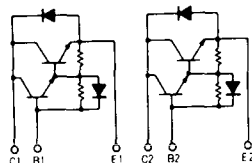


トランジスタ・モジュール (NPN, ダーリントン接続, 2個内蔵)

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

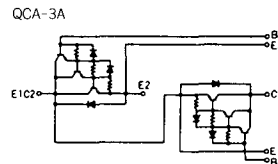
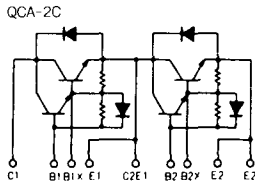
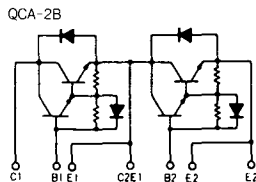
■等価回路

QBB-2A



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

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

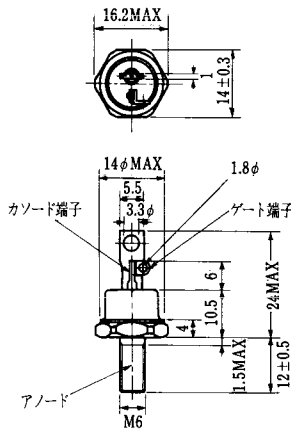


(T _j = 25°C)										エミッタ・コレクタ間ダイオード						熱抵抗		等価回路	外形図	記	事	型	名
飽和電圧 (V)		I _c		I _B		スイッチング時間 (μs)				V _F (V)		I _F (μs)		t _{rr} * 標準値		R _{th (j-c)} (°C/W)							
V _{CE}	V _{BE}	I _c	I _B	t _{on}	t _{off}	t _r	I _{B1}	I _{B2}	V _{CC}	I _C	V _F	I _F	t _{rr}	V _{BE}	di/dt	トランジスタ部	ダイオード部						
最大	最大	(A)	(A)	最大	最大	最大	(A)	(A)	(V)	(A)	最大	(A)	最大	(V)	(A/μs)	最大	最大						
2.0	2.5	100	1.4	2.0	12	3.0	2.0	-2.0	300	100	1.4	100					0.2	0.6	QBB-2A	S-98B1B	UL認定品	QBB100A40	
2.0	2.5	100	1.4	2.0	12	3.0	2.0	-2.0	300	100	1.4	100					0.2	0.6	QBB-2A	S-98B1B	UL認定品	QBB100A60	
2.0	2.5	150	2.0	2.0	12	3.0	2.0	-2.0	300	150	1.4	150					0.18	0.6	QBB-2A	S-98B1B	UL認定品	QBB150A40	
2.0	2.5	150	2.0	2.0	12	3.0	2.0	-2.0	300	150	1.4	150					0.18	0.6	QBB-2A	S-98B1B	UL認定品	QBB150A60	
2.0	2.5	30	0.4	1.0	12	2.0	0.6	-0.6	300	30	1.4	30					0.5	1.6	QCA-2B	S-94B1A	UL認定品	QCA30B40	
2.0	2.5	30	0.4	1.0	12	2.0	0.6	-0.6	300	30	1.4	30					0.5	1.6	QCA-2B	S-94B1A	UL認定品	QCA30B60	
2.0	2.5	50	0.67	1.0	12	2.0	1.0	-1.0	300	50	1.4	50					0.4	1.3	QCA-2B	S-94B1A	UL認定品	QCA50B40	
2.0	2.5	50	0.67	1.0	12	2.0	1.0	-1.0	300	50	1.4	50					0.4	1.3	QCA-2B	S-94B1A	UL認定品	QCA50B60	
2.5	3.5	50	1.0	2.5	15	3.0	1.0	-1.0	600	50	1.8	50					0.31	1.2	QCA-3A	S-94B1B	UL認定品	QCA50AA100	
3.0	3.5	50	1.0	2.5	15	3.0	1.0	-1.0	600	50	1.8	50					0.31	1.2	QCA-3A	S-94B1B	UL認定品	QCA50AA120	
2.0	2.5	75	1.0	2.0	12	3.0	1.0	-1.0	300	75	1.4	75					0.35	1.3	QCA-2B	S-94B1A	UL認定品	QCA75A40	
2.0	2.5	75	1.0	2.0	12	3.0	1.0	-1.0	300	75	1.4	75					0.35	1.3	QCA-2B	S-94B1A	UL認定品	QCA75A60	
2.5	3.5	75	1.5	2.5	15	3.0	1.5	-1.5	600	75	1.8	75					0.25	1.2	QCA-3A	S-108B1B	UL認定品	QCA75AA100	
3.0	3.5	75	1.5	2.5	15	3.0	1.5	-1.5	600	75	1.8	75					0.25	1.2	QCA-3A	S-108B1B	UL認定品	QCA75AA120	
2.5	3.0	75	0.1	2.0	8.0	2.0	0.15	-1.5	300	75	1.9	75	0.2 *	75	-5	75	0.35	1.3	QCA-3A	S-94B1A	高I _{rr} 品	QCA75B40	
2.0	2.5	100	1.4	2.0	12	3.0	2.0	-2.0	300	100	1.4	100					0.2	0.6	QCA-2C	S-95B1A	UL認定品	QCA100A40	
2.0	2.5	100	1.4	2.0	12	3.0	2.0	-2.0	300	100	1.4	100					0.2	0.6	QCA-2C	S-95B1A	UL認定品	QCA100A60	
2.5	3.5	100	2.0	3.0	15	3.0	2.0	-2.0	600	100	1.8	100					0.155	0.65	QCA-3B	S-108B2A	UL認定品	QCA100AA100	
3.0	3.5	100	2.0	3.0	15	3.0	2.0	-2.0	600	100	1.8	100					0.155	0.65	QCA-3B	S-108B2A	UL認定品	QCA100AA120	
2.5	3.0	100	0.13	2.0	8.0	2.0	0.2	-2.0	300	100	1.8	100	0.2 *	100	-5	100	0.2	0.6	QCA-3B	S-95B1A	高I _{rr} 品	QCA100B40	

FD-1



FD-2



FD-3



FD-4



FD-5



FD-6



FD-7



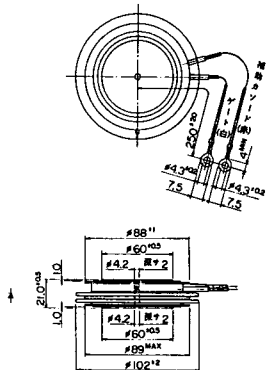
FD-8



FD-9



FD-10



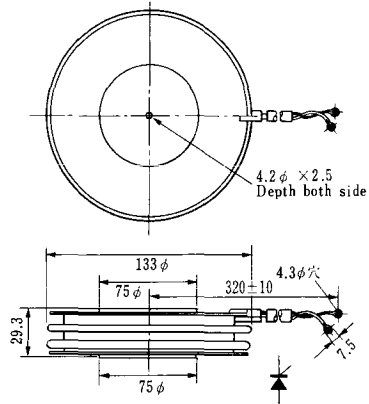
FD-11

FD-12





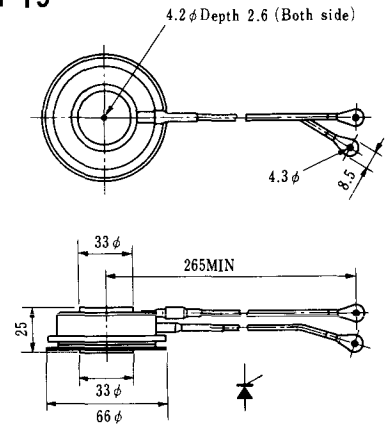
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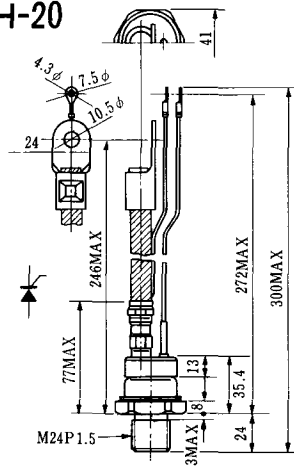
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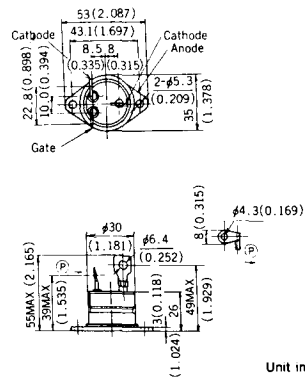
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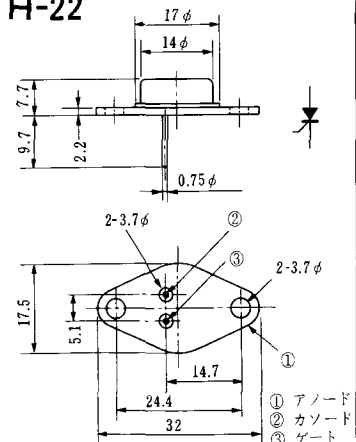
H-20



