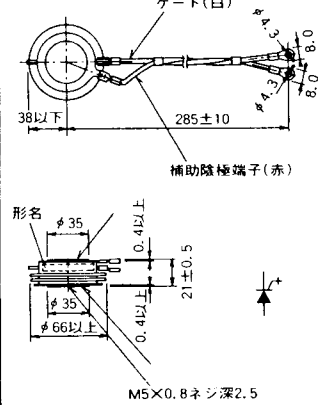
M-25



M-26



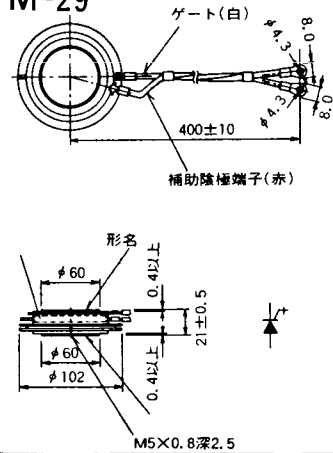
M-27



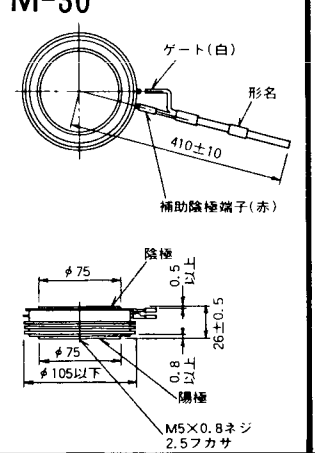
M-28



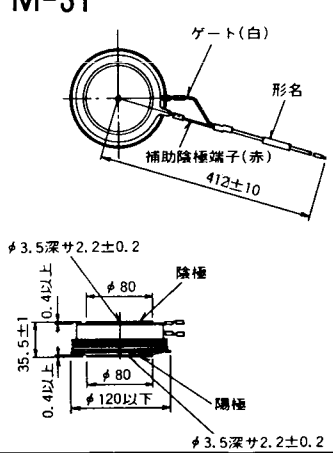
M-29



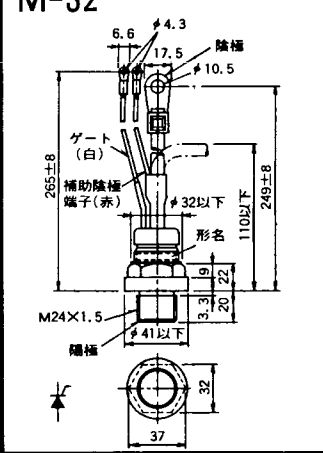
M-30



M-31



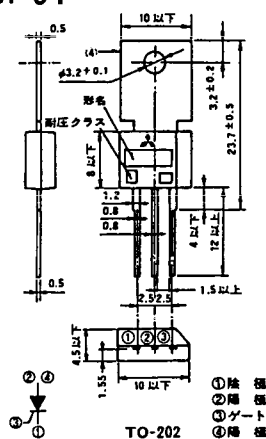
M-32



M-33



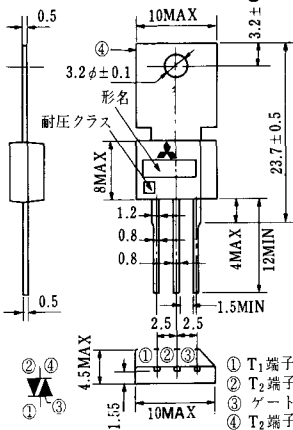
M-34



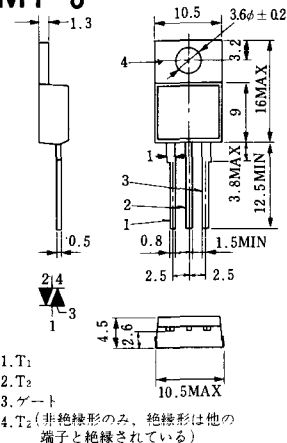
MT-1



MT-2



MT-3



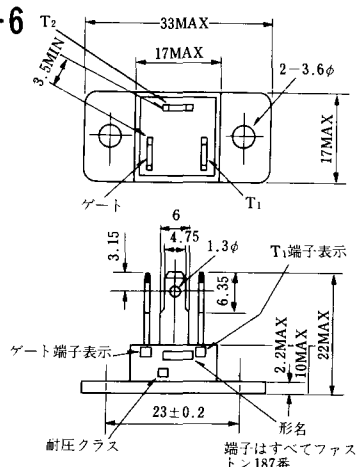
MT-4



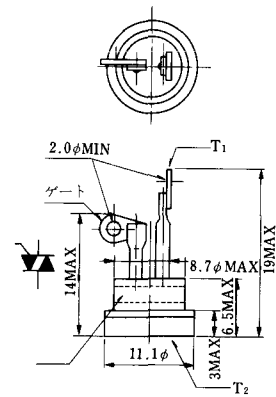
MT-5



MT-6



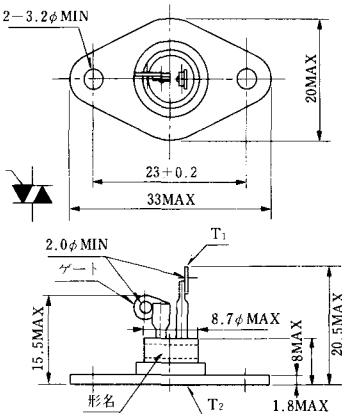
MT-7



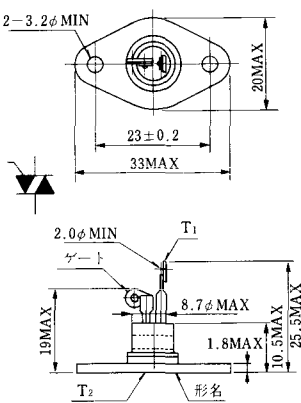
MT-8



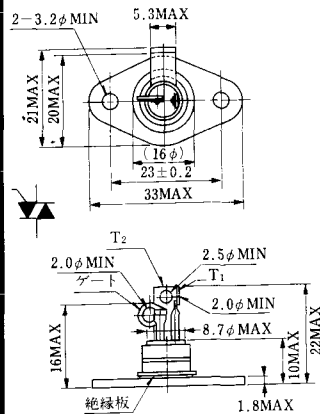
MT-9



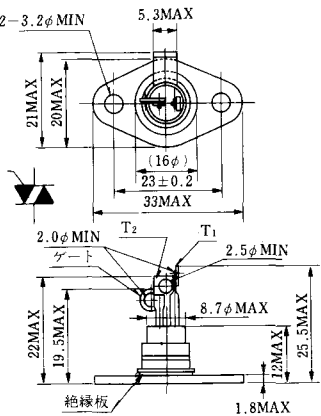
MT-10



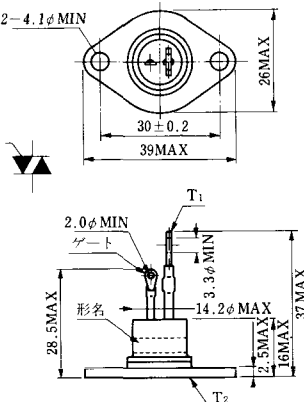
MT-11



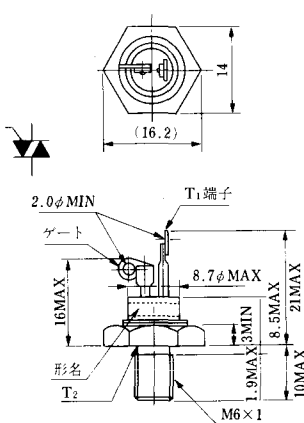
MT-12



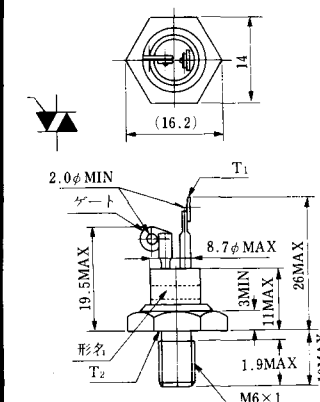
MT-13



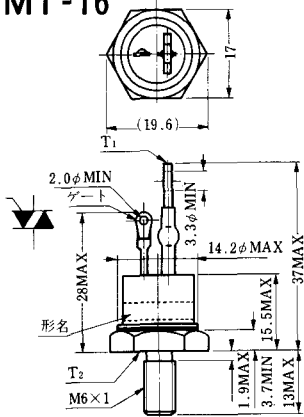
MT-14



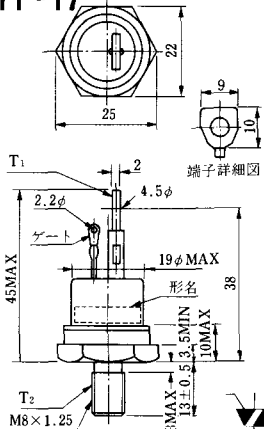
MT-15



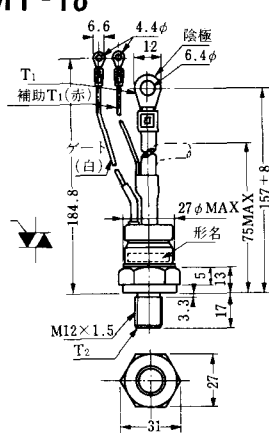
MT-16



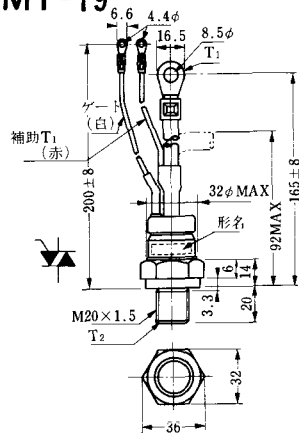
MT-17



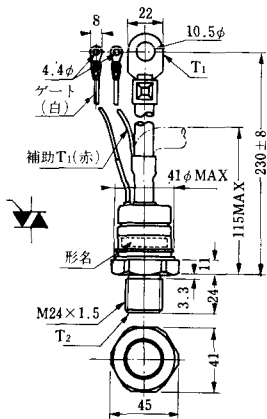
MT-18



