

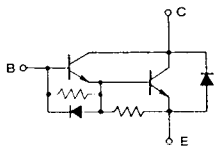
トランジスタ・モジュール (NPN, 1アーム)

- ダーリントン・トランジスタ1個内蔵
- フリーホイール・ダイオード付
- 絶縁形
- UL認定品あり

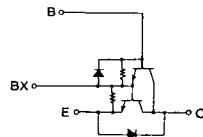
Yellow Card No. : E80276 (N)
File No. : E80271

■等価回路

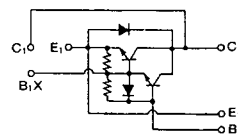
HA-1A



HA-1B



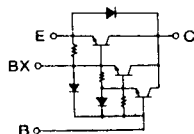
HA-1C



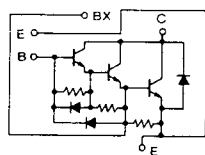
注1. $I_C = 1A$, $V_{EB} = 2V$, #印は V_{CEX} ($V_{EB} = 2V$)。 注2. 60Hz, 単相半波1サイクル波高値。 注3. $T_C = 25^\circ C$ 。 注4. AC, 1分間。

型名	最大定格 (T _J = 25°C)											電気的特性								
	V _{CEO}	V _{CEX (SUS)}	V _{EB0}	I _C	I _B	I _F	I _{FM}	P _C	T ₁	T _{100%}	V _{100%}	I _{CEX}	I _{ERO}	V _{CE0 (SUS)}	I _C	h _{FE}	V _{CE}	I _C		
	(V)	(V)	(V)	(A)	(A)	(A)	(A)	(W)	(°C)	(°C)	(V)	(mA)	(mA)	(V)	(A)	最小	(V)	(A)		
QM5HG-24	1200	1200 #	7	5	2.0	-	-	100	150	-40~125	-	1	1200	2	50	7		5	1	3
QM10HB-2H	1000	1000	7	10	2.0	-	-	100	150	-40~125	2500							5	1	15
QM15HA-H	600	600	5	15	0.9	15		100	150	-40~125	2500							50/100	2/5	15
QM30HA-H	600	600	7	30	1.8	30	300	250	150	-40~125	2500	1	600	2	200	7		75/100	2/5	30
QM30HC-2H	1600	1600 #	10	30	5.0	30	300	310	150	-40~125	-	1	1600	2	400	10		75	5	30
QM30HQ-24	1200	1200	7	30	6.0	-	-	310	150	-40~125	2500	1	1200	2	200	7		5	1	15
QM30HY-2H	1000	1000	7	30	2.0	30	300	310	150	-40~125	2500	1	1000	2	200	7		75/100	2.8/5	30
QM50HA-H	600	600	7	50	3.0	50	500	310	150	-40~125	2500	1	600	2	200	7		75/100	2/5	50
QM50HC-H	900	900 #	10	50	3.0	30	300	310	150	-40~125	-	1	900	2	300	10		100	5	50
QM50HF-H	900	900 #	10	50	3.0	30	300	160	150	-40~125	1500	1	900	2	300	10		100	5	50
QM50HG-H	600	600	7	50	3.0	50	300	140	150	-40~125	2000	1	600	2	100	7		100	5	50
QM50HG-4	200	200	7	50	3.0	50	300	140	150	-40~125	1500	1	200	2	200	7		1000	1.5	50
QM50HJ-H	900	900 #	10	50	3.0	30	300	178	150	-40~125	-	3	900	2	100	10		100	5	50
QM50HY-2H	1000	1000	7	50	3.0	50	500	400	150	-40~125	2500	1	1000	2	200	7		75/100	2.8/5	50
QM75HA-H	600	600	7	75	4.5	75	750	350	150	-40~125	2500	1	600	2	200	7		75/100	2/5	75
QM100HC-M	400	350	7	100	3.0	100	1000	420	150	-40~125	-	1	350	2	200	7		100/200	2/5	100
QM100HY-H	600	600	7	100	6.0	100	1000	620	150	-40~125	2500	2	600	2	100	7		75/100	2/5	100
QM100HY-2H	1000	1000	7	100	5.0	100	1000	800	150	-40~125	2500	2	1000	2	400	7		75/100	2.8/5	100
QM150HY-H	600	600	7	150	9.0	150	1500	690	150	-40~125	2500	2	600	2	150	7		75/100	2/5	150
QM150HY-2H	1000	1000	7	150	8.0	150	1500	1000	150	-40~125	2500	2	1000	2	200	7		75/100	2.8/5	150

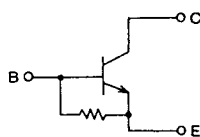
HA-2B



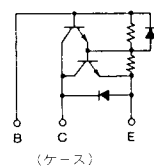
HA-2C



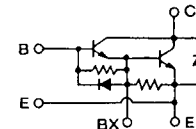
HB-1A



HC-1A



HC-1B



(T_J = 25°C)

エミッタ・コレクタ間ダイオード

熱抵抗

飽和電圧 (V)		スイッチング時間 (μs)						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		
V _{CE}	V _{BE}	I _C	I _B	t _{on}	t _{off}	t _f	I _{B1}	I _{B2}	V _{CE}	I _C	V _F	t _{rr}	θ _{J-c}	θ _{J-c}						
最大	最大	(A)	(A)	最大	最大	最大	(A)	(A)	(V)	(A)	最大	(A)	最大	最大					最大	最大
1.0	1.5	3	0.6	1.0	4.0	0.8	0.6	-1.2	600	3	-	-			1.25		HB-1A	M-1A1C	非絶縁形	QM5HC-24
1.0	1.5	5	1.0	1.5	7.0	2.0	1.0	-1.0	600	15					1.2		HB-1A	M-1A1A	UL認定済	QM10HB-2H
2.0	2.5	15	0.3	1.5	8.0	2.0	0.3	-0.3	300	15	1.5	15			1.2		HA-1A	M-3A1A	UL認定済	QM15HA-H
2.0	2.5	30	0.4	1.5	12	3.0	0.6	-0.6	300	30	1.85	30			0.5	1.0	HA-1A	M-3B1A	UL認定済	QM30HA-H
2.0	2.5	30	2.0	4.0	5.0	3.0	2.0	-5.0	100	30	1.5	30			0.4	0.8	HC-1A	M-2A1A	非絶縁形	QM30HC-2H
1.0	1.5	15	3.0	1.5	7.0	2.0	3.0	-3.0	600	15	-	-			0.4		HB-1A	M-2B1A	F/D無, UL認定済	QM30HQ-24
2.5	3.5	30	0.6	2.5	15	3.0	0.6	-0.6	600	30	1.8	30			0.4	1.5	HY-2A	M-4A1A	UL認定済	QM30HY-2H
2.0	2.5	50	0.65	1.5	12	3.0	1.0	-1.0	300	50	1.75	50			0.4	1.3	HA-1A	M-3B1A	UL認定済	QM50HA-H
2.0	2.5	50	1.0	2.0	5.0	2.0	1.0	-10	300	50	1.8	30			0.4	1.2	HC-1A	M-2A1A	非絶縁形	QM50HC-H
2.0	2.5	50	1.0	2.0	5.0	2.0	1.0	-5.0	300	50	1.8	50			0.8	1.3	HA-1A	M-3C1A		QM50HF-H
2.0	2.5	50	1.0	1.5	10	3.5	1.0	-1.0	300	50	1.8	50			0.9	1.5	HA-1A	M-3C1A		QM50HG-H
1.5	2.5	50	0.05	1.5	8	3.0	0.1	-1.0	100	50	1.8	50			0.9	1.5	HA-1A	M-3C1A		QM50HG-4
2.0	2.5	50	1.0	2.0	5.0	2.0	1.0	-5.0	300	50	1.8	50			0.7	1.4	HA-1A	M-1A1B	非絶縁形	QM50HJ-H
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	HY-2A	M-4A1A	UL認定済	QM50HY-2H
2.0	2.5	75	1.0	2.5	12	3.0	1.5	-1.5	300	75	1.85	75			0.35	1.3	HA-1A	M-3B1A		QM75HA-H
2.0	2.5	100	1.0	2.0	10	3.0	2.0	-2.0	200	100	1.5	100			0.3	0.5	HA-1A	M-3B1B	非絶縁形	QM100HC-M
2.0	2.5	100	1.3	2.0	12	3.0	2.0	-2.0	300	100	1.75	100			0.2	0.65	HY-1A	M-4A1A	UL認定済	QM100HY-H
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	HY-2A	M-4A1A	UL認定済	QM100HY-2H
2.0	2.5	150	2.0	2.5	12	3.0	3.0	-3.0	600	150	1.8	150			0.18	0.6	HY-1A	M-4A1A	UL認定済	QM150HY-H
2.5	3.5	150	3.0	3.0	15	3.0	3.0	-3.0	600	150	1.8	150			0.125	0.6	HY-2A	M-5A1A	UL認定済	QM150HY-2H