H-21



H-22



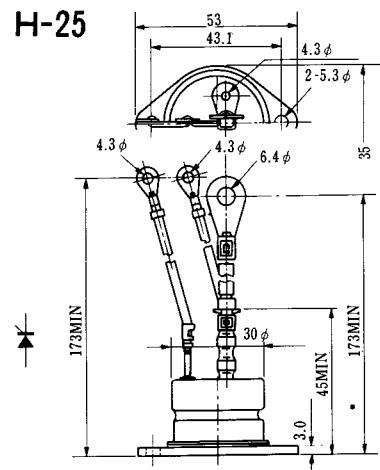
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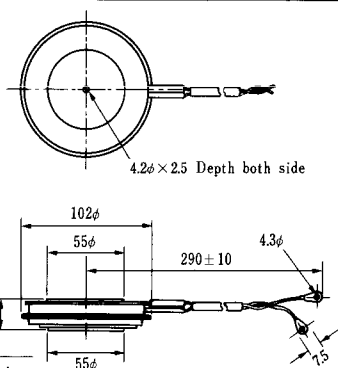
H-24



H-25



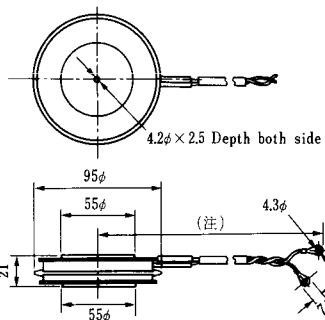
H-26



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

H-27

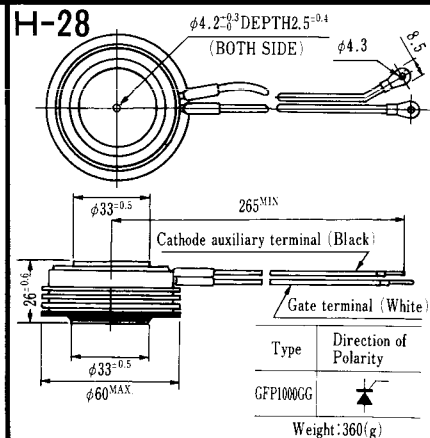


Type	Direction of polarity
------	-----------------------

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

H-28

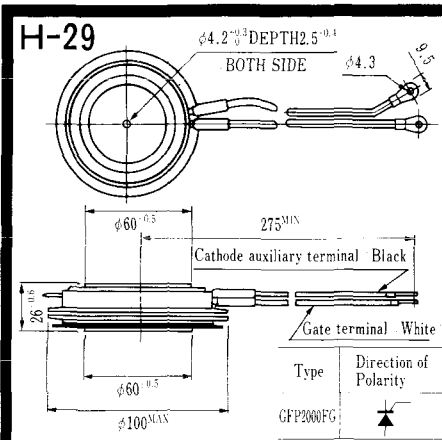


Type	Direction of Polarity
------	-----------------------

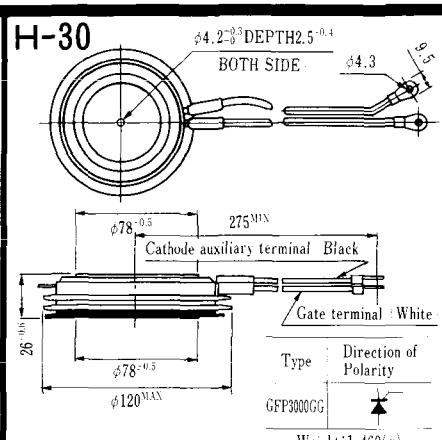
GFP100GG	
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Weight: 360(g)

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



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



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

M-1



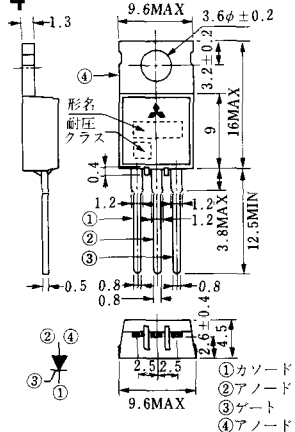
M-2



M-3



M-4



M-5



M-6



M-7



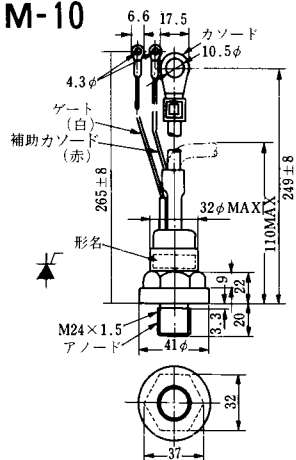
M-8



M-9



M-10



M-11



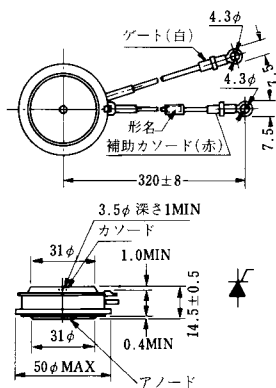
M-12



M-13



M-14



M-15



M-16





M-25



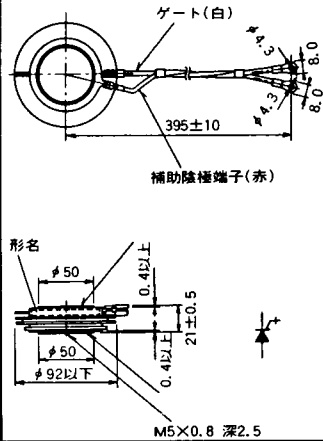
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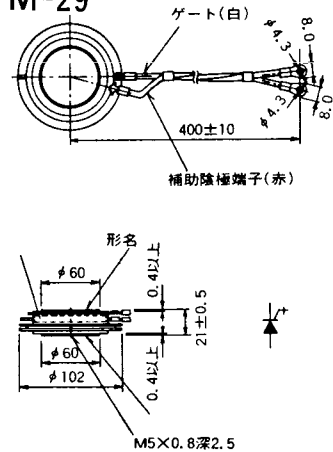
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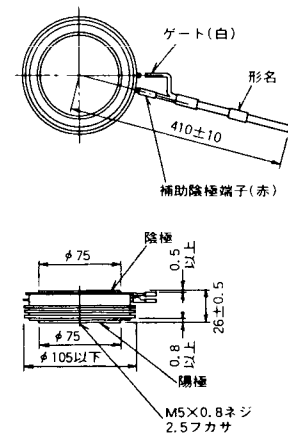
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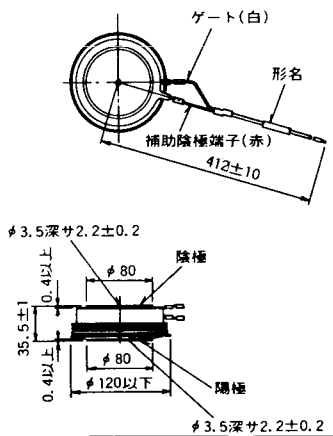
M-29