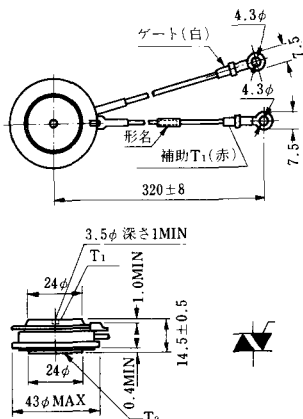
MT-19



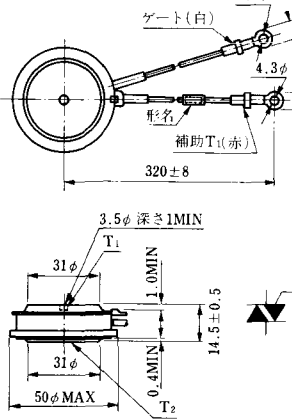
MT-20



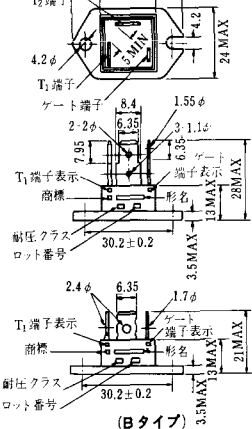
MT-21



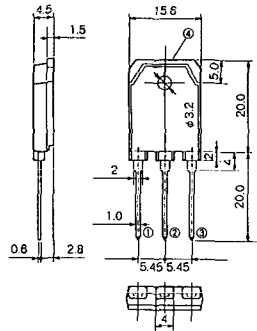
MT-22



MT-23

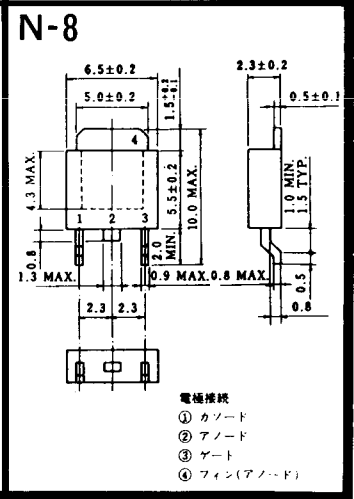
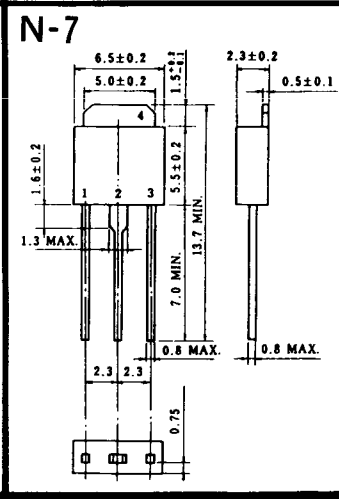
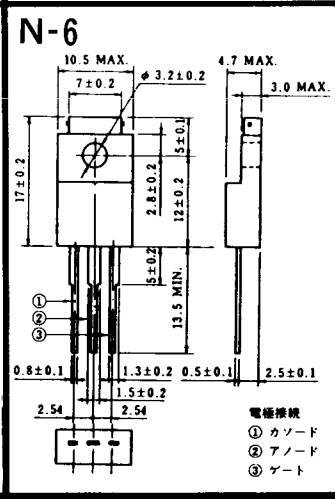
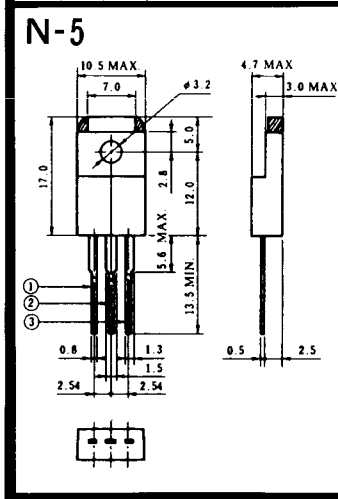
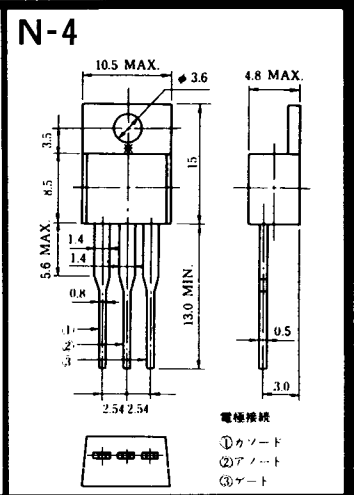
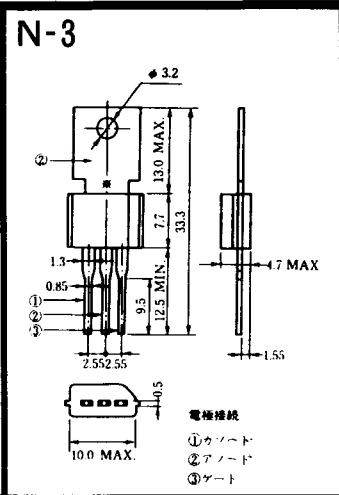
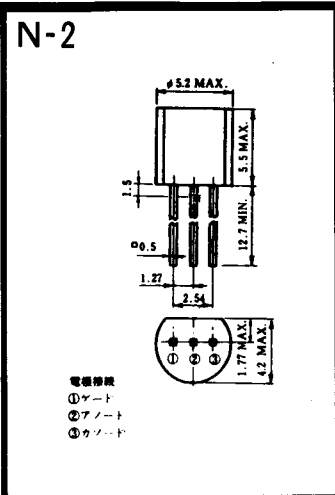
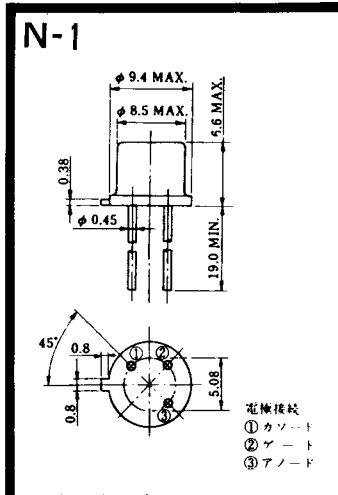


MT-24

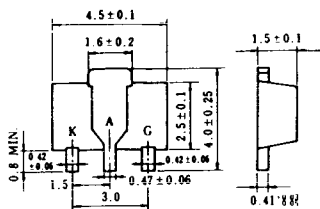


TO - 3P

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



N-9



電極接続

K : カソード

A : アノード

G : ゲート

NA-1

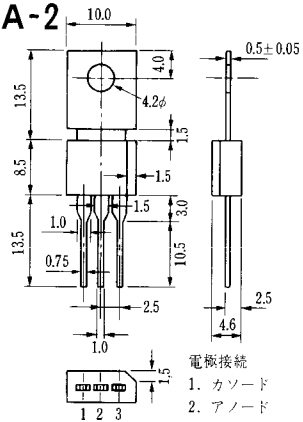


電極接続

1. ゲート
2. アノード
3. カソード

JEDEC: TO-92

NA-2



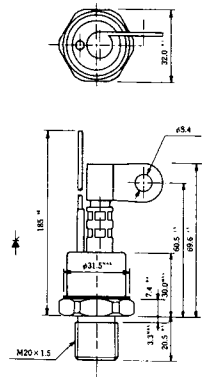
電極接続

1. カソード
2. アノード
3. ゲート

JEDEC: TO-202AA

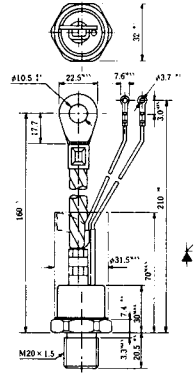
NI-9

259RW
309RW



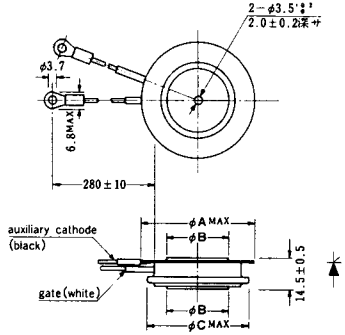
NI-10

259RW_{JL}
309RW_{JL}



NI-11

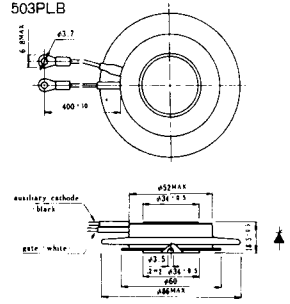
103PA
253PA
503PA
553PA
803PA
103PLE
103PLG
103PLH
203PLG
253PLE
253PLH
353PLG
403PLE
403PLH



