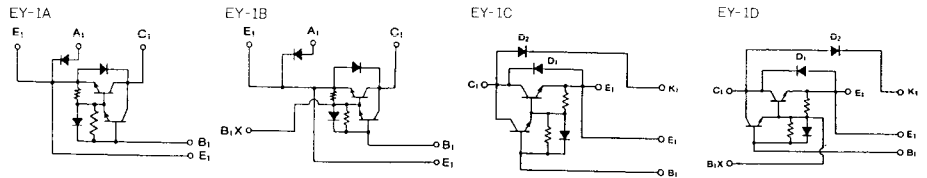


トランジスタ・モジュール [NPN, 1アーム (DCチョップ用)]

- DCチョップ用
- 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認定済

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

■等価回路

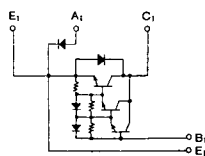


注1. $I_c = 1A$, $V_{EB} = 2V$, #印は V_{CEX} ($V_{EB} = 2V$)。 注2. 60Hz, 単相半波1サイクル波高値。 注3. $T_c = 25^\circ C$ 。 注4. AC, 1分間。

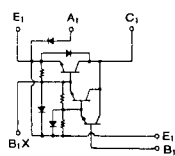
型名	最大定格 (T _J = 25°C)										電気的特性										
	V _{CEO}	V _{CEX (SUS)}	V _{EB0}	I _c	I _B	I _F	I _{FM}	P _C	T _J	T _{max}	V _{iso}	I _{CEX}		I _{EB0}		V _{CEO (SUS)}		h _{FE}			
	(V)	(注1) (V)	(V)	(A)	(A)	(A)	(A)	(W)	(°C)	(°C)	(V)	最大 (mA)	V _{CE} (V)	V _{EB} (V)	最大 (mA)	V _{EB} (V)	最小 (V)	I _c (A)	最小	V _{CE} (V)	I _c (A)
QM30E2Y-H	600	600	7	30	1.8	30	600	250	150	-40~125	2500	1	600	2	200	7			75/100	2/5	30
QM30E2Y-2H	1000	1000	7	30	2.0	30	600	310	150	-40~125	2500	1	1000	2	200	7			75/100	2.8/5	30
QM30E3Y-H	600	600	7	30	1.8	30	600	250	150	-40~125	2500	1	600	2	200	7			75/100	2/5	30
QM30E3Y-2H	1000	1000	7	30	2.0	30	600	310	150	-40~125	2500	1	1000	2	200	7			75/100	2.8/5	30
QM50E2Y-H	600	600	7	50	3.0	50	500	310	150	-40~125	2500	1	600	2	200	7			75/100	2/5	50
QM50E2Y-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
QM50E3Y-H	600	600	7	50	3.0	50	500	310	150	-40~125	2500	1	600	2	200	7			75/100	2/5	50
QM50E3Y-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
QM75E2Y-H	600	600	7	75	4.5	75	750	350	150	-40~125	2500	1	600	2	200	7			75/100	2/5	75
QM75E2Y-2H	1000	1000	7	75	4.0	75	750	500	150	-40~125	2500	1	1000	2	100	7			75/100	2.8/5	75
QM75E3Y-H	600	600	7	75	4.5	75	750	350	150	-40~125	2500	1	600	2	200	7			75/100	2/5	75
QM75E3Y-2H	1000	1000	7	75	4.0	75	750	500	150	-40~125	2500	1	1000	2	100	7			75/100	2.8/5	75
QM100E2Y-H	600	600	7	100	6.0	100	1000	620	150	-40~125	2500	2	600	2	300	7			75/100	2/5	100
QM100E2Y-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
QM100E3Y-H	600	600	7	100	6.0	100	1000	620	150	-40~125	2500	2	600	2	300	7			75/100	2/5	100
QM100E3Y-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
QM150E2Y-H	600	600	7	150	9.0	150	1500	690	150	-40~125	2500	2	600	2	150	7			75/100	2/5	150
QM150E2Y-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
QM150E3Y-H	600	600	7	150	9.0	150	1500	690	150	-40~125	2500	2	600	2	150	7			75/100	2/5	150
QM150E3Y-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