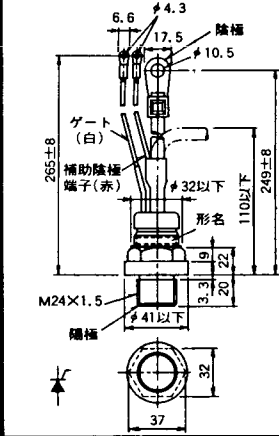
M-30



M-31



M-32



M-33



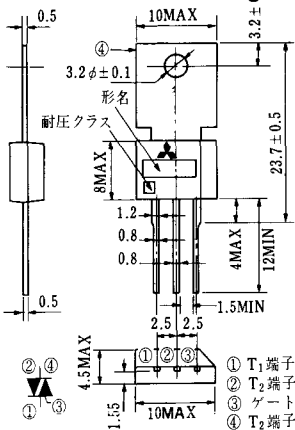
M-34



MT-1



MT-2



MT-3



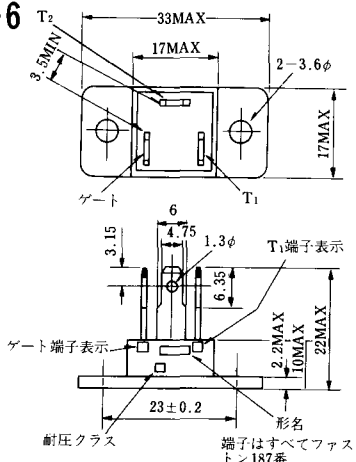
MT-4



MT-5



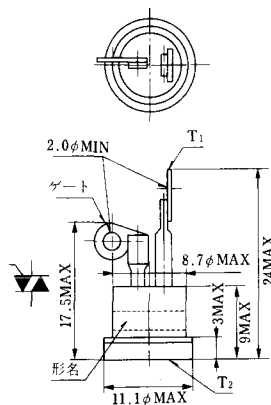
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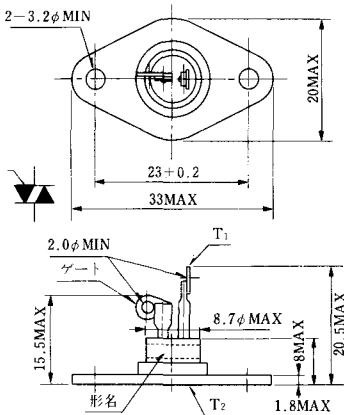
MT-7



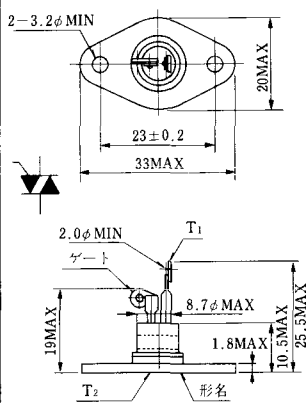
MT-8



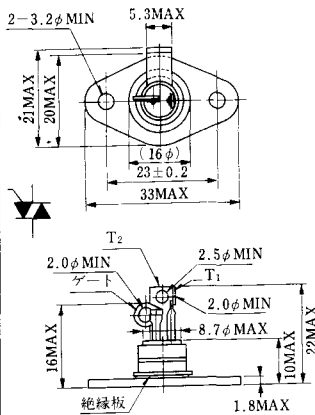
MT-9



MT-10



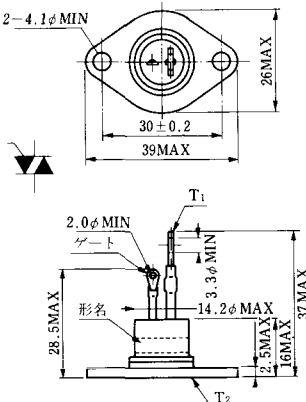
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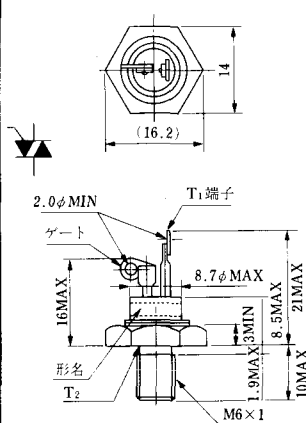
MT-12



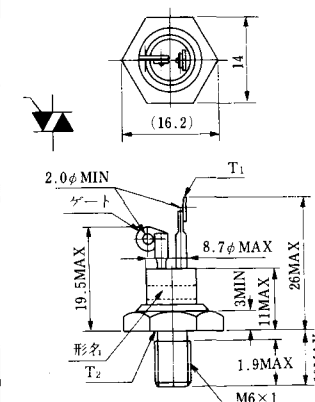
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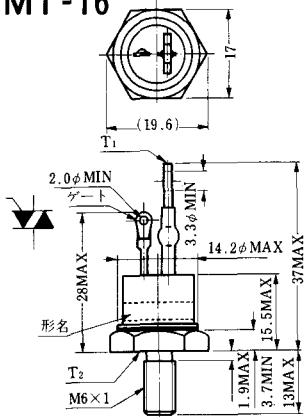
MT-14