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

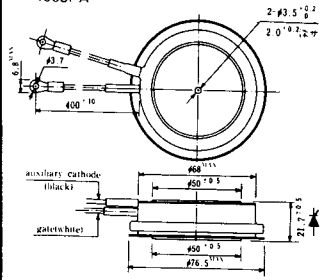
NI-12

403PAB
503PAB
503PLB



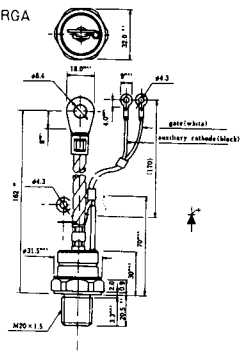
NI-13

1003PA
1003PAB
1003PLF
1003PLH
1503PA



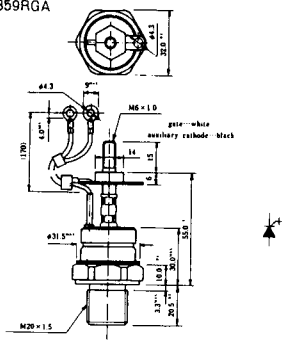
NI-14

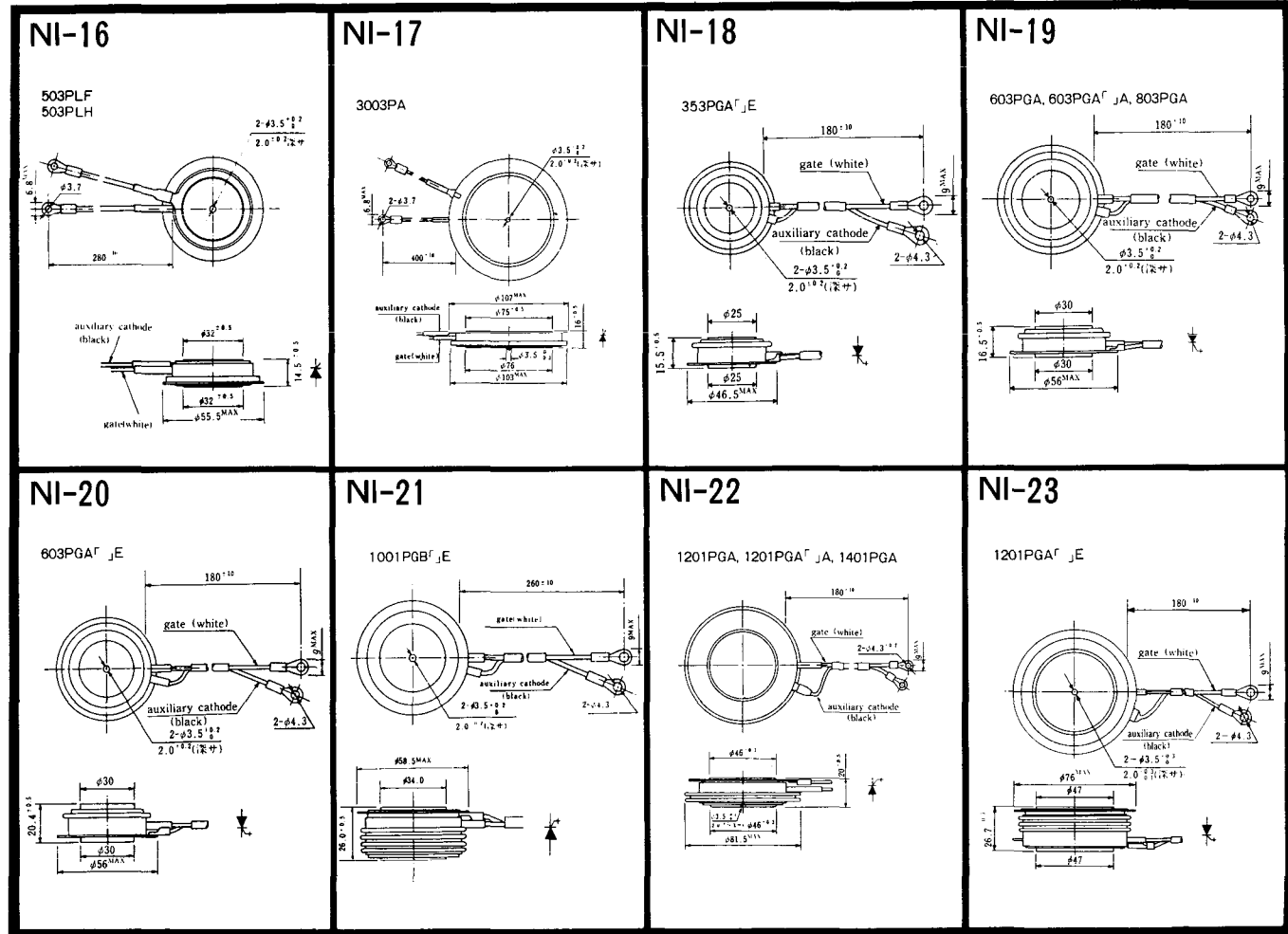
358RGA



NI-15

359RGA





NI-24

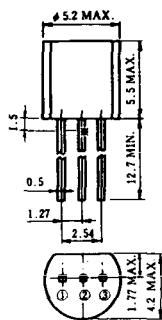
2001PGB^r JE



NI-25

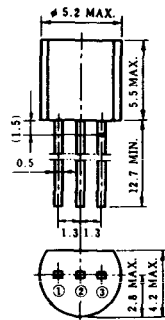
NI-26

NT-1



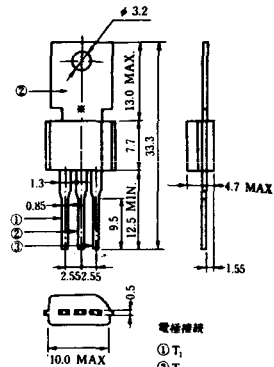
電極接続
① T₁
② ゲート
③ T₂

NT-2



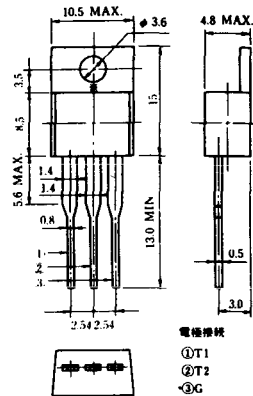
電極接続
① T₁
② ゲート
③ T₂

NT-3



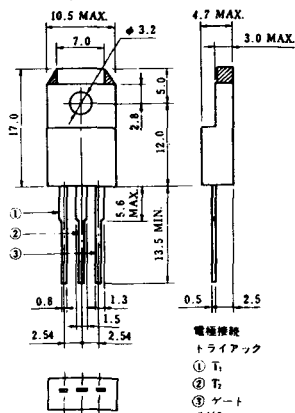
電極接続
① T₁
② T₂
③ ゲート

NT-4



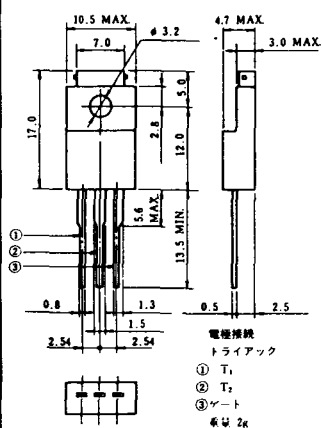
電極接続
① T₁
② T₂
③ G

NT-5



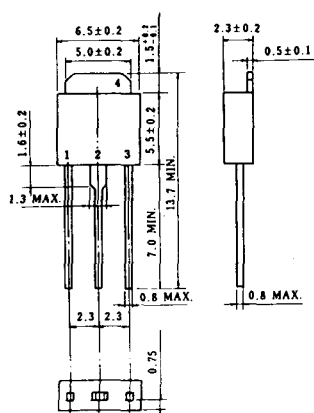
電極接続
トライアック
① T₁
② T₂
③ ゲート
±0.2 g

NT-6

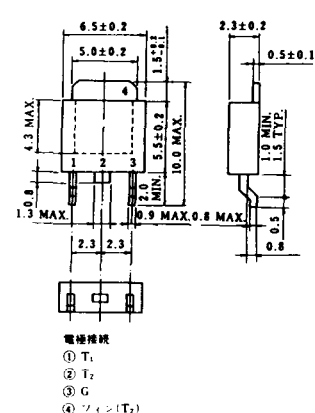


電極接続
トライアック
① T₁
② T₂
③ ゲート
±0.2 g

NT-7

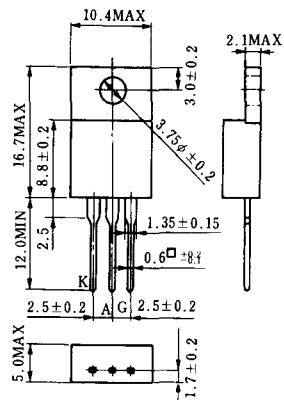


NT-8



電極接続
① T₁
② T₂
③ G
④ シェン(T₂)

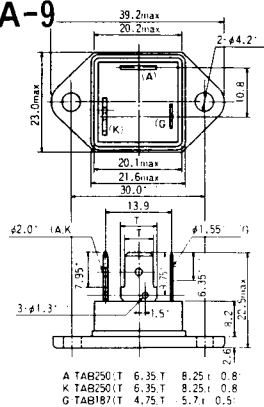
S-1



ST-1



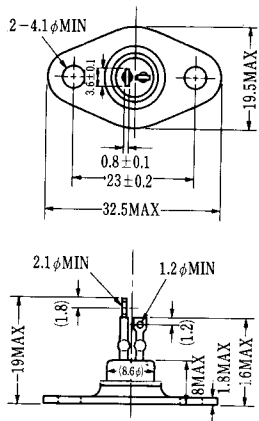
SA-9



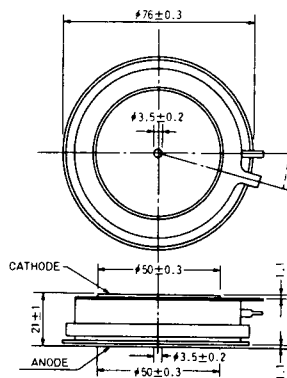
A TAB250(T) 6.35 T 8.25 I 0.8
 K TAB250(T) 6.35 T 8.25 I 0.8
 G TAB187(T) 4.75 T 5.7 I 0.5



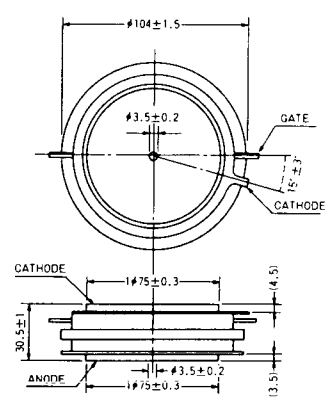
SA-10



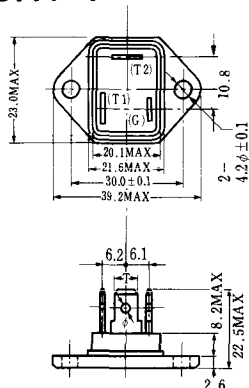
SA-11



SA-12

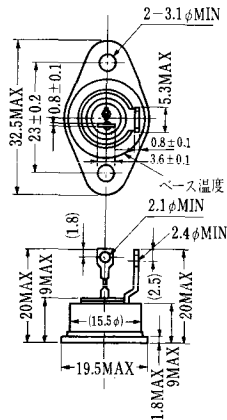


SAT-1



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

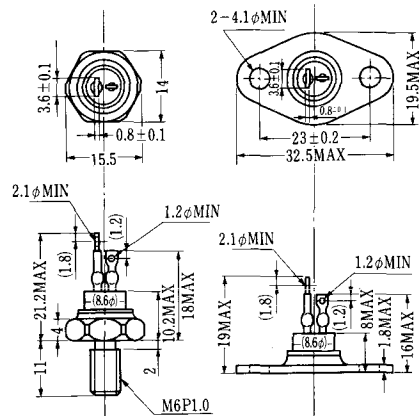
SAT-2



SAT-3



SAT-4



SAT-5



SAT-6



SAT-7



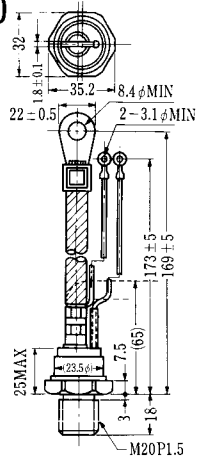
SAT-8



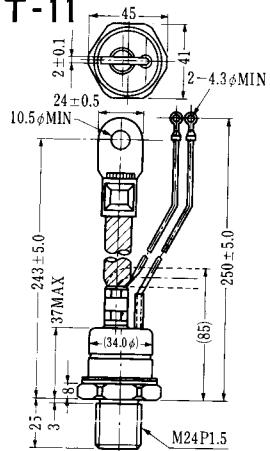
SAT-9



SAT-10



SAT-11

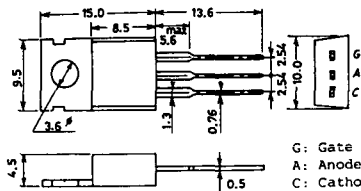


SY-1 (1096A)