FD-1



FD-2



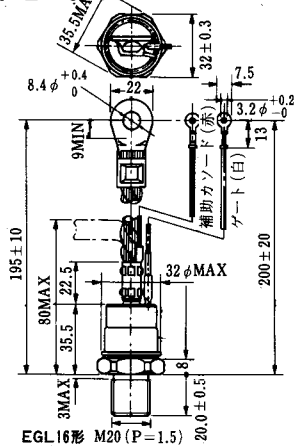
FD-3



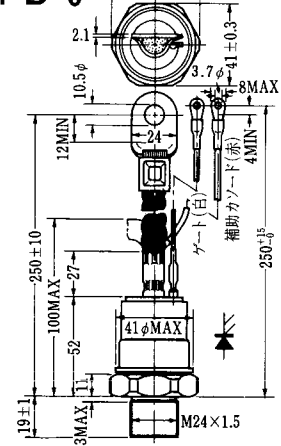
FD-4



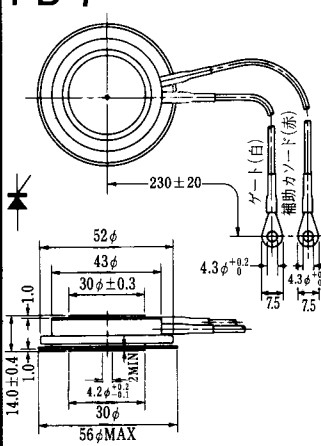
FD-5



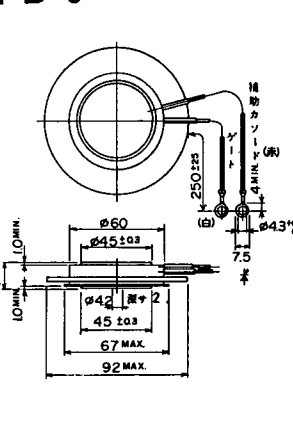
FD-6



FD-7



FD-8



FD-9



FD-10



FD-11

FD-12





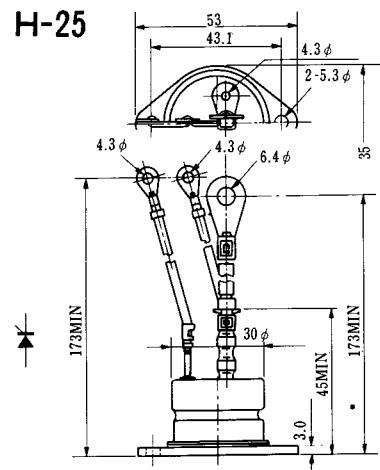
H-23



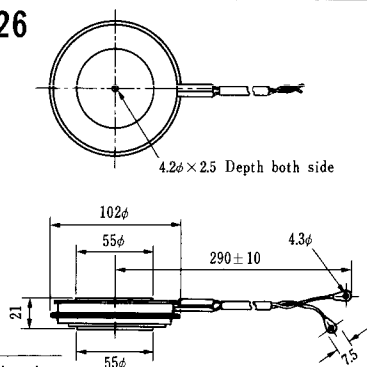
H-24



H-25

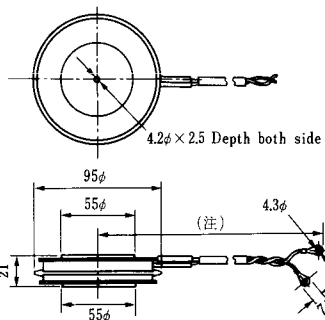


H-26



Type	Direction of polarity
CA12	

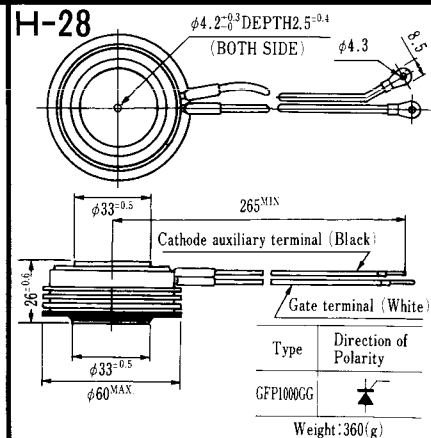
H-27



Type	Direction of polarity
CF11V	

(注) CC11V : 400 ± 10
CF11V : 250 ± 10

H-28

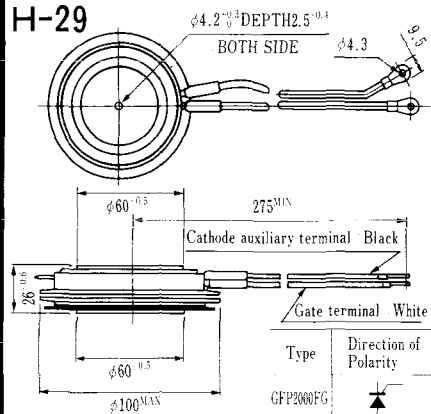


Type	Direction of Polarity
GFP100GG	

Weight: 360(g)

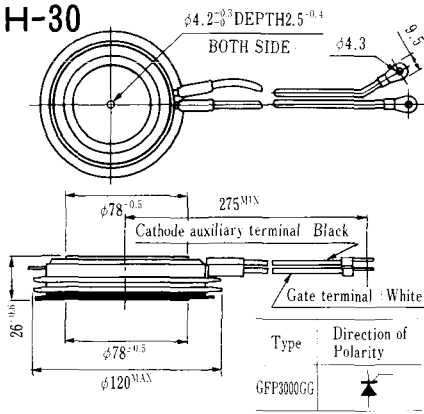
Note : The thickness is a dimension in press at the rated mounting force.