MT-15



MT-16

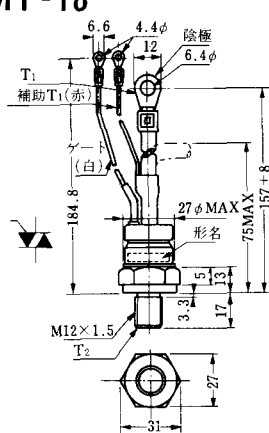


MT-17

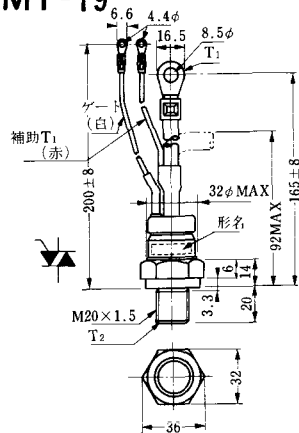


端子詳細図

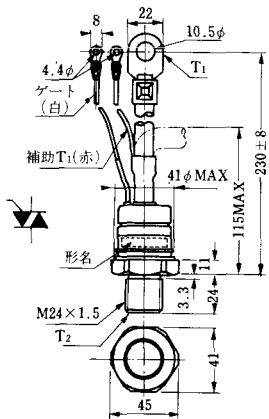
MT-18



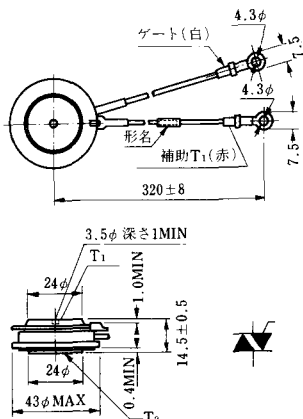
MT-19



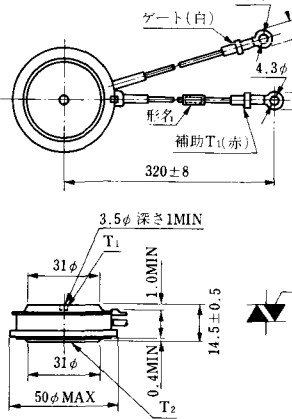
MT-20



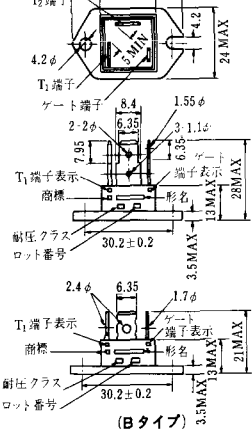
MT-21

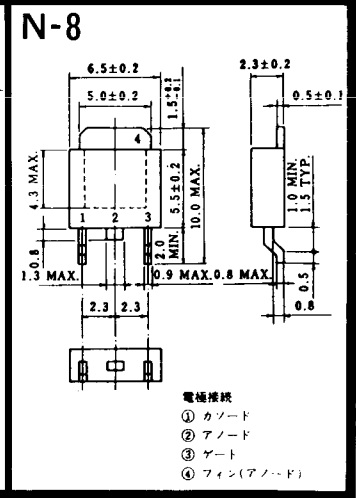
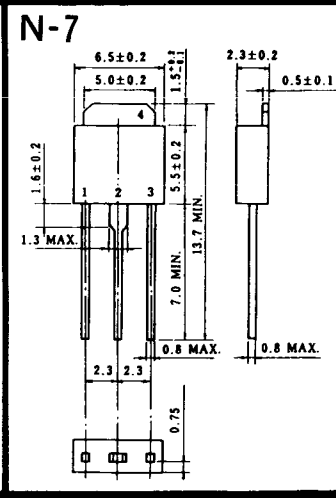
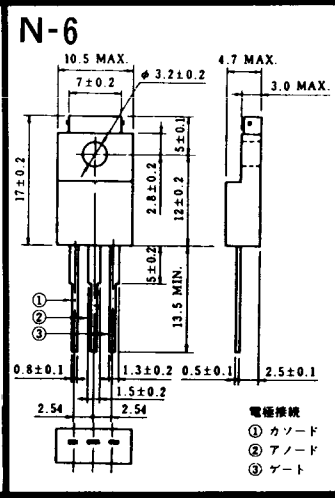
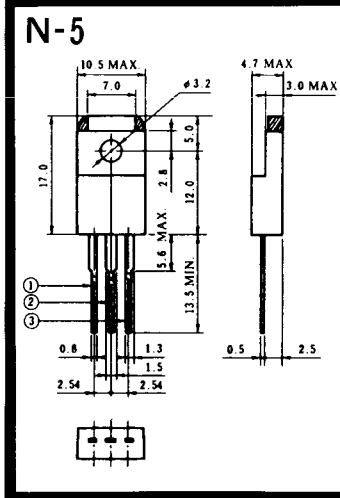
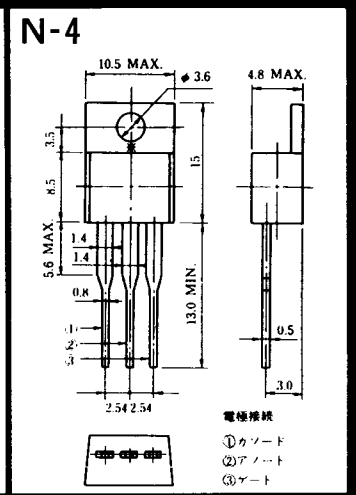
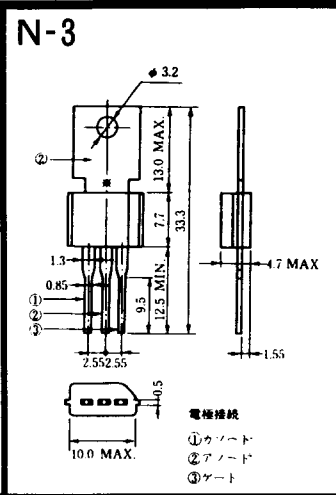
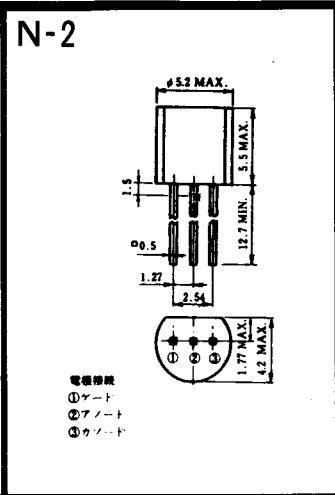
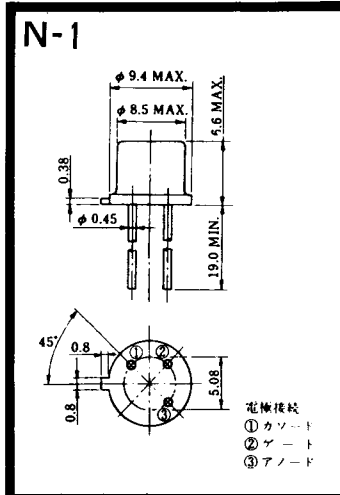


MT-22



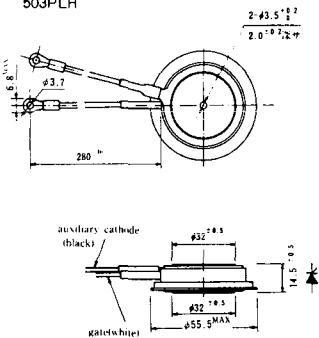
MT-23





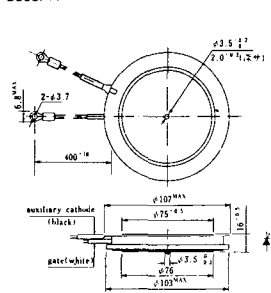
NI-16

503PLF
503PLH



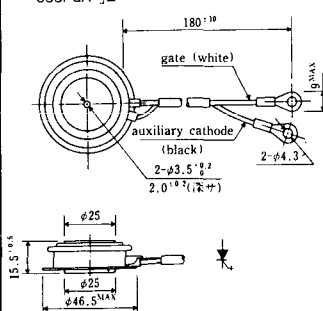
NI-17

3003PA



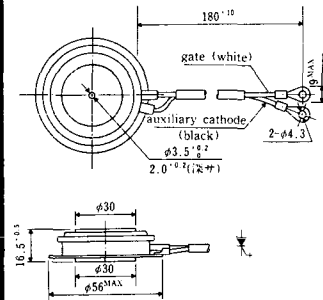
NI-18

353PGA「E



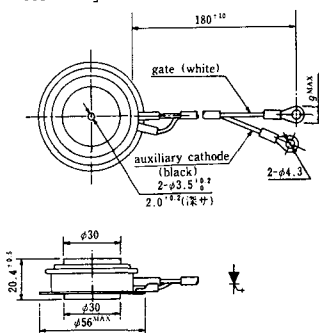
NI-19

603PGA, 603PGA「JA, 803PGA



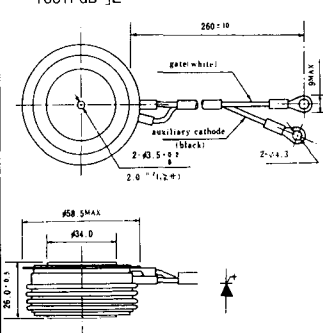
NI-20

603PGA「E



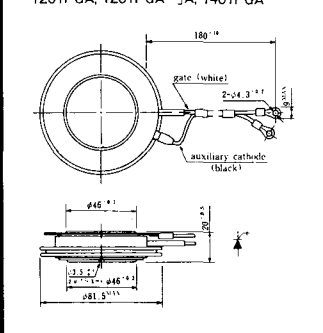
NI-21

1001PGB「E



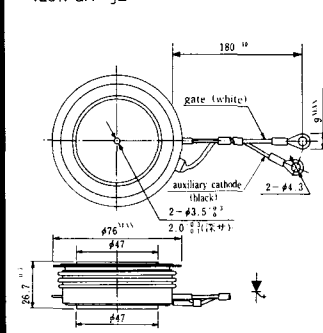
NI-22

1201PGA, 1201PGA「JA, 1401PGA



NI-23

1201PGA「E



NI-24

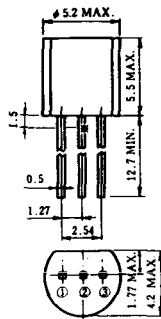
2001PGB^r JE



NI-25

NI-26

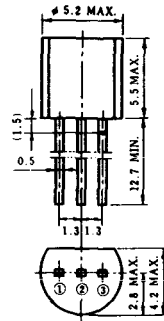
NT-1



電極接続

- ① T₁
- ② ゲート
- ③ T₂

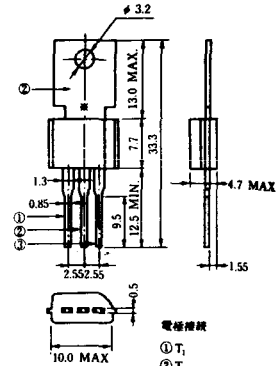
NT-2



電極接続

- ① T₁
- ② ゲート
- ③ T₂

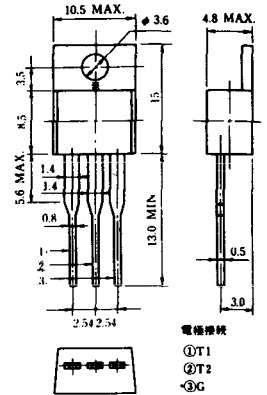
NT-3



電極接続

- ① T₁
- ② T₂
- ③ ゲート

NT-4



電極接続

- ① T₁
- ② T₂
- ③ G

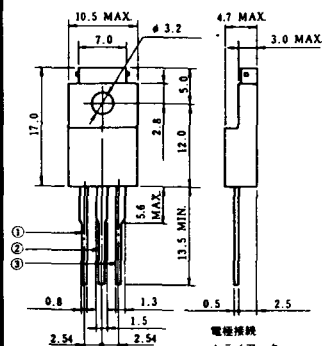
NT-5



電極接続
トライアック

- ① T₁
- ② T₂
- ③ ゲート

NT-6



電極接続
トライアック

- ① T₁
- ② T₂
- ③ ゲート

NT-7



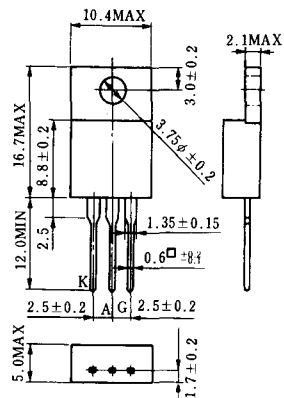
NT-8



電極接続

- ① T₁
- ② T₂
- ③ G
- ④ シェン(T₂)