C: Cathode
A: Anode
G: Gate

SY-2 (1151)



G: Gate
A: Anode
C: Cathode

SY-3 (1104)



G: Gate
A: Anode
C: Cathode

SY-4 (1150)



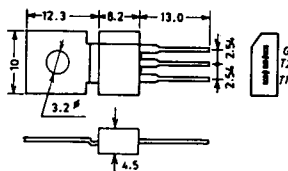
G: Gate
A: Anode
C: Cathode

1097A



G: Gate

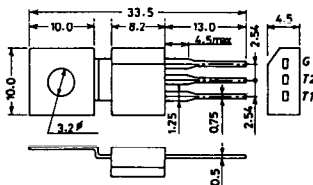
1102



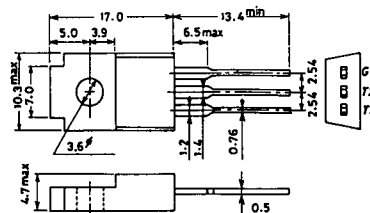
1141



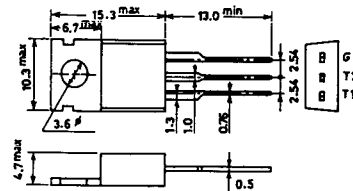
1142



1144



1155

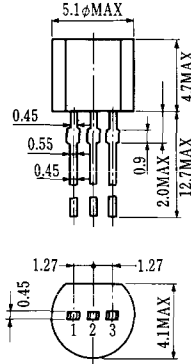


1192A



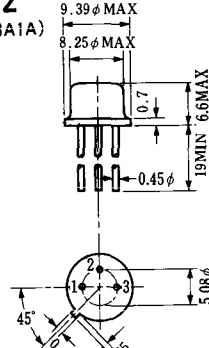
G: Gate

T-1 (13-5A1A)



- 1 ゲート
- 2 アノード
- 3 カソード

T-2 (13-8A1A)



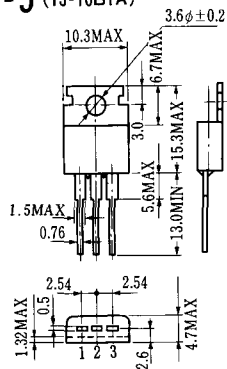
1. カソード
2. ゲート
3. アノード(ケース)

T-3 (13-8C1A)



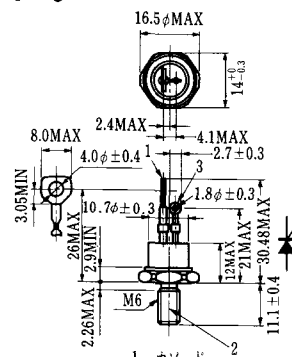
- 1 カソード
- 2 アノード
- 3 ゲート

T-5 (13-10B1A)



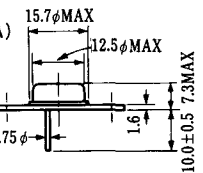
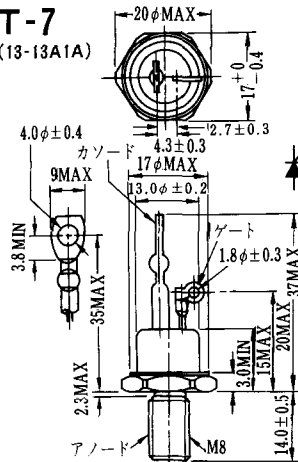
- 1 カソード
- 2 アノード
- 3 ゲート

T-6 (13-11D1A)



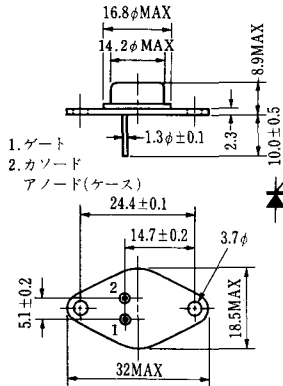
- 1 カソード
- 2 アノード
- 3 ゲート

T-7 (13-13A1A)



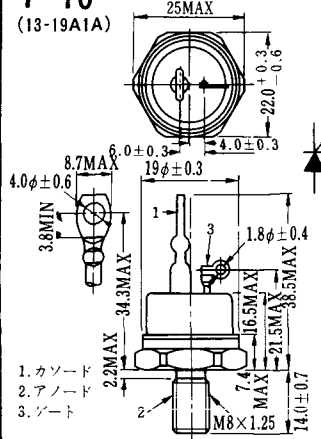
1. ゲート
2. カソード
3. アノード(ケース)

T-9 (13-14A1A)



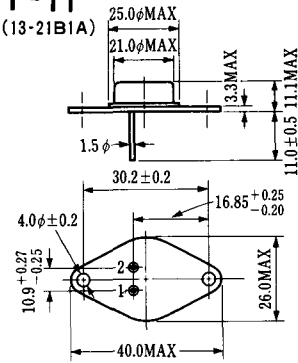
1. ゲート
2. カソード
- アノード(ケース)

T-10 (13-19A1A)



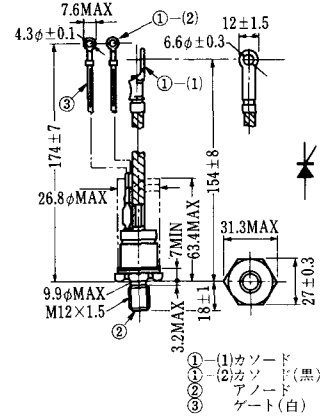
1. カソード
2. アノード
3. ゲート

T-11 (13-21B1A)



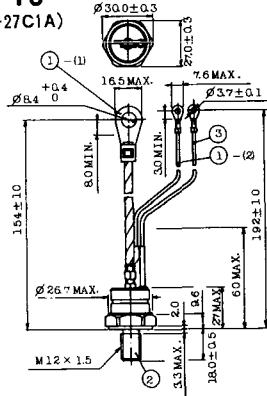
1. ゲート
2. カソード
- アノード(ケース)

T-12 (13-27B1B)



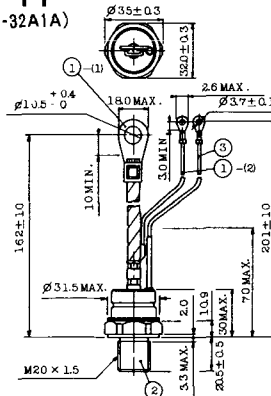
- ① (1) カソード
- ① (2) カソード(黒)
- ② アノード
- ③ ゲート(白)

T-13 (13-27C1A)



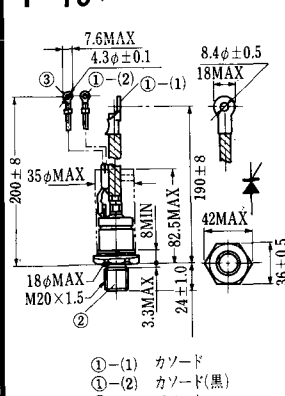
- 1-(1) カソード
- 1-(2) カソード(黒)
- 2 アノード
- 3 ゲート(白)

T-14 (13-32A1A)



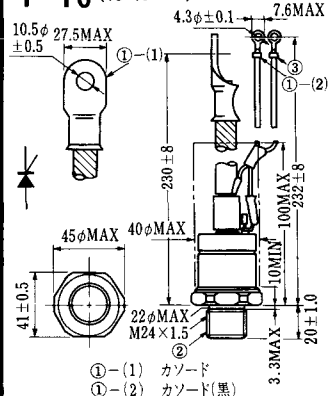
- 1-(1) カソード
- 1-(2) カソード(黒)
- 2 アノード
- 3 ゲート(白)

T-15 (13-35C1B)



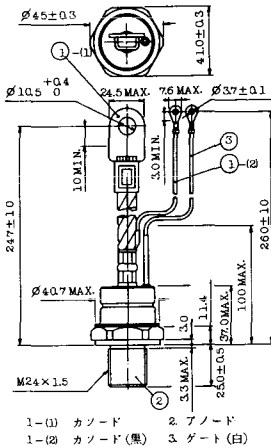
- ① (1) カソード
- ① (2) カソード(黒)
- ② アノード
- ③ ゲート(白)

T-16 (13-40B1A)

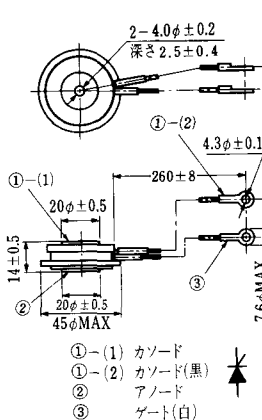


- ① (1) カソード
- ① (2) カソード(黒)
- ② アノード
- ③ ゲート(白)

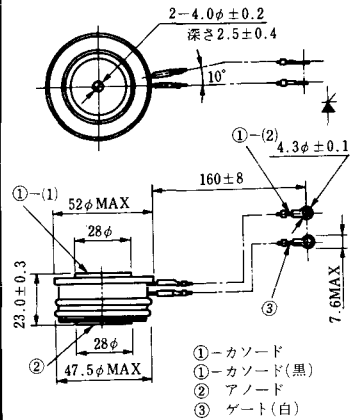
T-17 (13-42A1A)



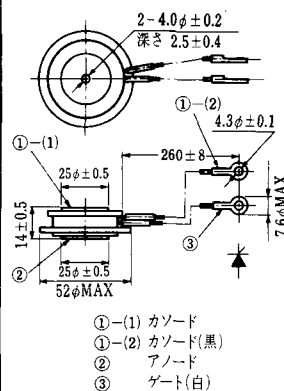
T-18 (13-45D1A)



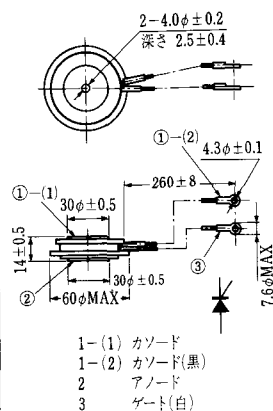
T-19 (13-52B1A)



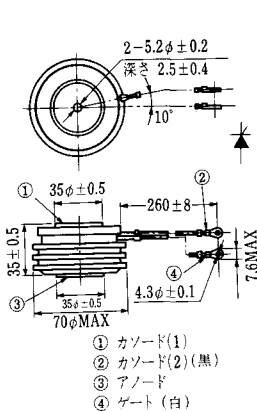
T-20 (13-52C1A)