■スイッチング時間測定回路

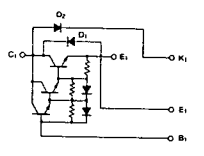
EY-2A



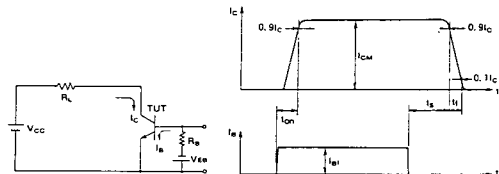
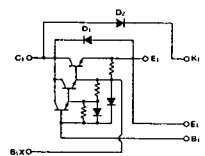
EY-2B



EY-2C

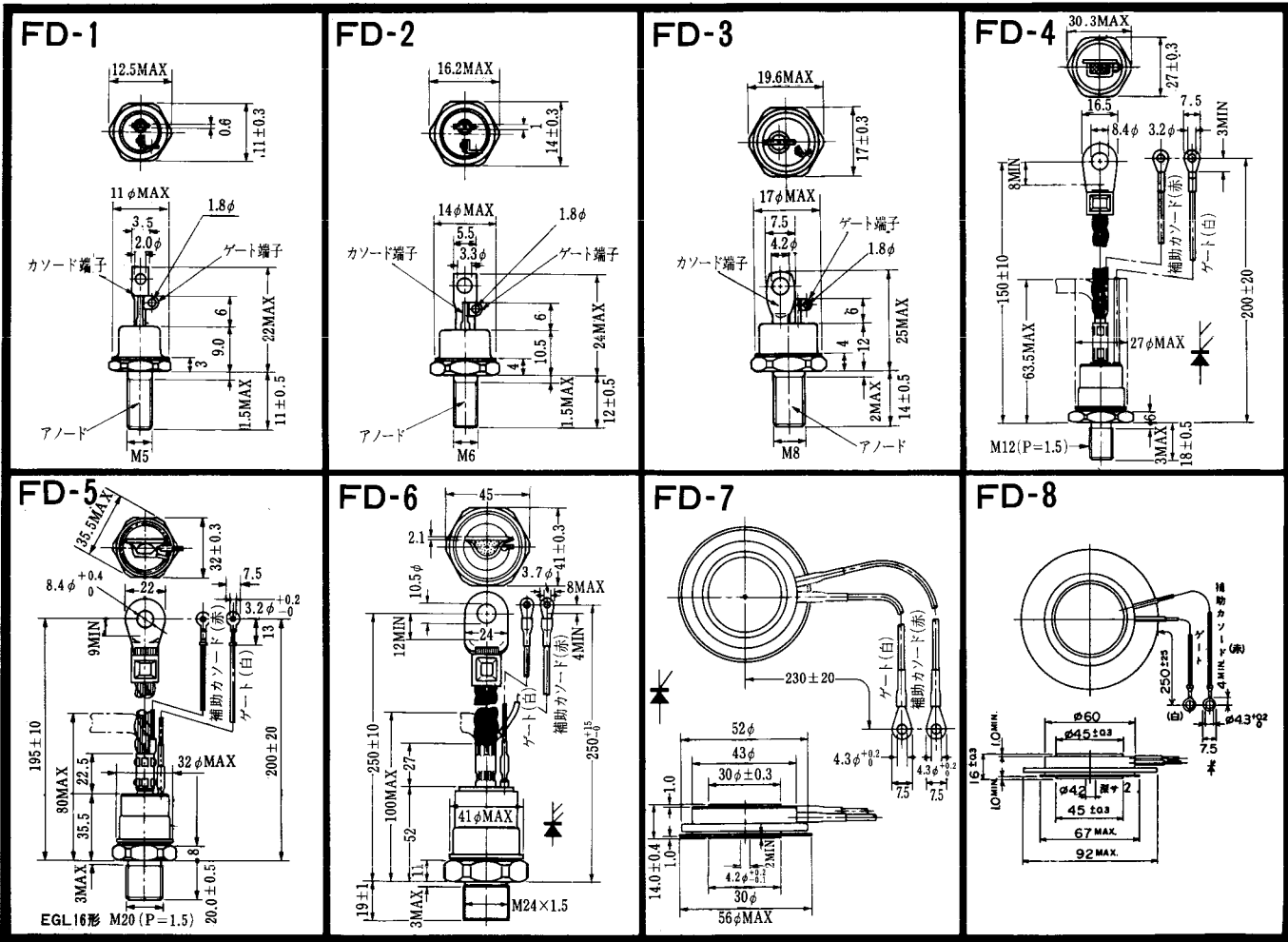


EY-2D

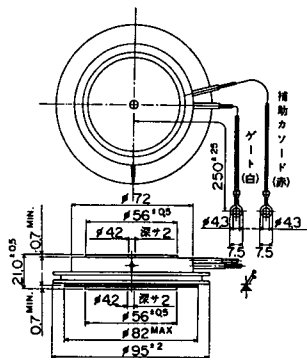


ベース信号

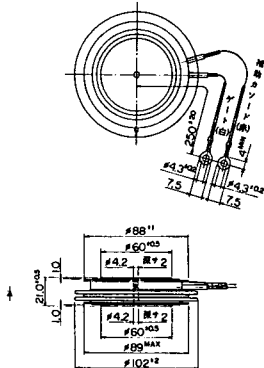
飽和電圧 (V)				スイッチング時間 (μs)						エミッタ・コレクタ間ダイオード					熱抵抗		等価回路	外形図	記事	型名
V _{CE}	V _{BE}	I _c	I _B	t _{on}	t _{off}	t _f	I _{B1}	I _{B2}	V _{CC}	I _c	V _F	t _{rr}		θ _{J-c} (°C/W)						
												I _F	V _R	di/dt	トランジスタ部	ダイオード部				
最大	最大	(A)	(A)	最大	最大	最大	(A)	(A)	(V)	(A)	最大	(A)	最大	(V)	(A/μs)	最大	最大			
2.0	2.5	30	0.4	1.5	12	3.0	0.6	-0.6	300	30	1.85	30				0.5	2.0	EY-1A	M-4A1B	QM30E2Y-H
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	EY-2A	M-4A1B	QM30E2Y-2H
2.0	2.5	30	0.4	1.5	12	3.0	0.6	-0.6	300	30	1.85	30				0.5	2.0	EY-1C	M-4A1B	QM30E3Y-H
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	EY-2C	M-4A1B	QM30E3Y-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	EY-1A	M-4A1B	QM50E2Y-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	EY-2A	M-4A1B	QM50E2Y-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	EY-1C	M-4A1B	QM50E3Y-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	EY-2C	M-4A1B	QM50E3Y-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	EY-1A	M-4A1B	QM75E2Y-H
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	EY-2A	M-5A1B	QM75E2Y-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	EY-1C	M-4A1B	QM75E3Y-H
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	EY-2C	M-5A1B	QM75E3Y-2H
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	EY-1B	M-8A1B	QM100E2Y-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	EY-2B	M-9A1A	QM100E2Y-2H
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	EY-1D	M-8A1B	QM100E3Y-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	EY-2D	M-9A1A	QM100E3Y-2H
2.0	2.5	150	2.0	2.5	12	3.0	3.0	-3.0	300	150	1.85	150				0.18	0.6	EY-1B	M-8A1B	QM150E2Y-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	EY-2B	M-9A1A	QM150E2Y-2H
2.0	2.5	150	2.0	2.5	12	3.0	3.0	-3.0	300	150	1.85	150				0.18	0.6	EY-1D	M-8A1B	QM150E3Y-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	EY-2D	M-9A1A	QM150E3Y-2H