S-1



ST-1



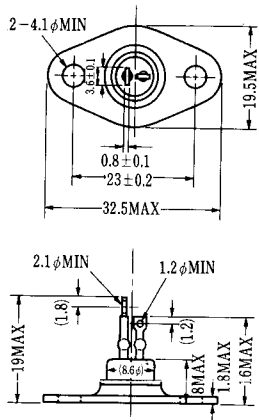
SA-9



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



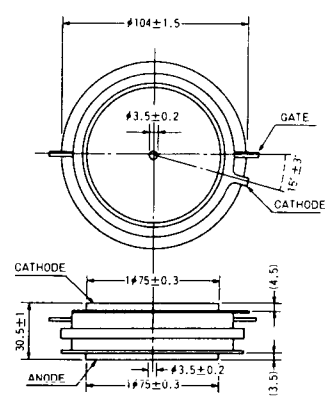
SA-10



SA-11



SA-12



SAT-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



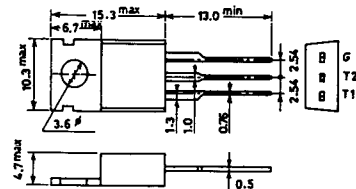
1142



1144



1155

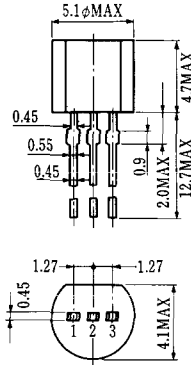


1192A



G: Gate

T-1 (13-5A1A)



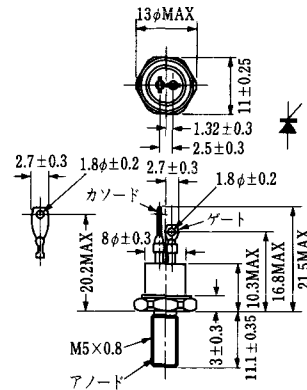
- 1 ゲート
- 2 アノード
- 3 カソード

T-2 (13-8A1A)



1. カソード
2. ゲート
3. アノード(ケース)

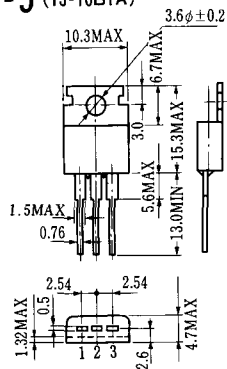
T-3 (13-8C1A)



M5×0.8
アノード

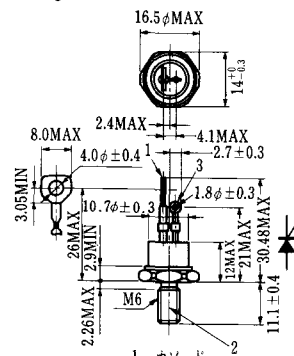
- 1 カソード
- 2 アノード
- 3 ゲート

T-5 (13-10B1A)



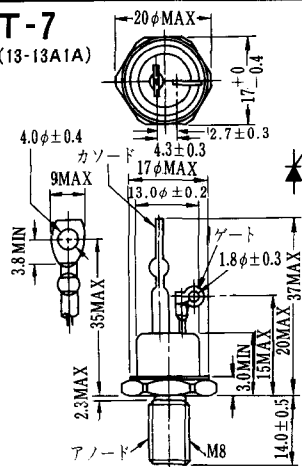
- 1 カソード
- 2 アノード
- 3 ゲート

T-6 (13-11D1A)



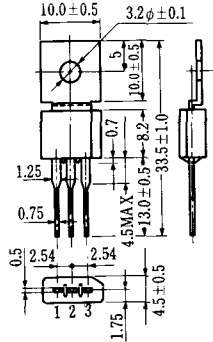
- 1 カソード
- 2 アノード
- 3 ゲート

T-7 (13-13A1A)

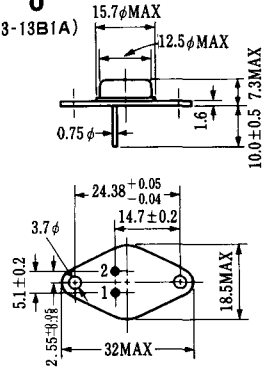


M8
アノード

T-4 (13-10A1A)



T-8 (13-13B1A)



1. ゲート
2. カソード
3. アノード(ケース)

T-17 (13-42A1A)



T-18 (13-45D1A)



T-19 (13-52B1A)



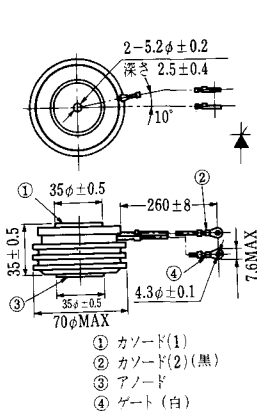
T-20 (13-52C1A)



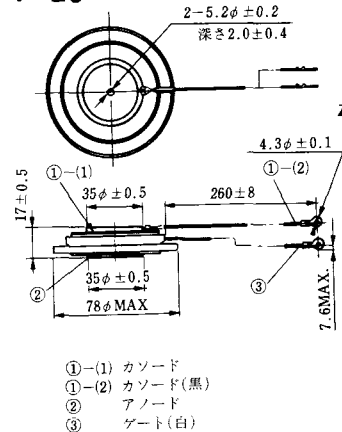
T-21 (13-60A1A)



T-22 (13-70C1A)



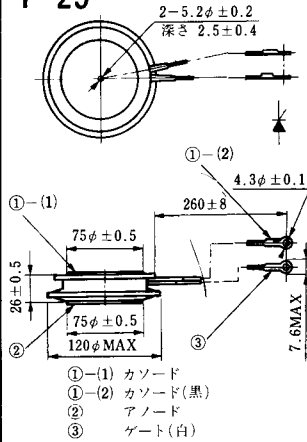
T-23 (13-78A1A)



T-24 (13-100C1A)



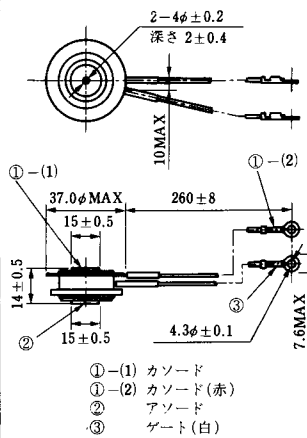
T-25 (13-120A2A)



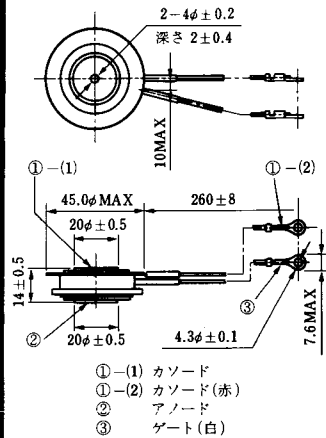
T-26 (13-150A1A)



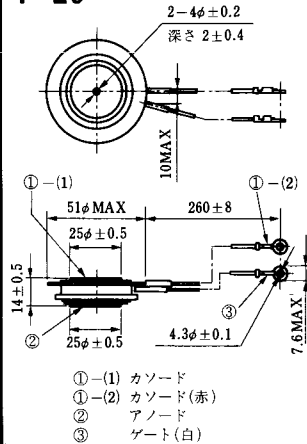
T-27 (13-37A1A)



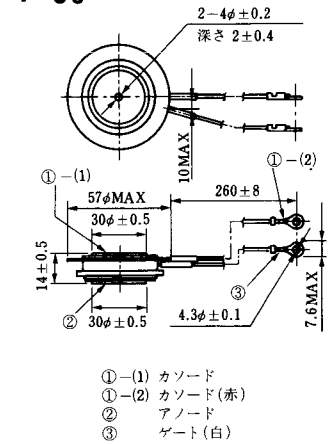
T-28 (13-45E1A)



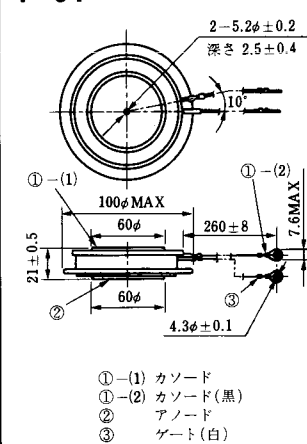
T-29 (13-51A1A)



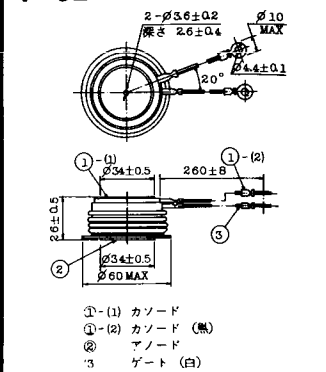
T-30 (13-57A1A)