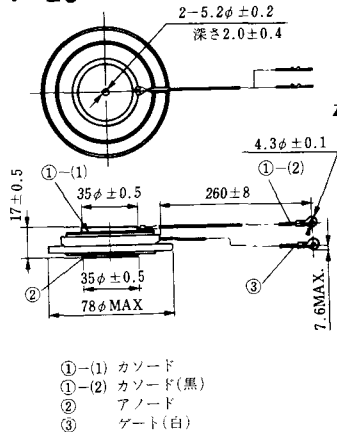
T-21 (13-60A1A)



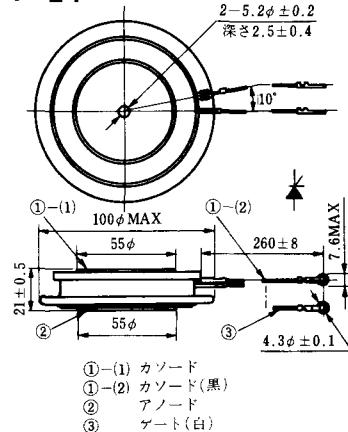
T-22 (13-70C1A)



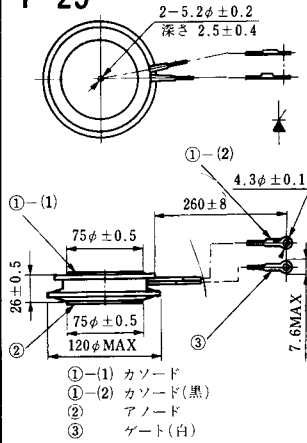
T-23 (13-78A1A)



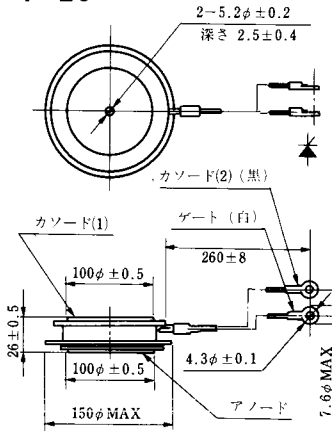
T-24 (13-100C1A)



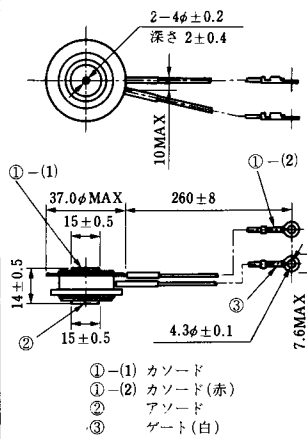
T-25 (13-120A2A)



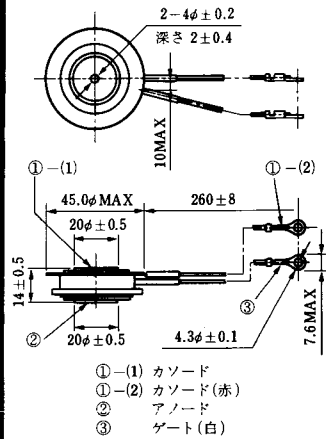
T-26 (13-150A1A)



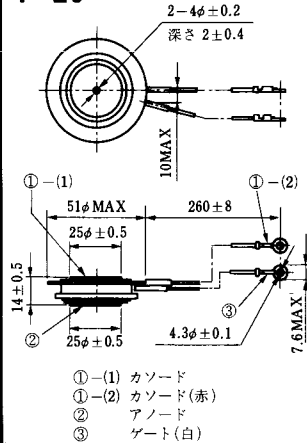
T-27 (13-37A1A)



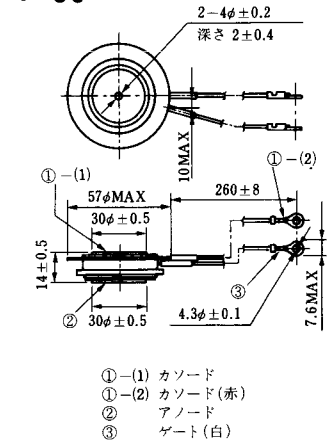
T-28 (13-45E1A)



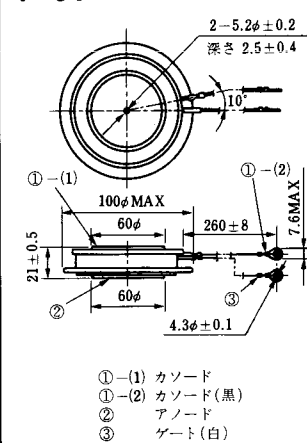
T-29 (13-51A1A)



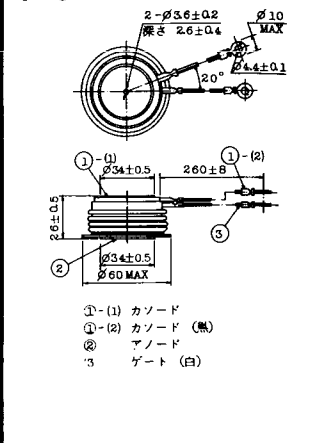
T-30 (13-57A1A)



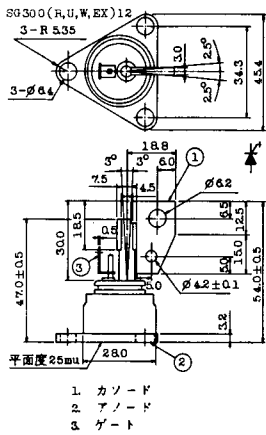
T-31 (13-100E1A)



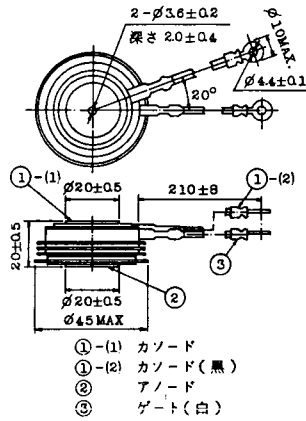
T-32 (13-60E3A)



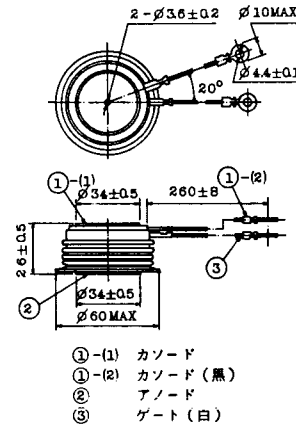
T-41 (13-28A2A)



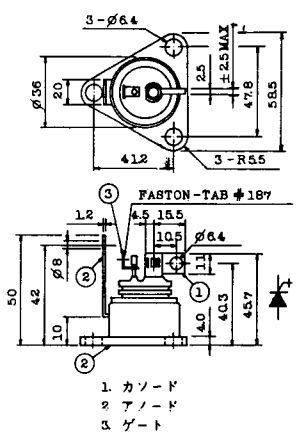
T-42 (13-45F1A)



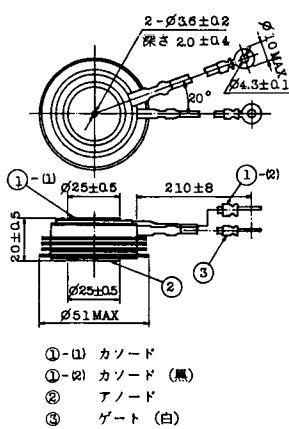
T-43 (13-60E2A)



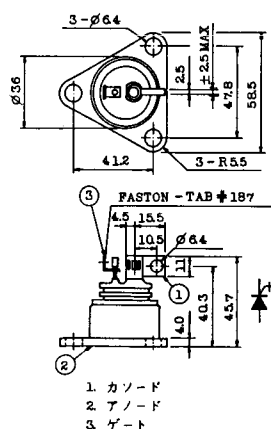
T-44 (13-36A1A)



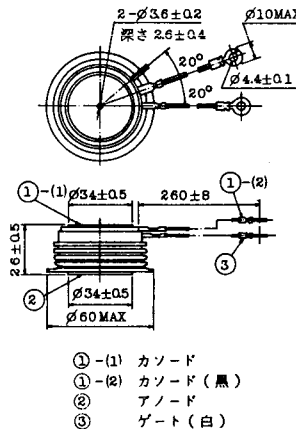
T-45 (13-51B1A)



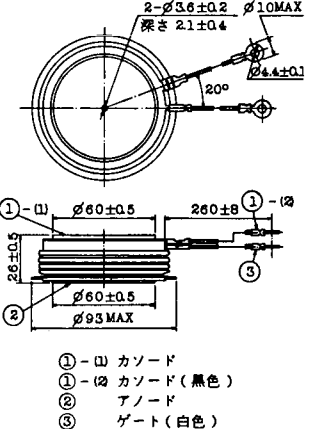
T-46 (13-36B1A)



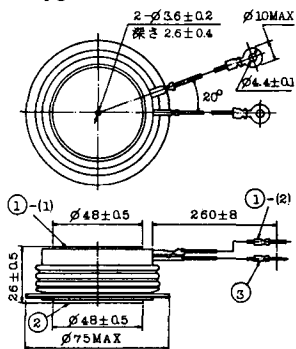
T-47 (13-60E1A)



T-48 (13-93C1A)



T-49 (13-75A1A)



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

T-50 (13-10A3A)



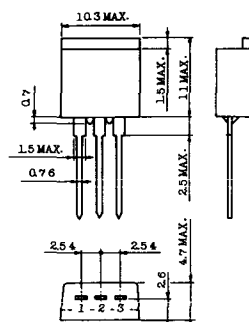
- 1 カソード
2 アノード
3 ゲート

T-51 (13-10D1A)



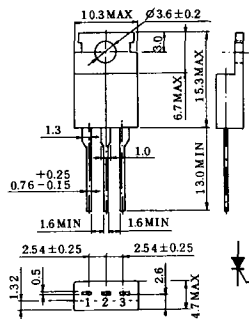
- 1 カソード
2 アノード
3 ゲート

T-52 (13-10D2A)



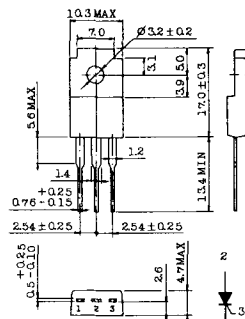
- 1 カソード
2 アノード
3 ゲート

T-53 (13-10E1B)



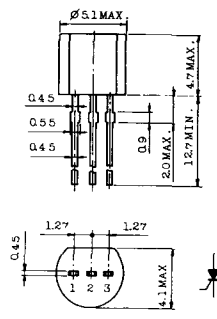
- 1 カソード
2 アノード
3 ゲート

T-54 (13-10F1B)