H-29



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

H-30



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



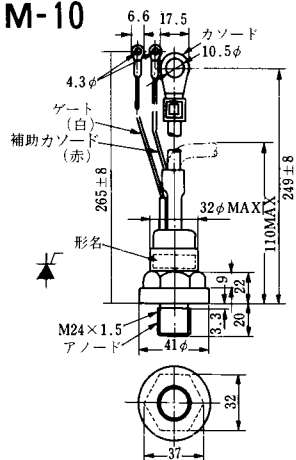
M-8



M-9



M-10



M-11



M-12



M-13



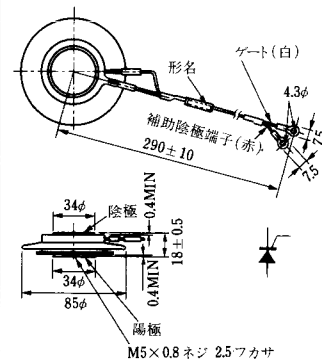
M-14



M-15



M-16





M-25



M-26



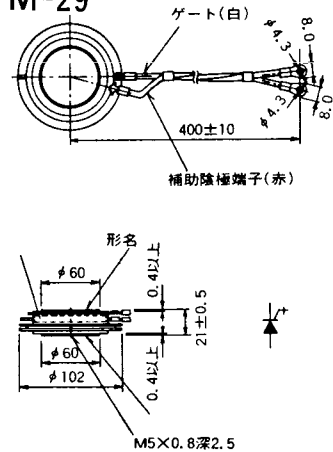
M-27



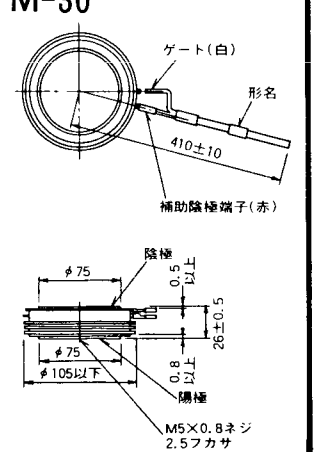
M-28



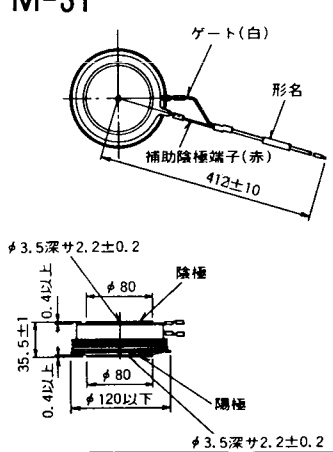
M-29



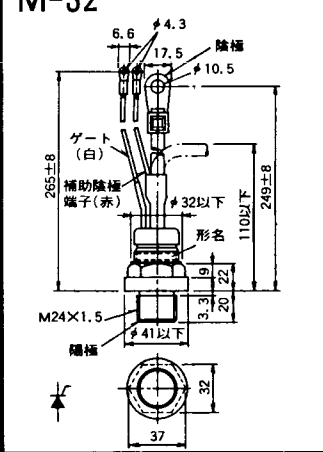
M-30



M-31



M-32



M-33



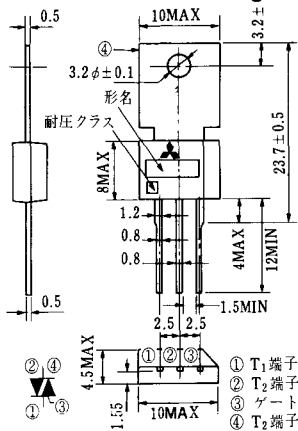
M-34



MT-1



MT-2



MT-3



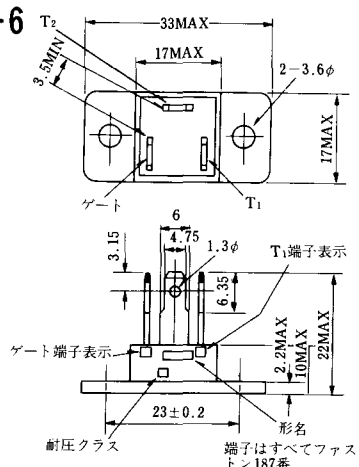
MT-4



MT-5



MT-6



MT-7



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)