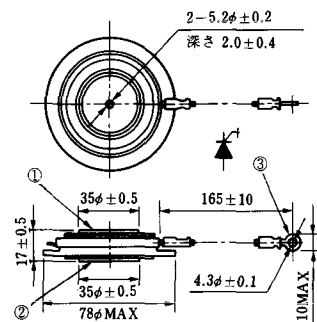
T-31 (13-100E1A)



T-32 (13-60E3A)

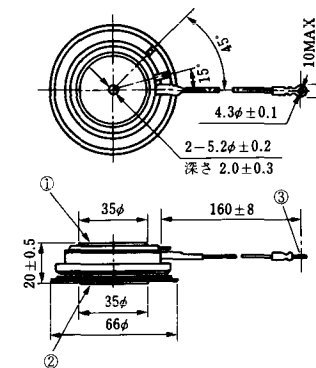


T-33 (13-78B1A)



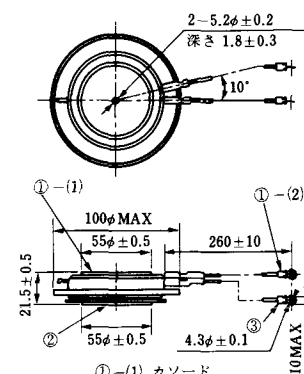
- ① カソード
- ② アノード
- ③ ゲート

T-34 (13-66A1A)



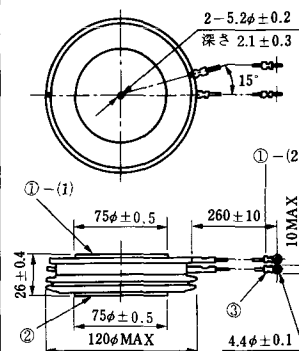
- ① カソード
- ② アノード
- ③ ゲート

T-35 (13-100D1A)



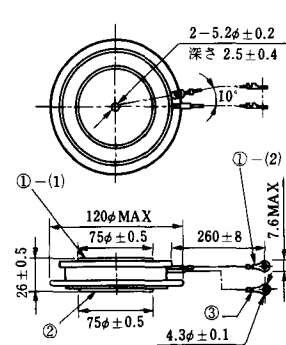
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

T-36 (13-120E1A)



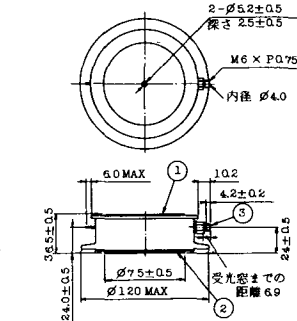
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

T-37 (13-120A1A)



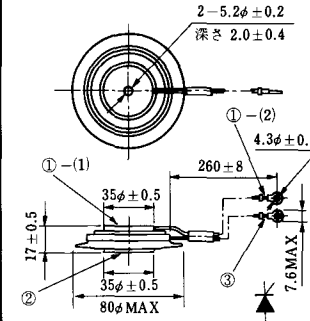
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

T-38 (13-120C1A)



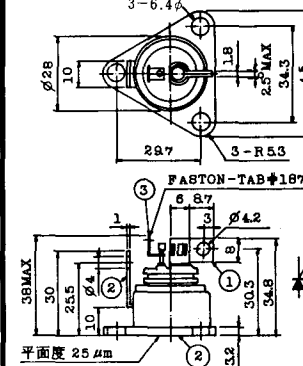
- ① カソード
- ② アノード
- ③ ゲート

T-39 (13-80B1A)



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

T-40 (13-28A1A)



- 1. カソード
- 2. アノード
- 3. ゲート

T-41 (13-28A2A)



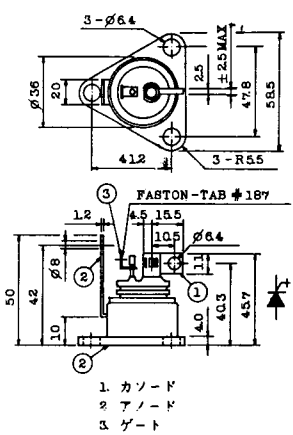
T-42 (13-45F1A)



T-43 (13-60E2A)



T-44 (13-36A1A)



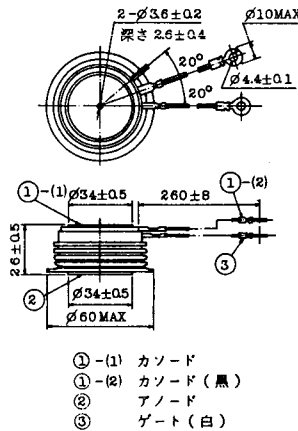
T-45 (13-51B1A)



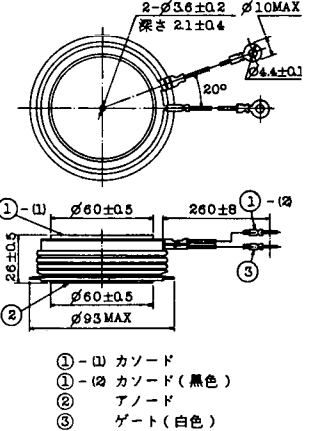
T-46 (13-36B1A)



T-47 (13-60E1A)



T-48 (13-93C1A)



T-49 (13-75A1A)



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

T-50 (13-10A3A)



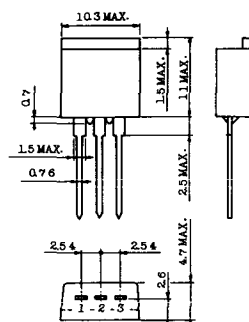
- 1 カソード
- 2 アノード
- 3 ゲート

T-51 (13-10D1A)



- 1 カソード
- 2 アノード
- 3 ゲート

T-52 (13-10D2A)



- 1 カソード
- 2 アノード
- 3 ゲート

T-53 (13-10E1B)



- 1 カソード
- 2 アノード
- 3 ゲート

T-54 (13-10F1B)



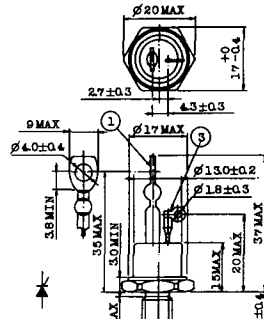
- 1 カソード
- 2 アノード
- 3 ゲート

T-55 (13-5A1D)



- 1 カソード
- 2 アノード
- 3 アノード

T-56 (13-13C1A)



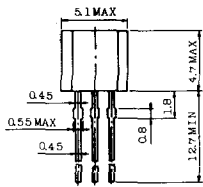
- 1 カソード
- 2 アノード
- 3 ゲート

TT-1



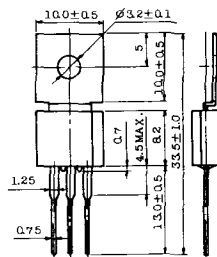
- 1. ゲート
- 2. T₂
- 3. T₁

TT-2



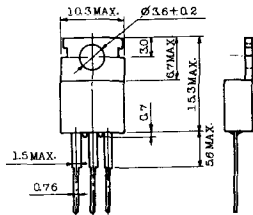
- 1. T₁
- 2. ゲート
- 3. T₂

TT-3



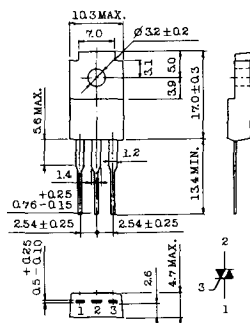
- 1. T₁
- 2. T₂
- 3. ゲート

TT-4



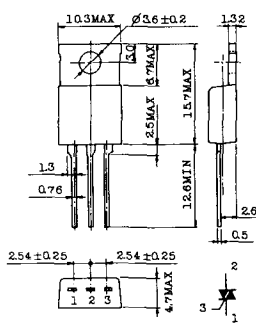
- 1. T₁
- 2. T₂
- 3. ゲート

TT-5



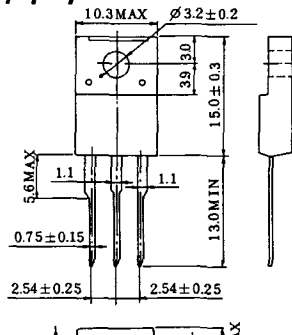
- 1. T₁
- 2. T₂
- 3. ゲート

TT-6



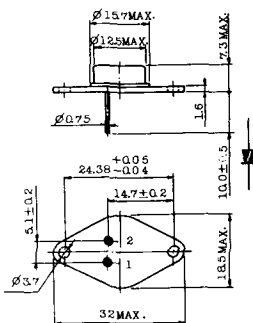
- 1. T₁
- 2. T₂ (放熱板)
- 3. ゲート

TT-7



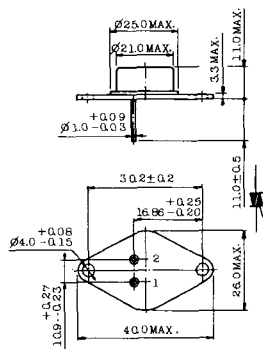
- 1. T₁
- 2. T₂
- 3. ゲート

TT-8



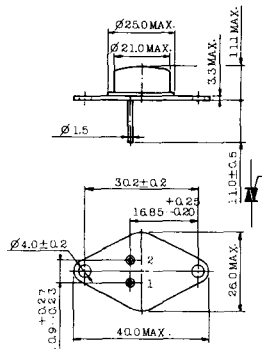
- 1. ゲート
- 2. T₁
- T₂ (ケース)