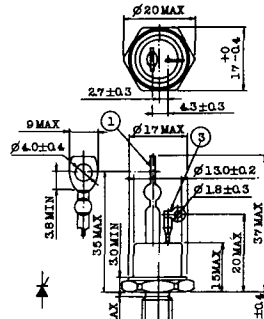
- 1 カソード
2 アノード
3 ゲート

T-55 (13-5A1D)



- 1 カソード
2 アノード
3 アノード

T-56 (13-13C1A)



- 1 カソード
2 アノード
3 ゲート

T-57 (12-16C1A)



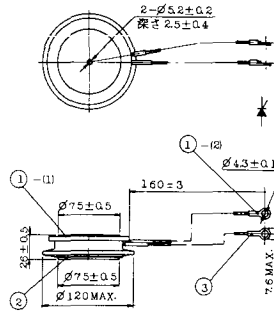
1. アノード (主)
2. ゲート (主)
3. カソード (共通)
4. ゲート (補助)
5. アノード (補助)

T-58 (13-10H1B)



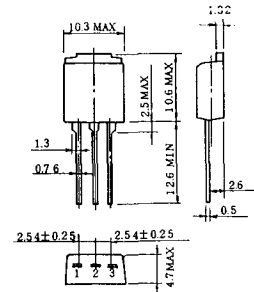
1. カソード
2. アノード
3. ゲート

T-59 (13-120A1A)



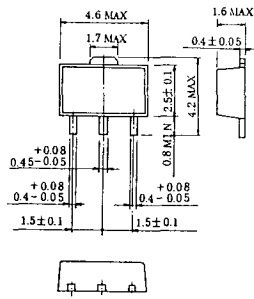
- 1-(1) カソード
- 1-(2) カソード (黒)
2. アノード
3. ゲート (白)

T-60



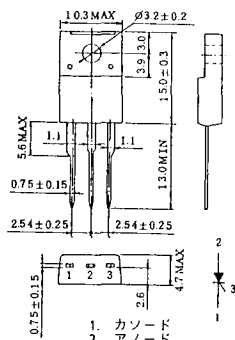
1. カソード
2. アノード
3. ゲート

T-61 (13-5B1A)



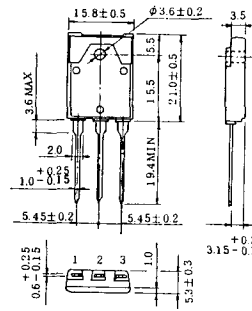
1. ゲート
2. アノード
3. カソード

T-62 (13-10H1A)



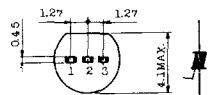
1. カソード
2. アノード
3. ゲート

T-63 (13-16A1B)



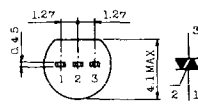
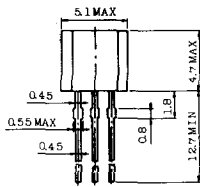
1. カソード
2. アノード
3. ゲート

TT-1



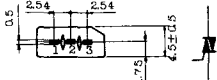
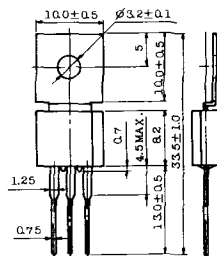
- 1 ゲート
- 2 T₂
- 3 T₁

TT-2



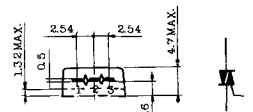
- 1 T₁
- 2 ゲート
- 3 T₂

TT-3



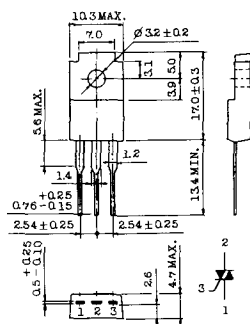
- 1 T₁
- 2 T₂
- 3 ゲート

TT-4



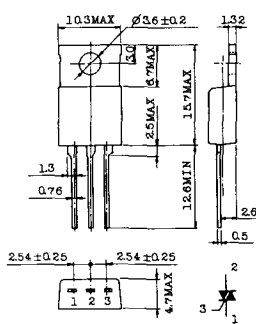
- 1 T₁
- 2 T₂
- 3 ゲート

TT-5



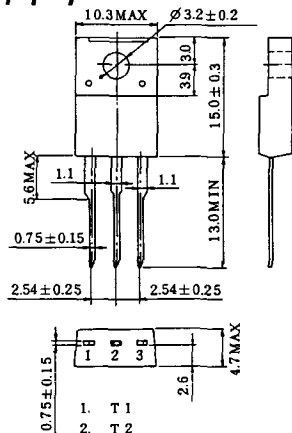
- 1 T₁
- 2 T₂
- 3 ゲート

TT-6



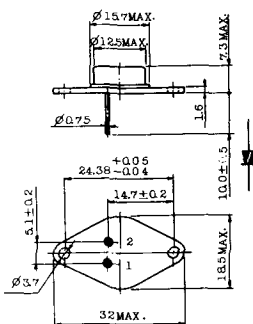
- 1 T₁
- 2 T₂ (放熱板)
- 3 ゲート

TT-7



- 1 T₁
- 2 T₂
- 3 ゲート

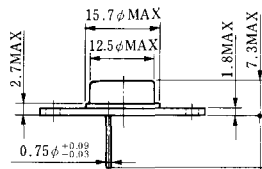
TT-8



- 1 ゲート
- 2 T₁
- T₂ (ケース)

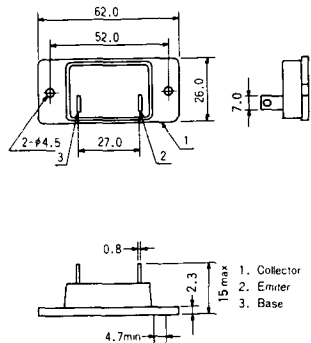


TS-8

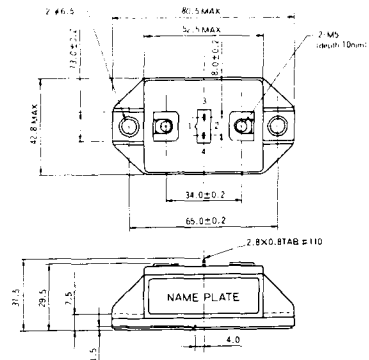


- 1. ベース
- 2. エミッタ
コレクタ
(ケース)