端子はすべてファス
タン187番

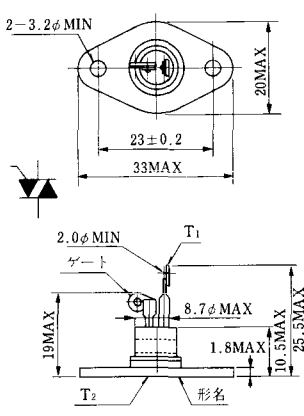
MT-8



MT-9



MT-10



MT-11



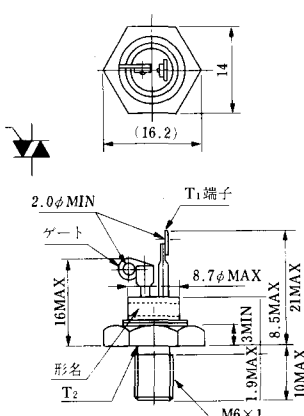
MT-12



MT-13



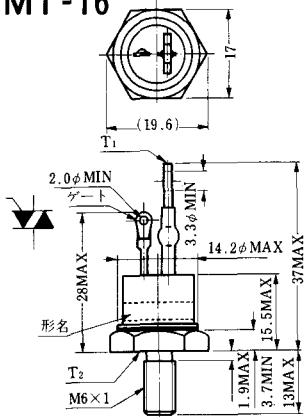
MT-14



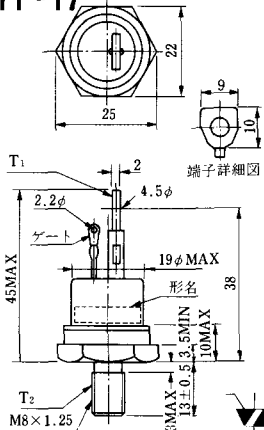
MT-15



MT-16

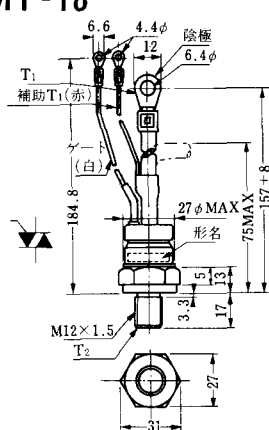


MT-17

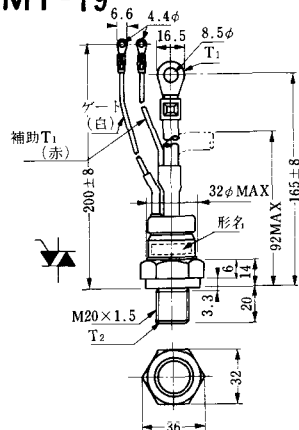


端子詳細図

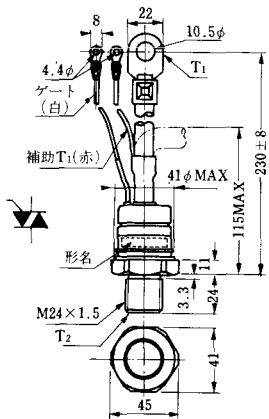
MT-18



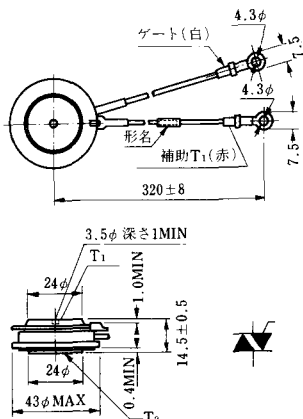
MT-19



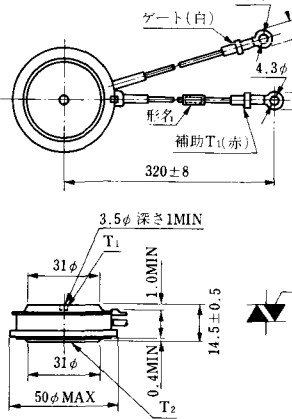
MT-20



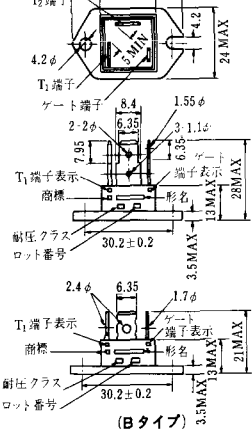
MT-21



MT-22



MT-23



NA-1

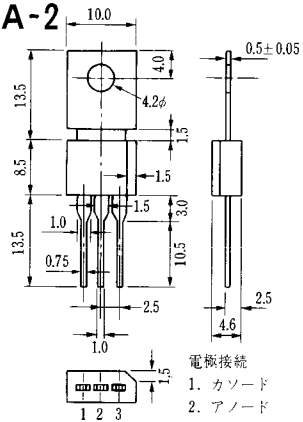


電極接続

1. ゲート
2. アノード
3. カソード

JEDEC: TO-92

NA-2

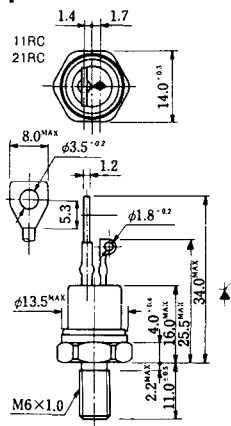


電極接続

1. カソード
2. アノード
3. ゲート

JEDEC: TO-202AA

NI-1



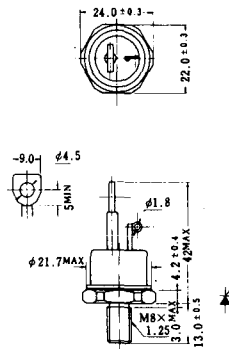
NI-2

29RD



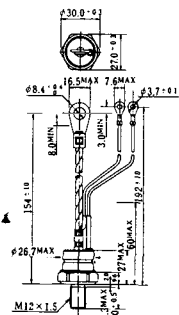
NI-3

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}



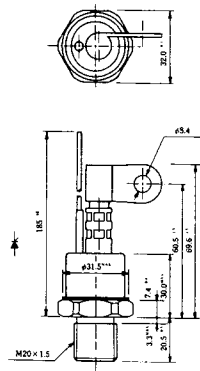
NI-8

89RW
129RW



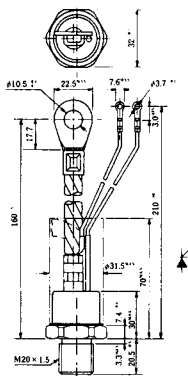
NI-9

259RW
309RW



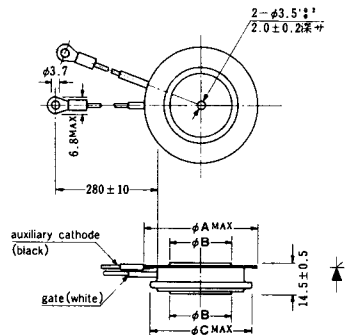
NI-10

259RW_{JL}
309RW_{JL}



NI-11

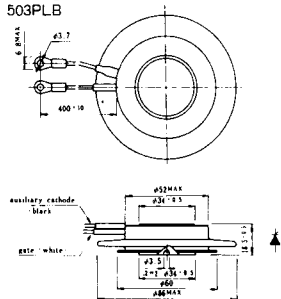
103PA
253PA
503PA
553PA
803PA
103PLE
103PLG
103PLH
203PLG
253PLE
253PLH
353PLG
403PLE
403PLH