TT-9



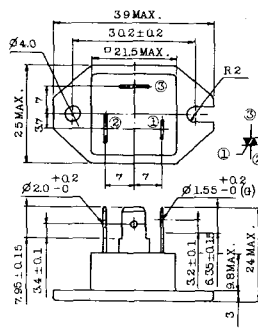
1. ゲート
2. T₁
3. T₂ (ケース)

TT-10



1. ゲート
2. T₁
3. T₂ (ケース)

TT-11



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

TT-12



ゲート端子詳細

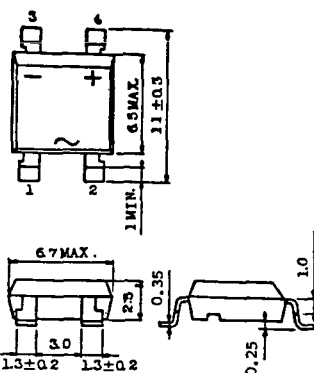
- ① ゲート (フーストン端子 #187)
- ② T₁ (" #250)
- ③ T₂ (" #250)

TT-13



- 1, 2: T₂
- 3: GATE
- 4: T₁

TT-14



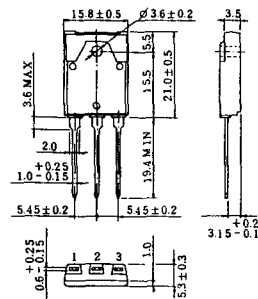
- 1, 2: T₂
- 3: GATE
- 4: T₁

TT-15 (13-14A1B)



1. ゲート
2. T₁
- T₂ (ケース)

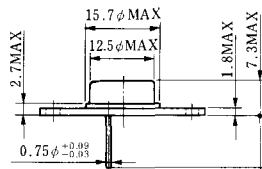
TT-16 (13-16A1A)



1. T₁
2. T₂
3. ゲート



TS-8



- 1. ベース
- 2. エミッタ
コレクタ
(ケース)

S-62A1A



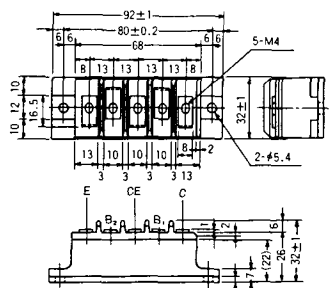
S-80A1A



S-88D1A



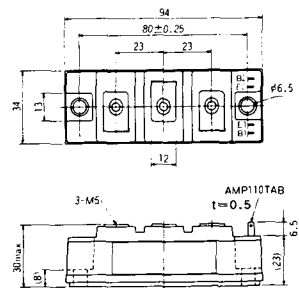
S-92B1A



S-94B1A



S-94B1B



S-94B2A



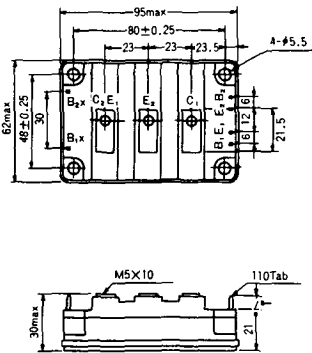
S-94D1A



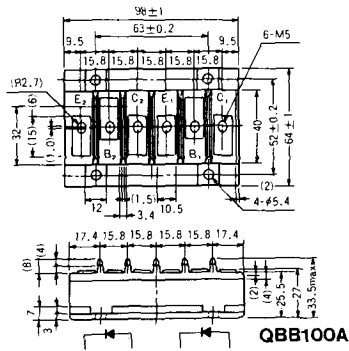
S-95A1A



S-95B1A



S-98B1B



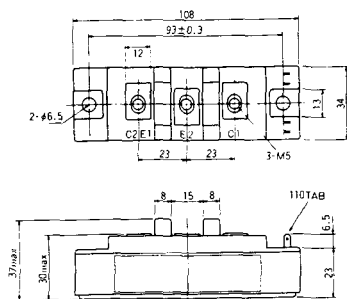
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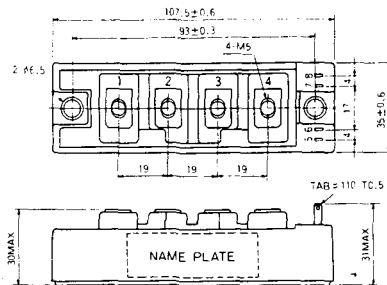
S-108B1A



S-108B1B



S-108B1C



S-108B2A



S-108B2B



2-22B1A



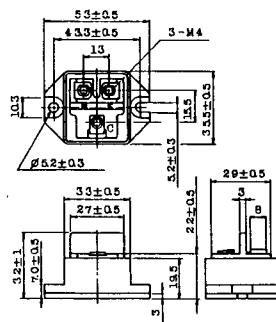
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2-33C1A



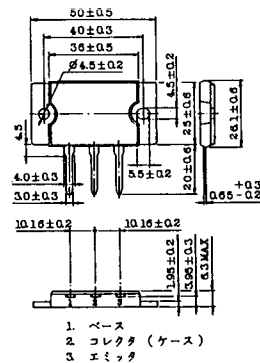
2-33D1A



2-33F1A



2-37A1A



1. スイス
2. コレクタ (ケース)
3. ハミツナ

2-48A3A



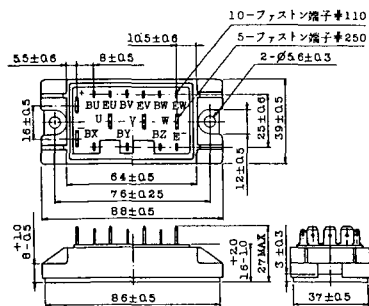
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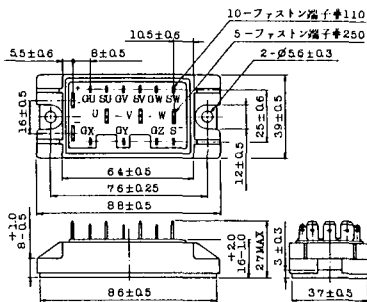
2-48A4A



2-64A2A



2-64A2B



2-68A2A



2-68B2A



2-68C1A



2-68D2A



2-72A3A



2-80A1A



2-80B1A



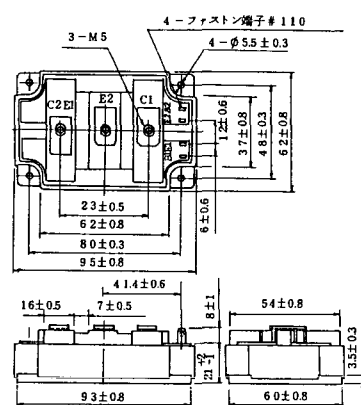
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2-96A3A



2-96A4A



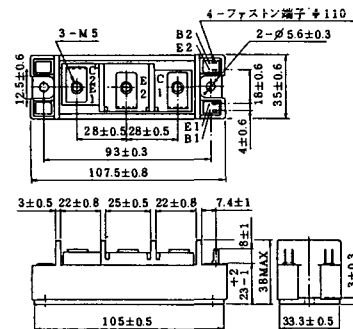
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2-98C2A