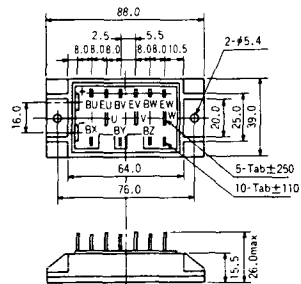
S-62A1A



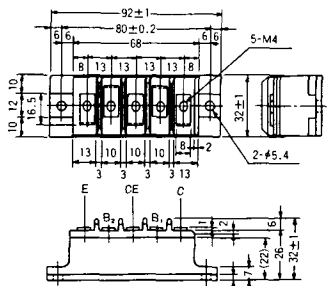
S-80A1A



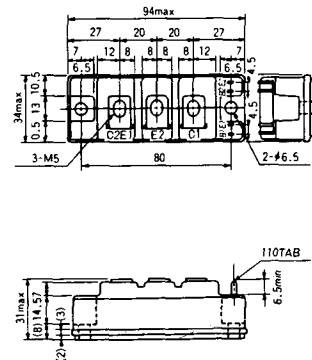
S-88D1A



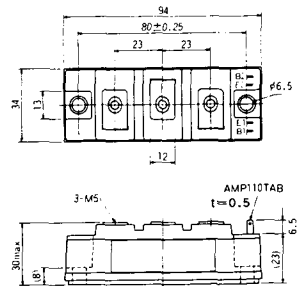
S-92B1A



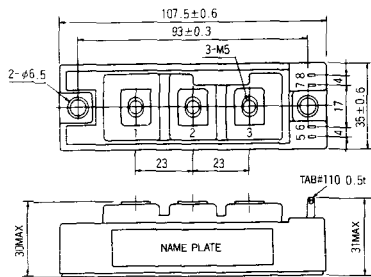
S-94B1A



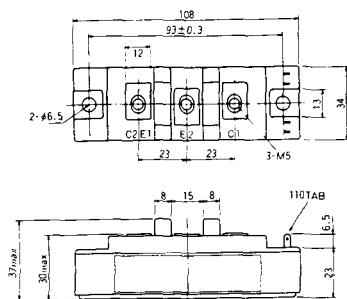
S-94B1B



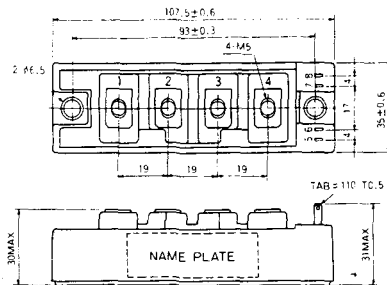
S-108B1A



S-108B1B



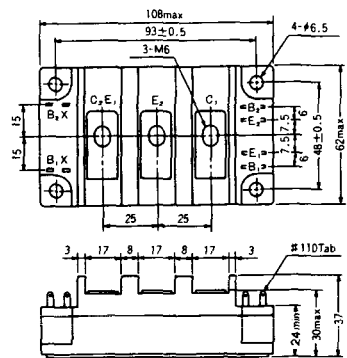
S-108B1C



S-108B2A



S-108B2B



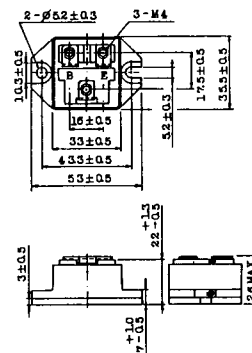
2-22B1A



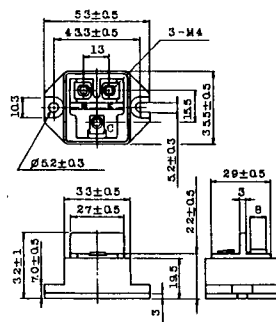
2-27A4A



2-33C1A



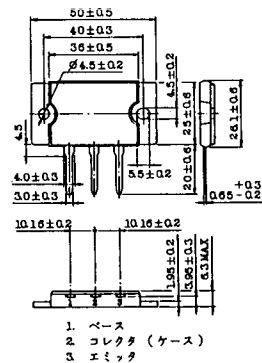
2-33D1A



2-33F1A



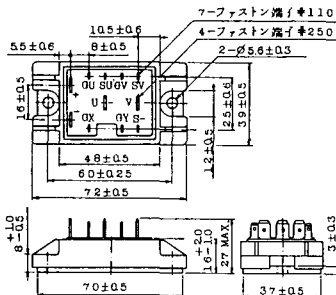
2-37A1A



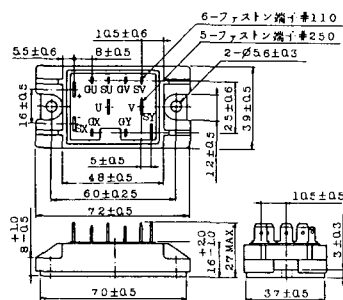
2-48A3A



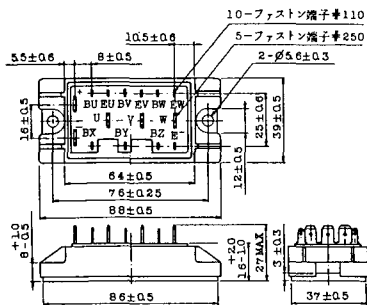
2-48A3B



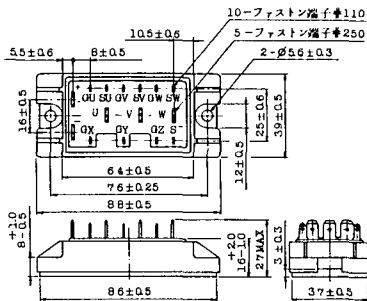
2-48A4A



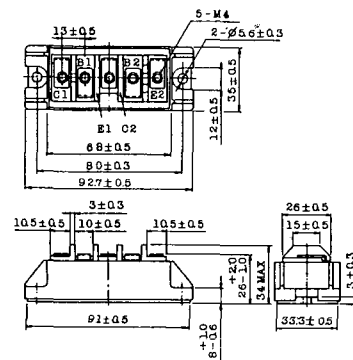
2-64A2A



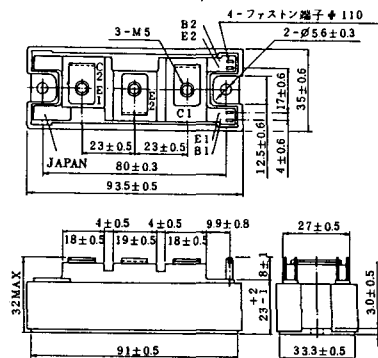
2-64A2B



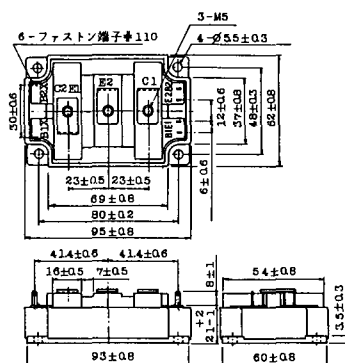
2-68A2A



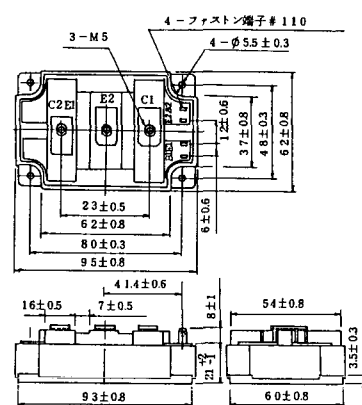
2-94D1A



2-96A3A



2-96A4A



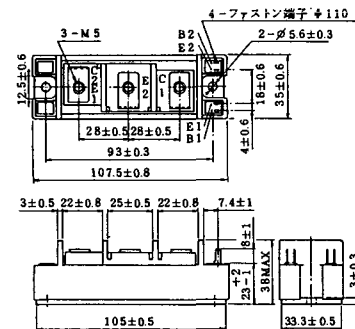
2-98B1A



2-98C2A



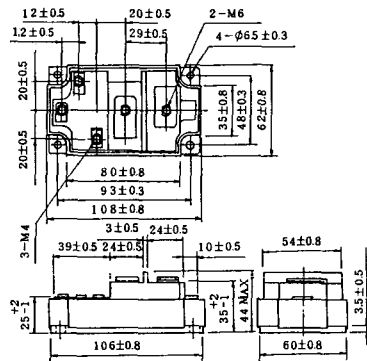
2-108A2A



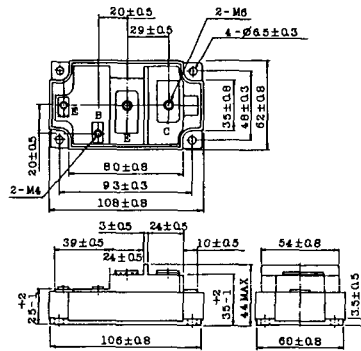
2-108B1A



2-109A3A



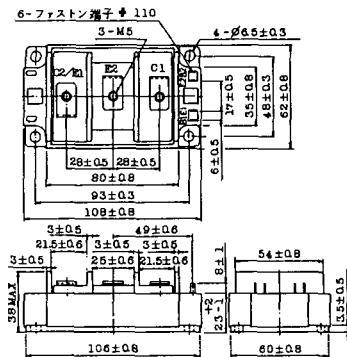
2-109A4A



2-109B3A

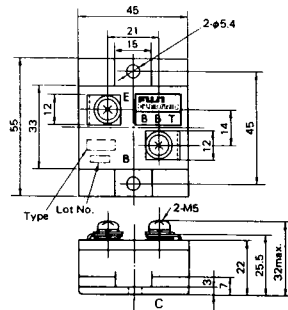


2-109B4A



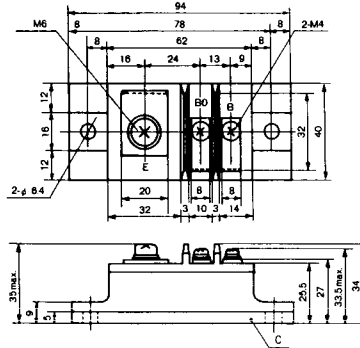
BBT-II

BBTII
1D200A-020



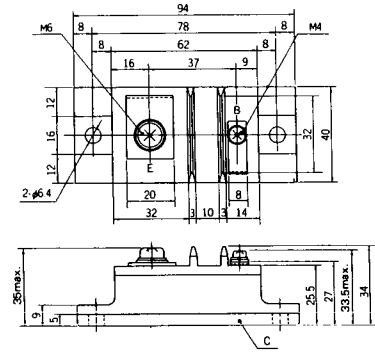
BBT-III

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



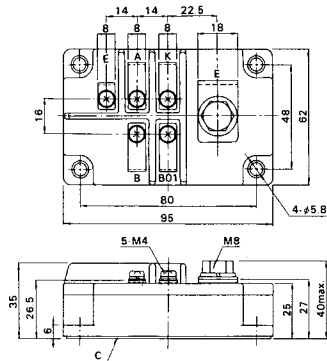
BBT-III

BBTIII
ETN01-055
ET1257

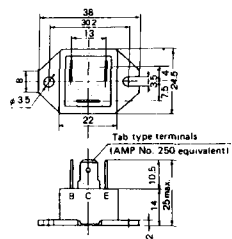


BBT-IV

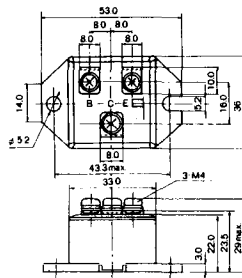
BBTIV
1D500A-030



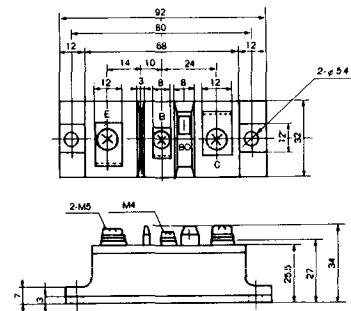
M-101



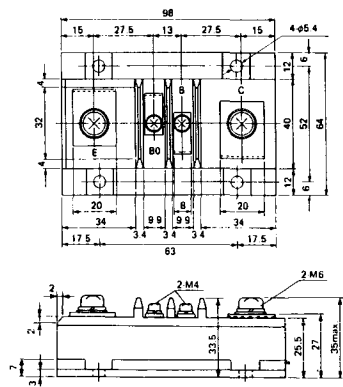
M-102



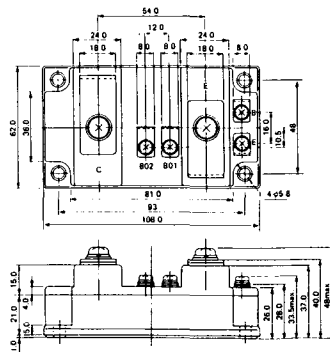
M-103



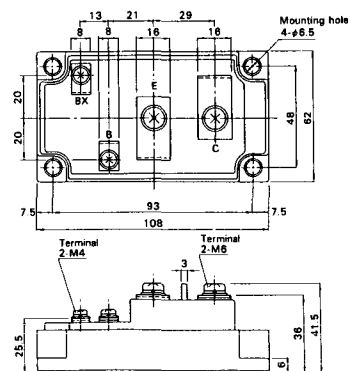
M-104



M-105



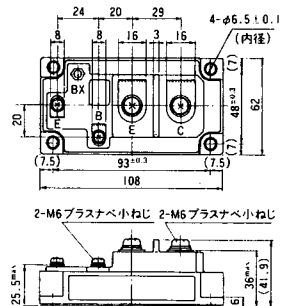