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

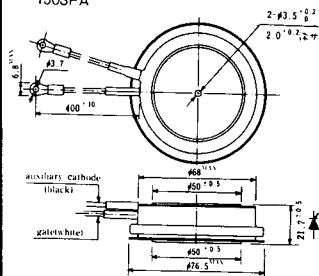
NI-12

403PAB
503PAB
503PLB



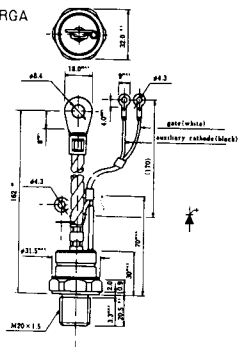
NI-13

1003PA
1003PAB
1003PLF
1003PLH
1503PA



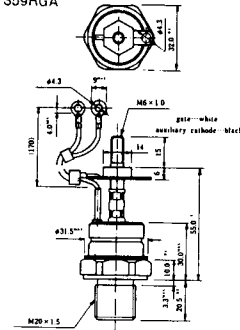
NI-14

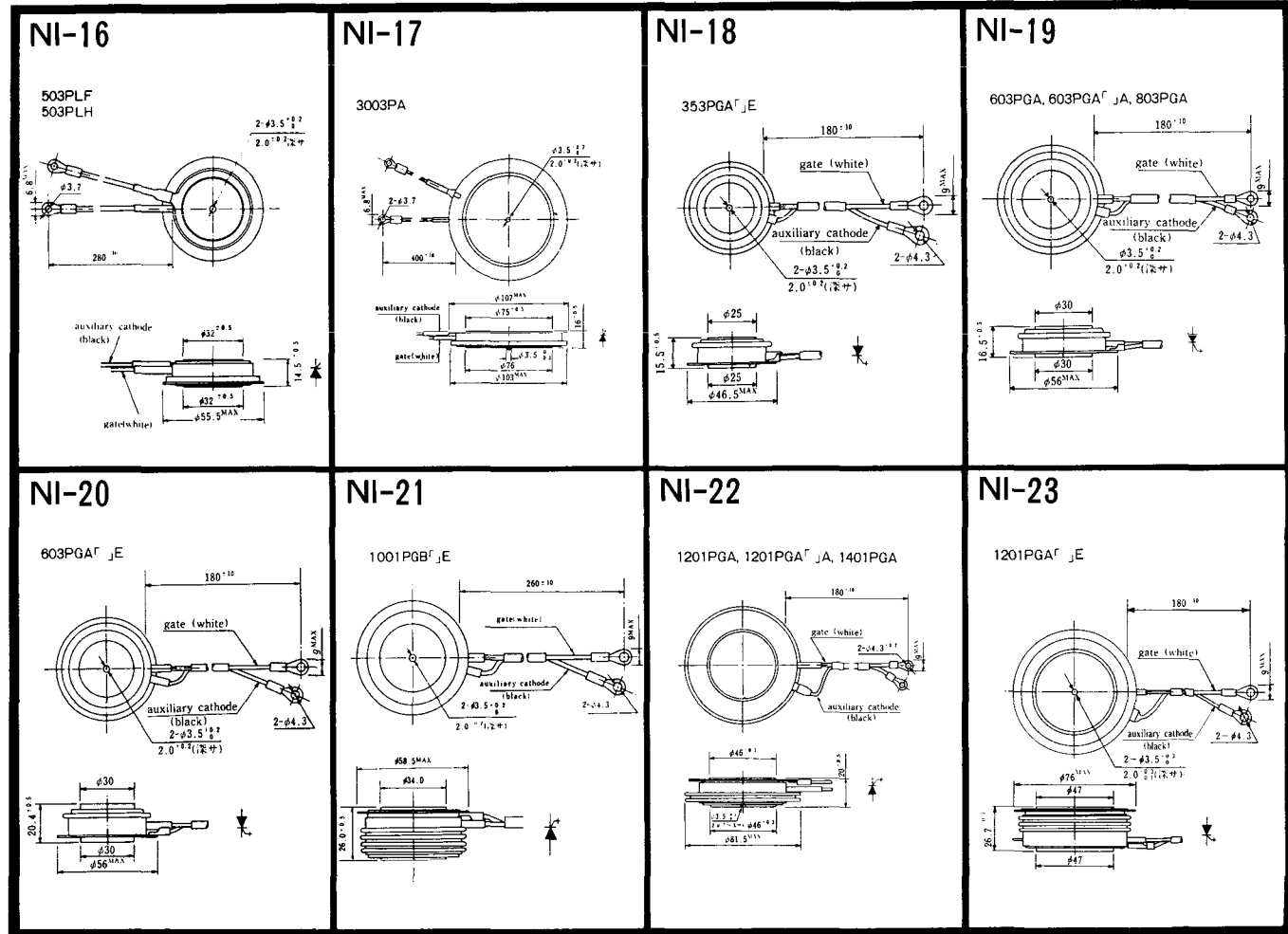
358RGA



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



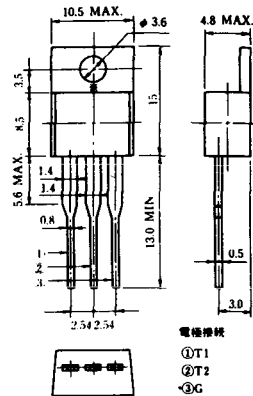
電極接続
① T₁
② ゲート
③ T₂

NT-3



電極接続
① T₁
② T₂
③ ゲート

NT-4



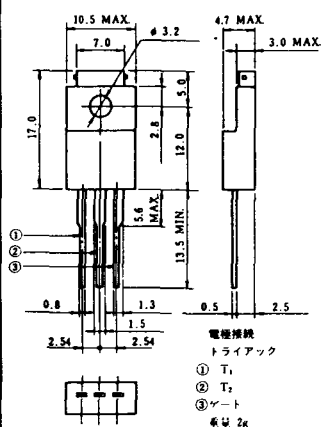
電極接続
① T₁
② T₂
③ G

NT-5



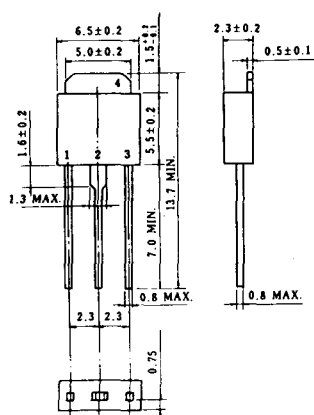
電極接続
トライアック
① T₁
② T₂
③ ゲート
φ 2g

NT-6

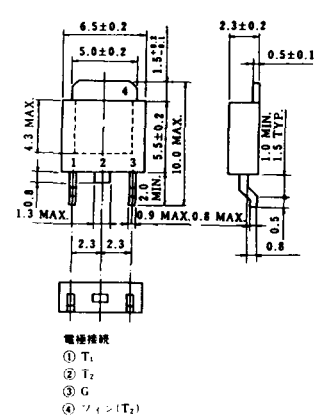


電極接続
トライアック
① T₁
② T₂
③ ゲート
φ 2k

NT-7



NT-8



電極接続
① T₁
② T₂
③ G
④ ソフト(T₂)

SA-1



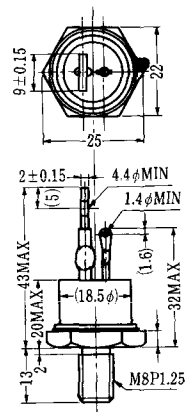
SA-2



SA-3



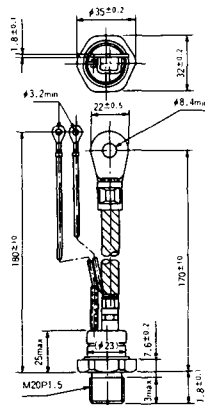
SA-4



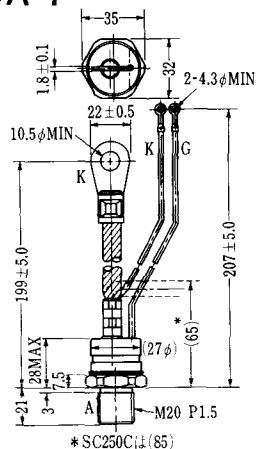
SA-5



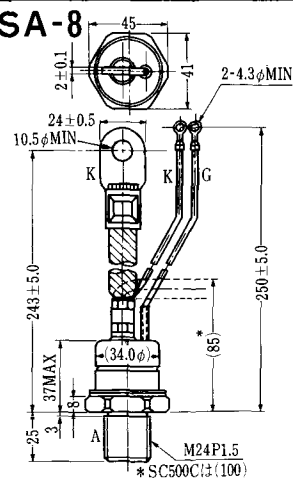
SA-6



SA-7



SA-8



SAT-10



SAT-11

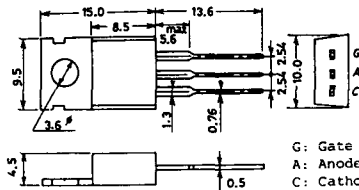


SY-1 (1096A)



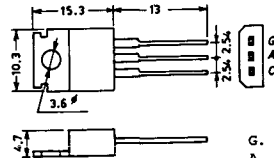
C: Cathode
A: Anode
G: Gate

SY-2 (1151)



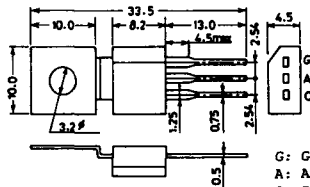
G: Gate
A: Anode
C: Cathode

SY-3 (1104)



G: Gate
A: Anode
C: Cathode

SY-4 (1150)



G: Gate
A: Anode
C: Cathode

1097A



G: Gate

1102



1141



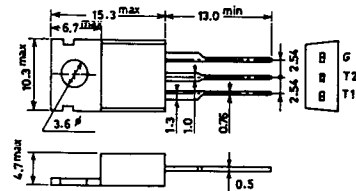
1142



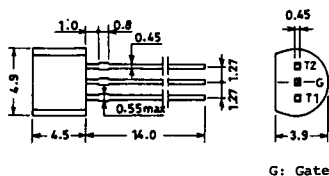
1144



1155

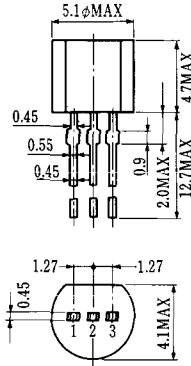


1192A



G: Gate

T-1 (13-5A1A)



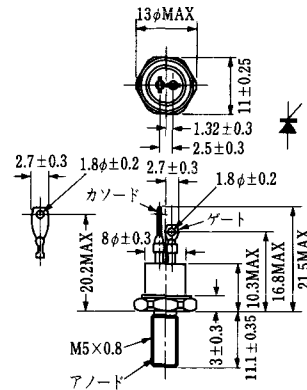
- 1 ゲート
- 2 アノード
- 3 カソード

T-2 (13-8A1A)



1. カソード
2. ゲート
3. アノード(ケース)

T-3 (13-8C1A)



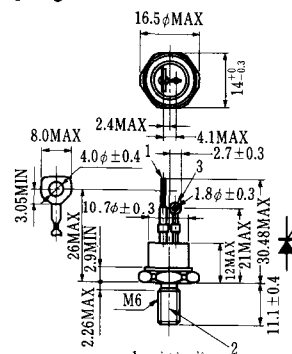
- 1 カソード
- 2 アノード
- 3 ゲート

T-5 (13-10B1A)