2-108A2A



2-108B1A



2-109A3A



2-109A4A



2-109B3A

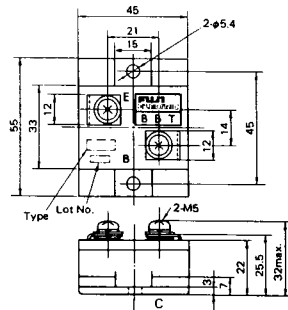


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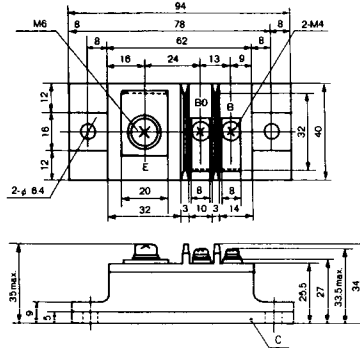
BBT-II

BBTII
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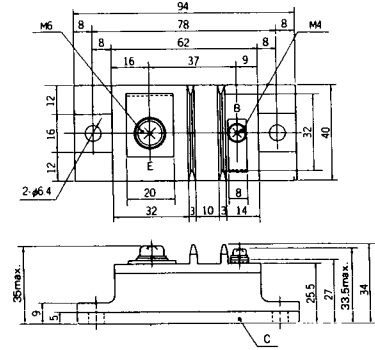
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BBTIII
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ETM36-030
ETN36-030
ETN35-030



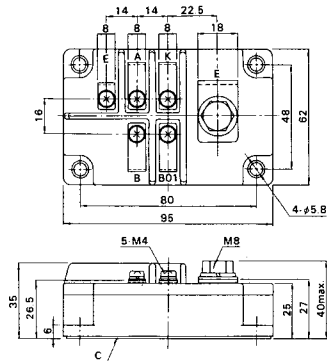
BBT-III

BBTIII
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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



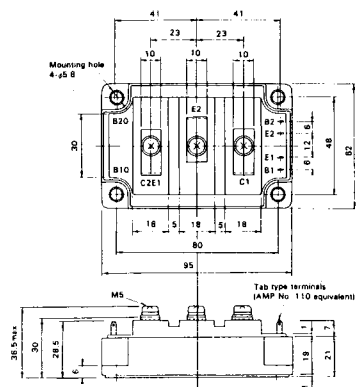
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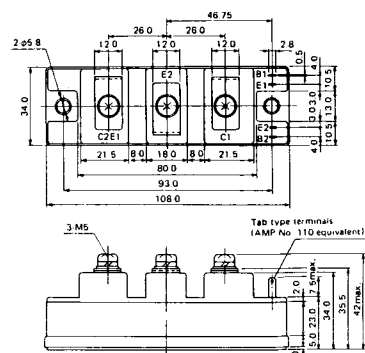
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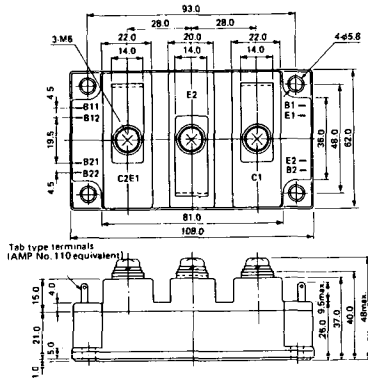
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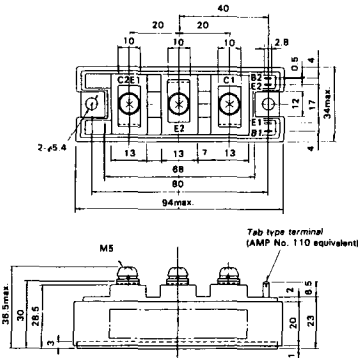
M-206



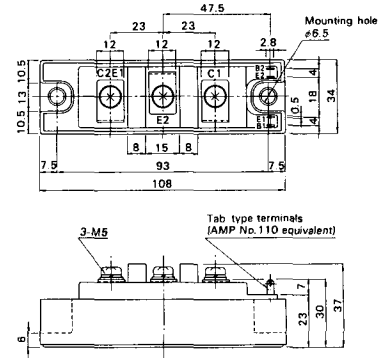
M-207



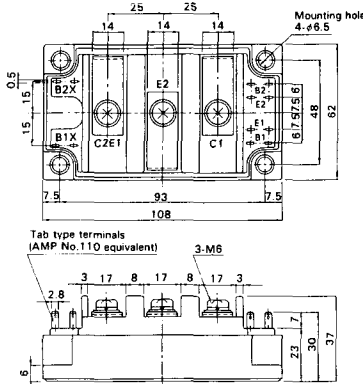
M-208



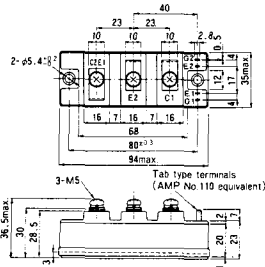
M-209



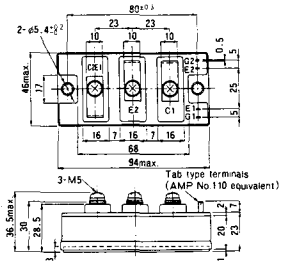
M-210



M-211



M-212



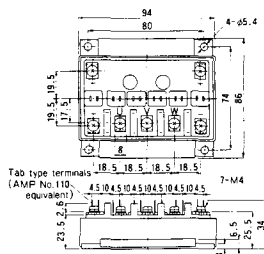
M-219



M-607



M-608



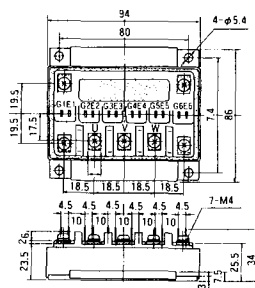
M-609



M-610



M-616



M-1A1A



M-2A1A



M-2B1A



M-2B2A



M-2C2A



M-2D4A



M-3C1A



M-3D6A



M-3E6A



M-4A1A



M-4A2A



M-4A1B



M-4A2B



M-4B2A



M-5A1A



M-5A1B



M-5A2A



M-5B2A



M-5C2A



M-5D2A



M-6A1A



M-7A1A



M-7B1A



M-8A1A



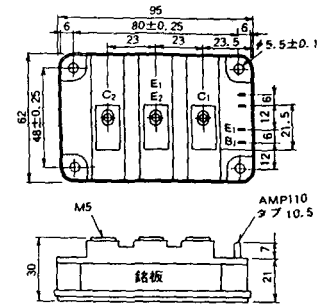
M-8A1B



M-8A2A



M-8A2B



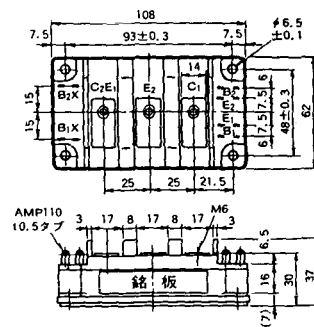
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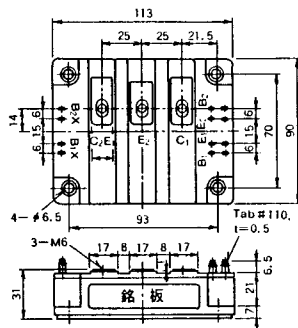
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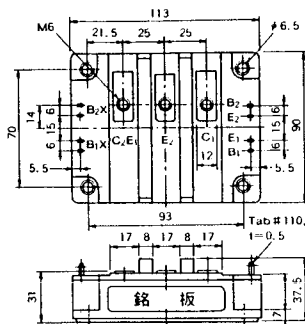
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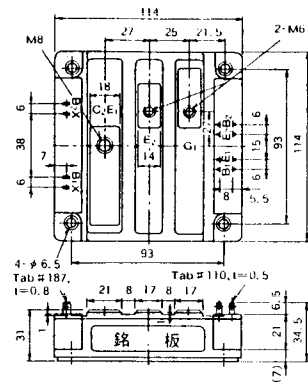
M-10A2A



M-10A2B



M-11A2A



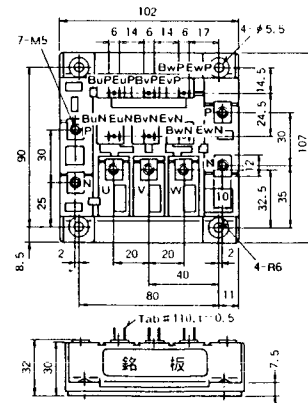
M-12A6A



M-12B6A



M-12B6B



M-9D2B



M-10A2C



H-101



Weight :480g

H-201



Weight: 200g

H-202



Weight: 360g

LF-J



LF-K