M-106



M-107



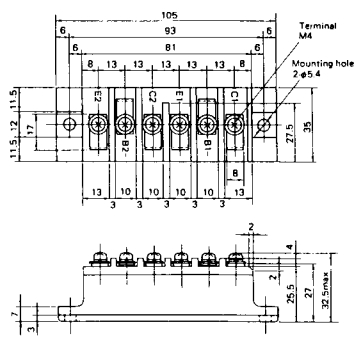
M-116



M-201



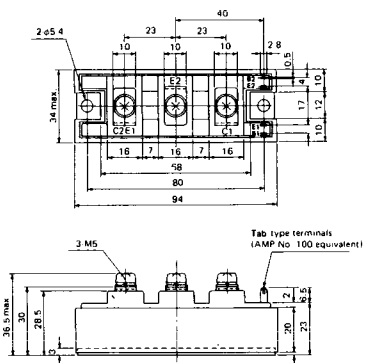
M-202



M-203



M-204



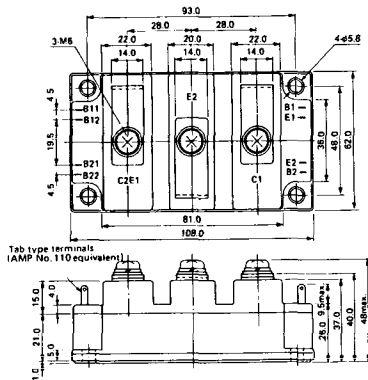
M-205



M-206



M-207



M-208



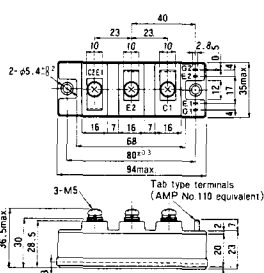
M-209



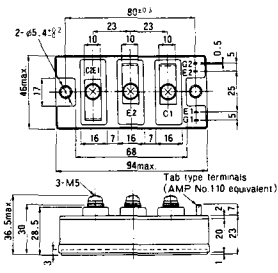
M-210



M-211



M-212



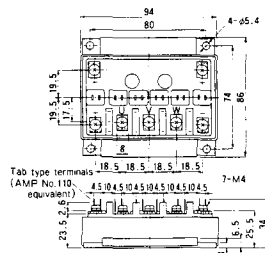
M-219



M-607



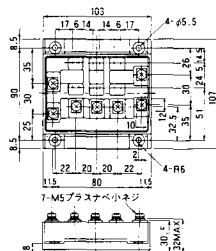
M-608



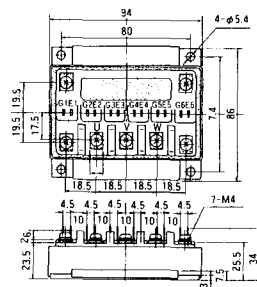
M-609



M-610



M-616



M-3C1A



M-3D6A



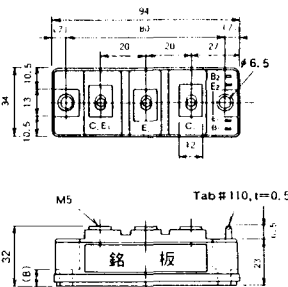
M-3E6A



M-4A1A



M-4A2A



M-4A1B



M-4A2B



M-4B2A



M-5A1A



M-5A1B



M-5A2A



M-5B2A



M-5C2A



M-5D2A



M-6A1A



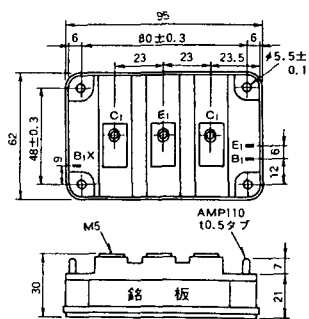
M-7A1A



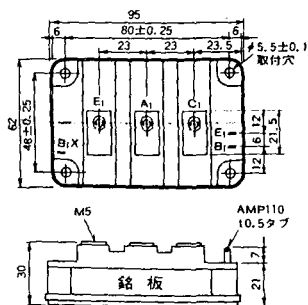
M-7B1A



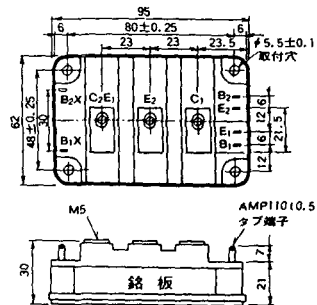
M-8A1A



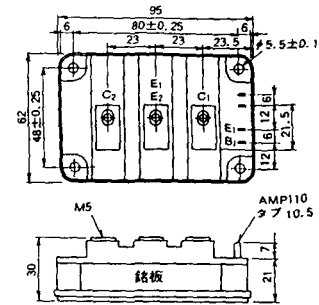
M-8A1B



M-8A2A



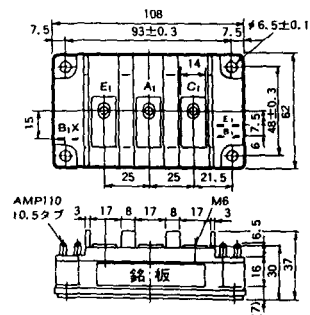
M-8A2B



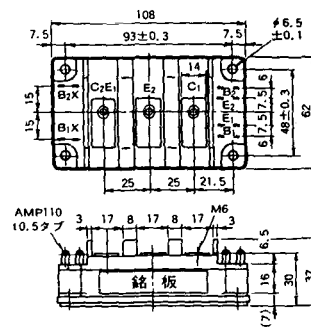
M-8B2A



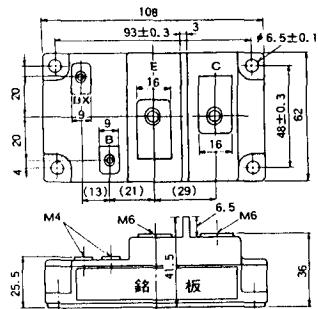
M-9A1A



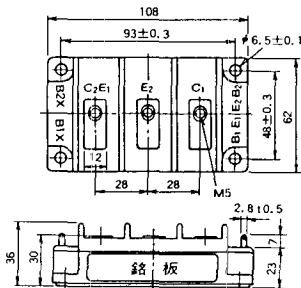
M-9A2A



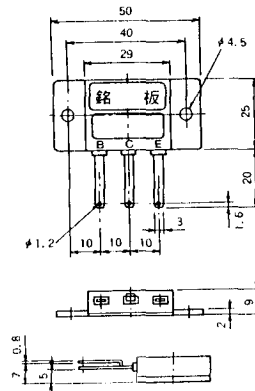
M-9B1A



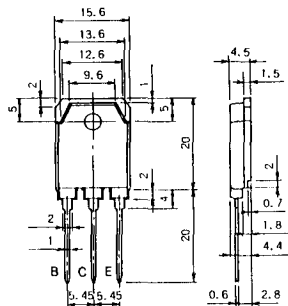
M-9C2A



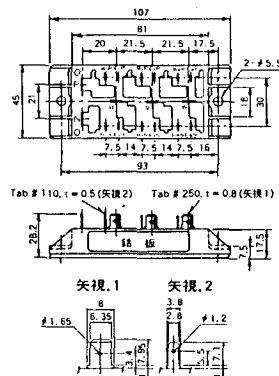
M-1A1B



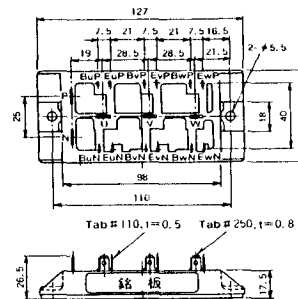
M-1A1C



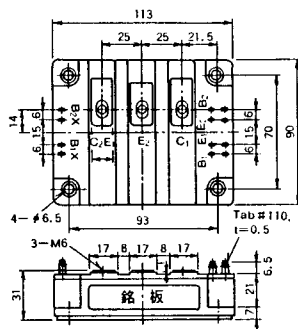
M-2E6B



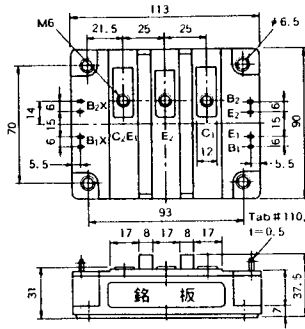
M-2E6C



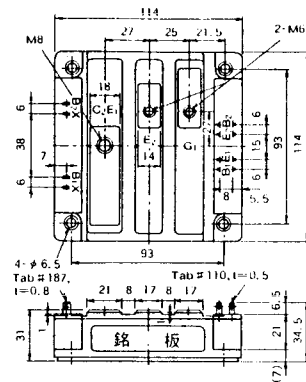
M-10A2A



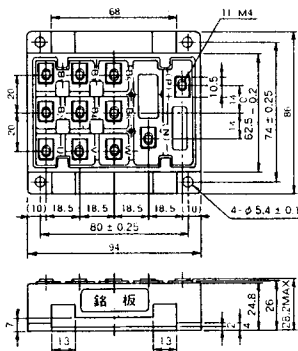
M-10A2B



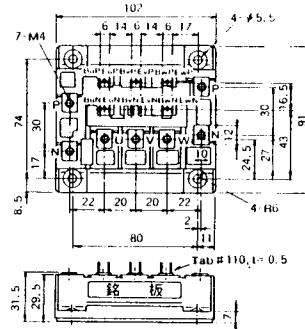
M-11A2A



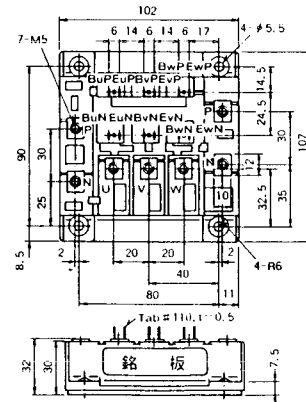
M-12A6A



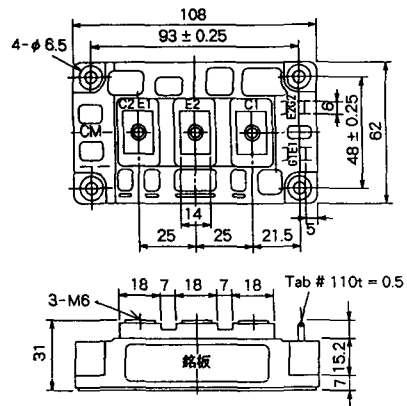
M-12B6A



M-12B6B



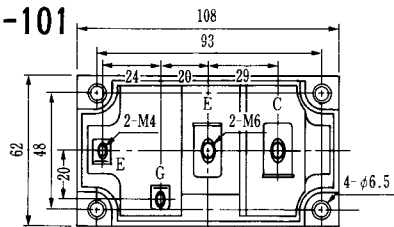
M-9D2B



M-10A2C



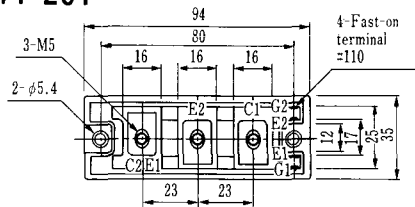
H-101



Weight :480g

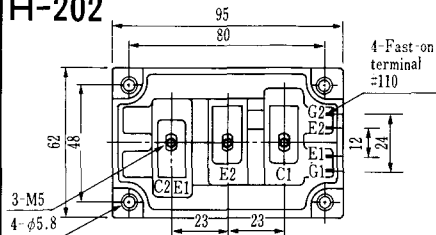
TERMINALS

H-201



Weight: 200g

H-202



Weight: 360g

LF-J



LF-K