- 1 カソード
- 2 アノード
- 3 ゲート

T-6 (13-11D1A)

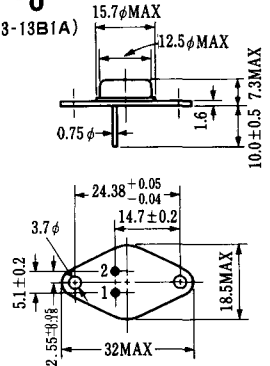


- 1 カソード
- 2 アノード
- 3 ゲート

T-7 (13-13A1A)



T-8 (13-13B1A)



1. ゲート
2. カソード
3. アノード(ケース)

T-9 (13-14A1A)



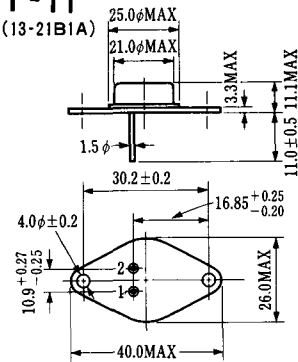
1. ゲート
2. カソード
- アノード(ケース)

T-10 (13-19A1A)



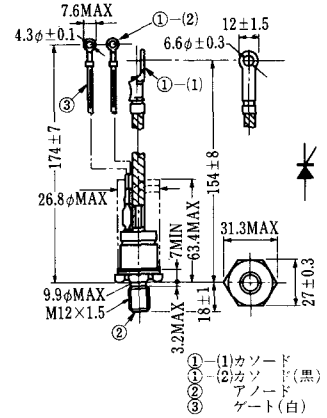
1. カソード
2. アノード
3. ゲート

T-11 (13-21B1A)



1. ゲート
2. カソード
- アノード(ケース)

T-12 (13-27B1B)



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

T-13 (13-27C1A)



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

T-14 (13-32A1A)



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

T-15 (13-35C1B)



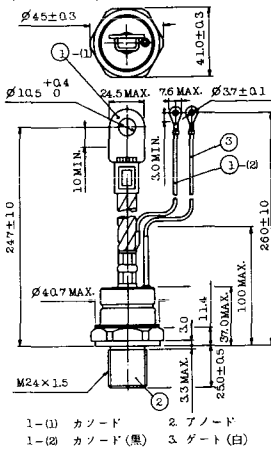
- ① (1) カソード
- ① (2) カソード(黒)
- ② アノード
- ③ ゲート(白)

T-16 (13-40B1A)



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

T-17 (13-42A1A)



T-18 (13-45D1A)



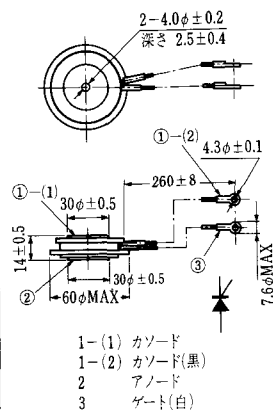
T-19 (13-52B1A)



T-20 (13-52C1A)



T-21 (13-60A1A)



T-22 (13-70C1A)



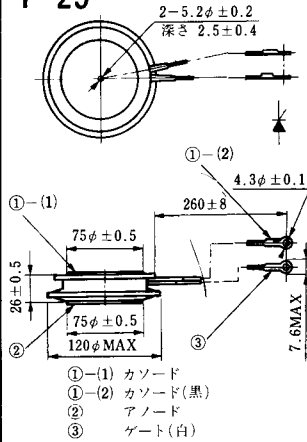
T-23 (13-78A1A)



T-24 (13-100C1A)



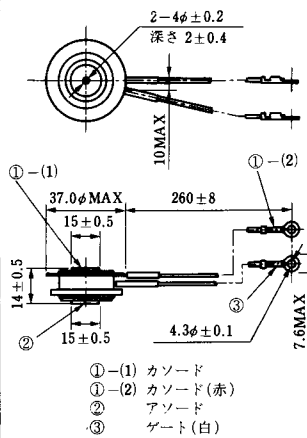
T-25 (13-120A2A)



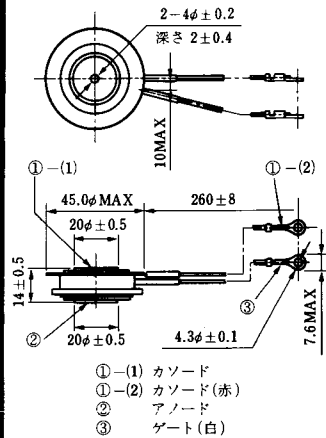
T-26 (13-150A1A)



T-27 (13-37A1A)



T-28 (13-45E1A)



T-29 (13-51A1A)



T-30 (13-57A1A)



T-31 (13-100E1A)



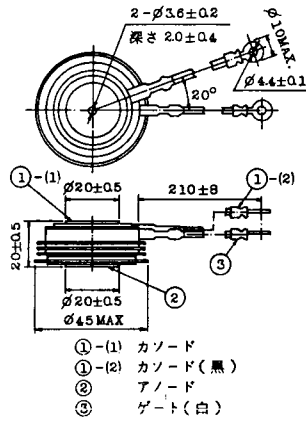
T-32 (13-60E3A)



T-41 (13-28A2A)



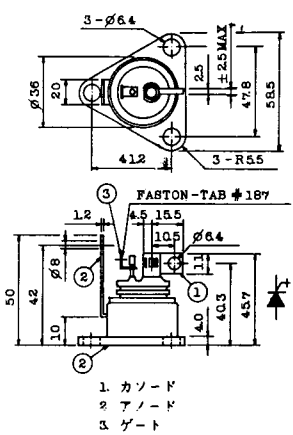
T-42 (13-45F1A)



T-43 (13-60E2A)



T-44 (13-36A1A)



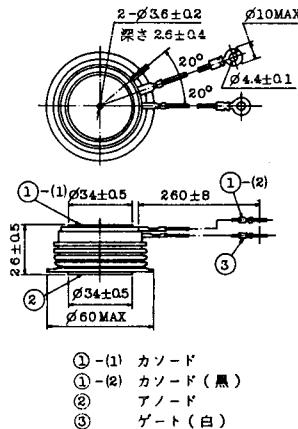
T-45 (13-51B1A)



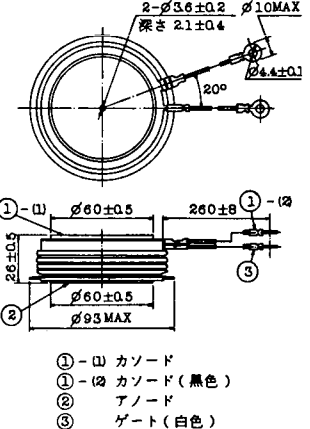
T-46 (13-36B1A)



T-47 (13-60E1A)



T-48 (13-93C1A)



T-57 (12-16C1A)



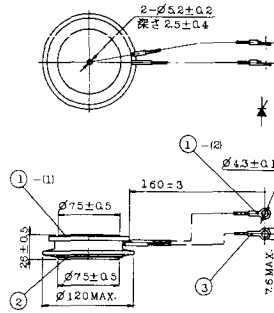
1. アノード (主)
2. ゲート (主)
3. カソード (共通)
4. ゲート (補助)
5. アノード (補助)

T-58 (13-10H1B)



1. カソード
2. アノード
3. ゲート

T-59 (13-120A1A)



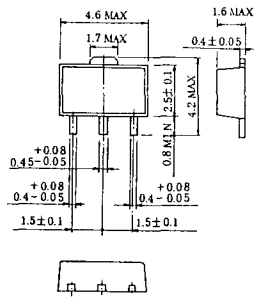
- 1-(1) カソード
- 1-(2) カソード (黒)
2. アノード
3. ゲート (白)

T-60



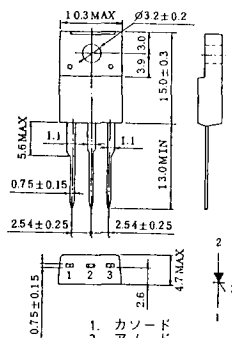
1. カソード
2. アノード
3. ゲート

T-61 (13-5B1A)



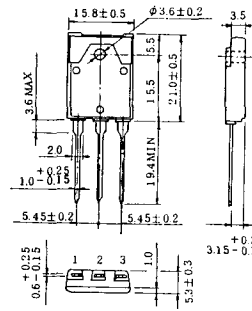
1. ゲート
2. アノード
3. カソード

T-62 (13-10H1A)



1. カソード
2. アノード
3. ゲート

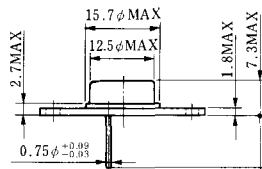
T-63 (13-16A1B)



1. カソード
2. アノード
3. ゲート



TS-8



- 1. ベース
- 2. エミッタ
コレクタ
(ケース)

S-62A1A



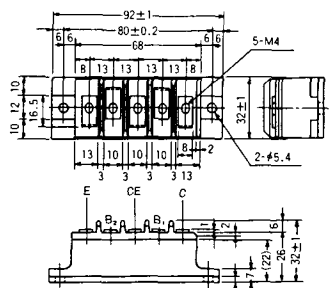
S-80A1A



S-88D1A



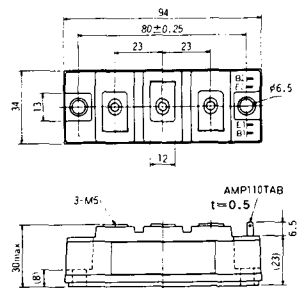
S-92B1A



S-94B1A



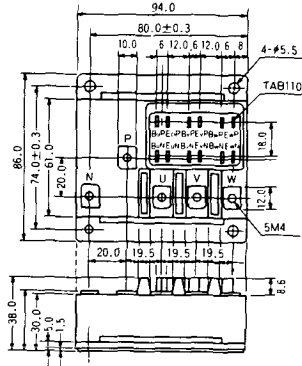
S-94B1B



S-94B2A



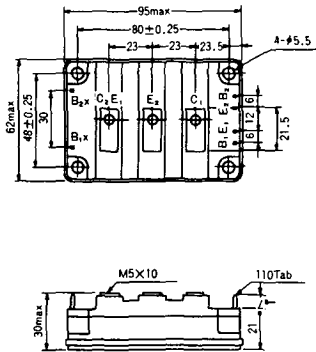
S-94D1A



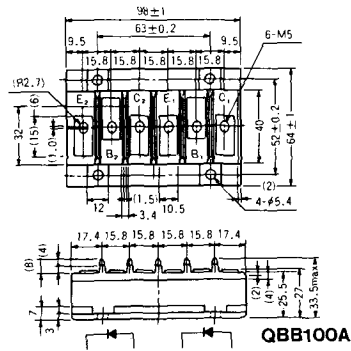
S-95A1A



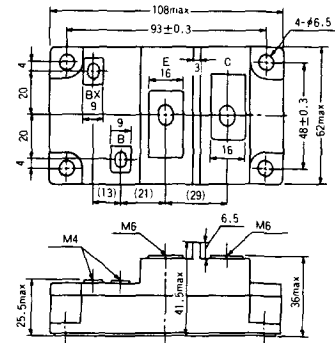
S-95B1A



S-98B1B



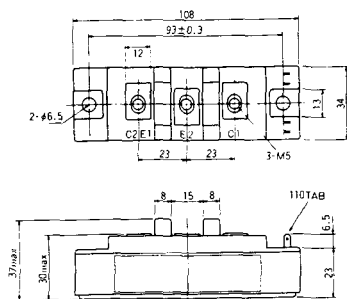
S-108A2A



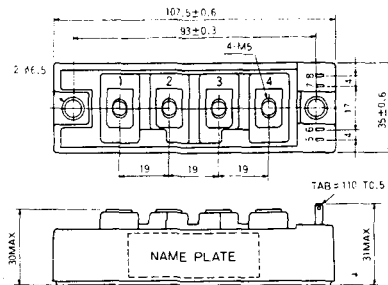
S-108B1A



S-108B1B



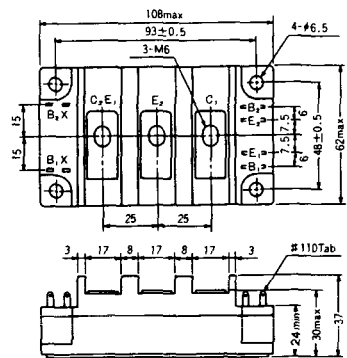
S-108B1C



S-108B2A



S-108B2B



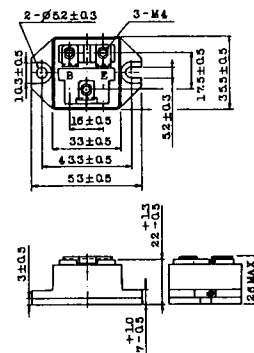
2-22B1A



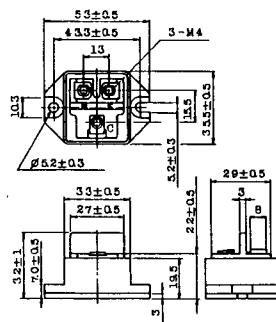
2-27A4A



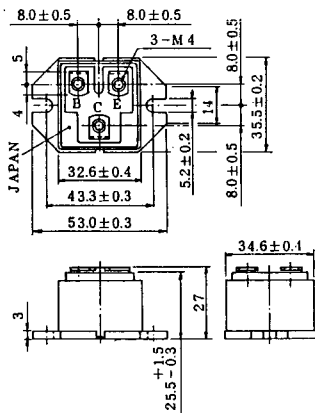
2-33C1A



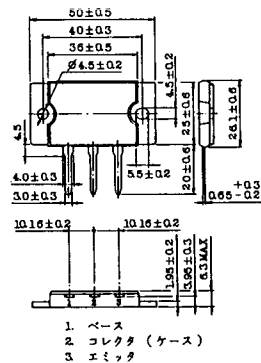
2-33D1A



2-33F1A



2-37A1A



2-48A3A



2-48A3B



2-48A4A



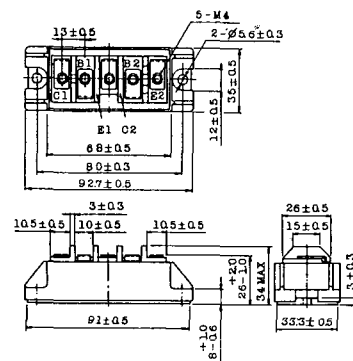
2-64A2A



2-64A2B



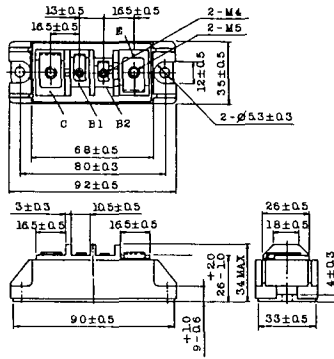
2-68A2A



2-68B2A



2-68C1A



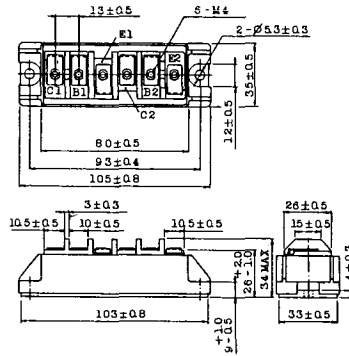
2-68D2A



2-72A3A



2-80A1A



2-80B1A



2-108B1A



2-109A3A



2-109A4A



2-109B3A



2-109B4A



M-101



M-102



M-103



M-104



M-105



M-106



M-107



M-116



M-201



M-202



M-203



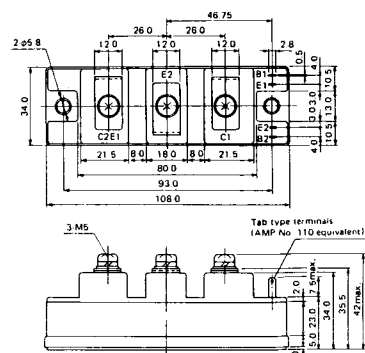
M-204



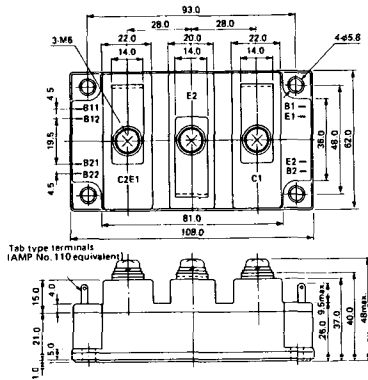
M-205



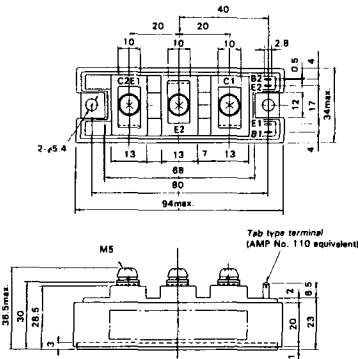
M-206



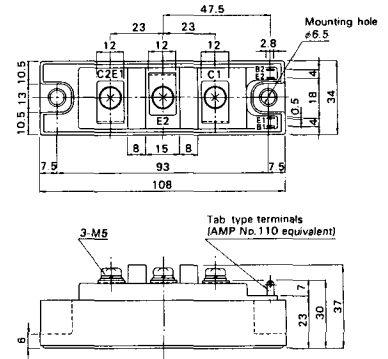
M-207



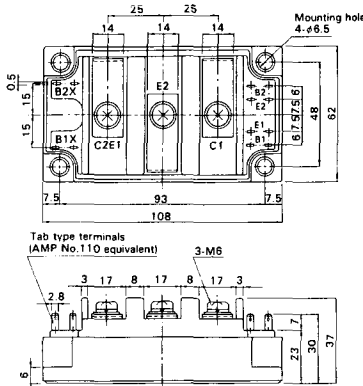
M-208



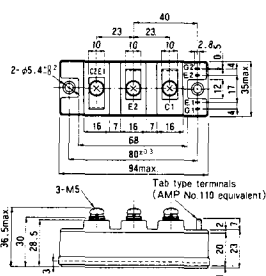
M-209



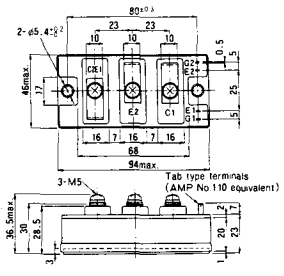
M-210



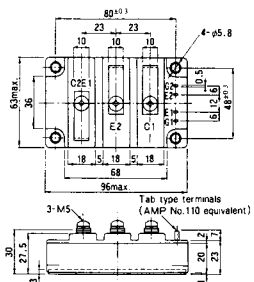
M-211



M-212



M-213

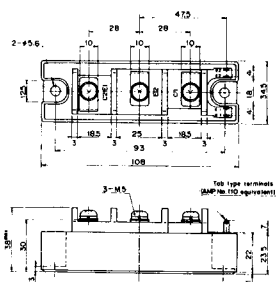


M-214

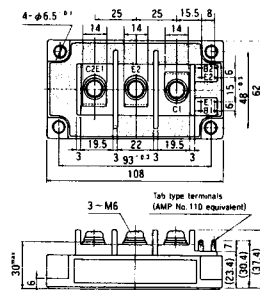
M-215



M-216



M-217



M-218



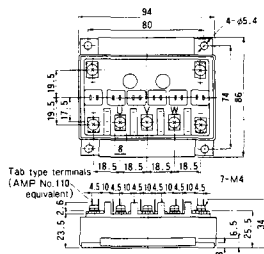
M-219



M-607



M-608



M-609



M-610



M-616



M-3C1A



M-3D6A



M-3E6A



M-4A1A



M-4A2A



M-4A1B



M-4A2B



M-4B2A



M-5A1A



M-5A1B



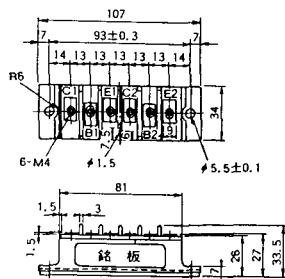
M-5A2A



M-5B2A



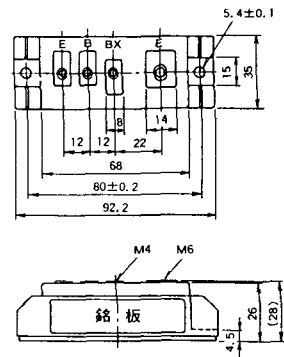
M-5C2A



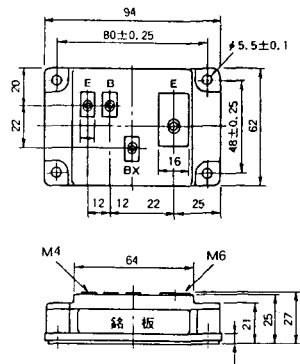
M-5D2A



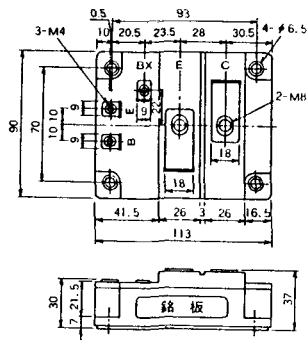
M-6A1A



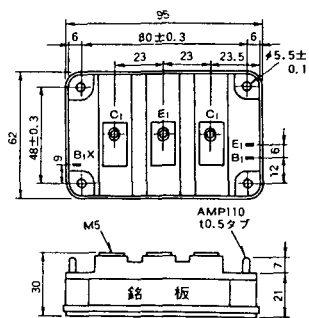
M-7A1A



M-7B1A



M-8A1A



M-10A2A



M-10A2B



M-11A2A



M-12A6A



M-12B6A



M-12B6B



M-9D2B



M-10A2C



H-101



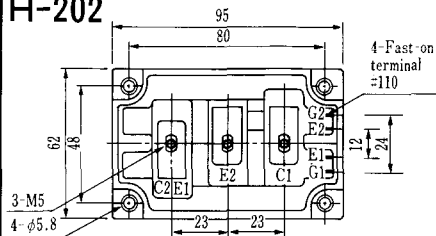
Weight :480g

H-201



Weight: 200g

H-202



Weight: 360g

LF-J



LF-K