FD-9

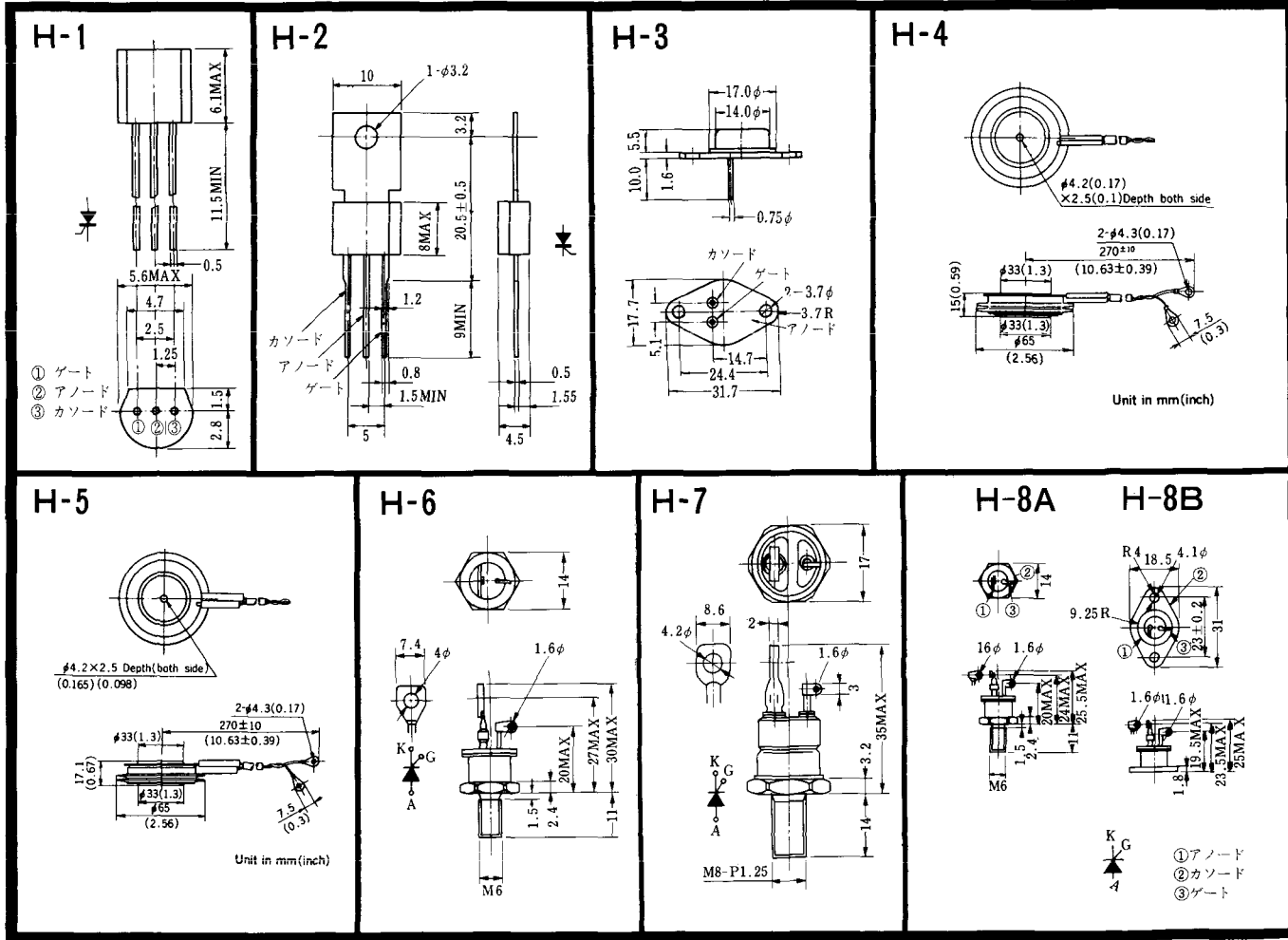


FD-10

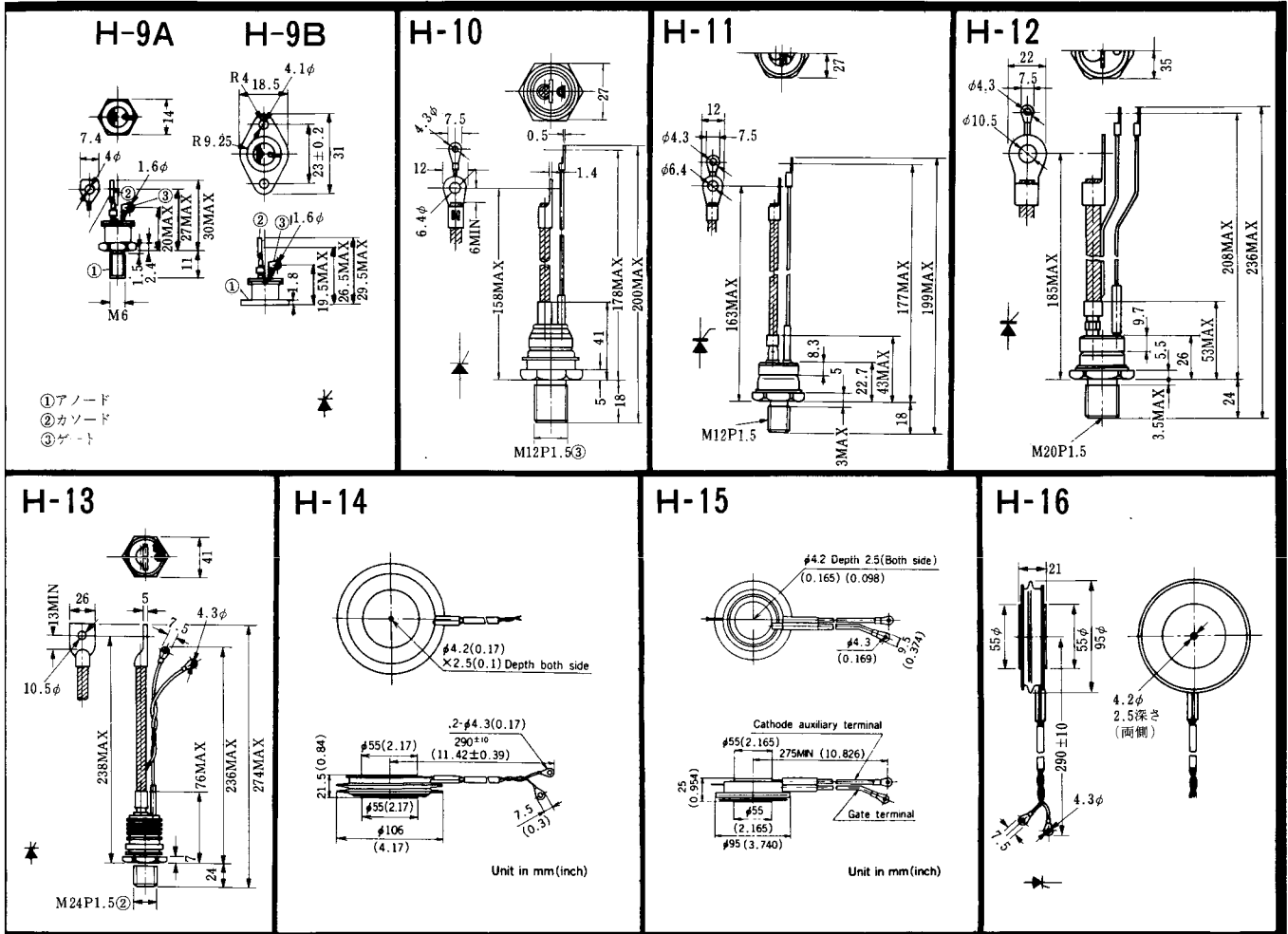


FD-11

FD-12

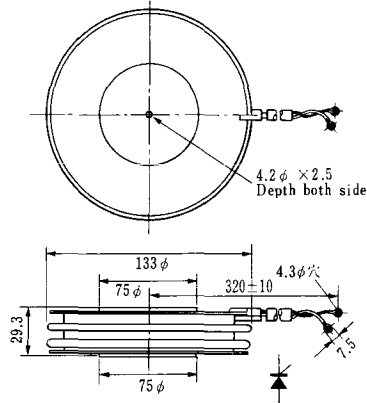


〈寸法図単位：mm〉



〈寸法図単位：mm〉

H-17



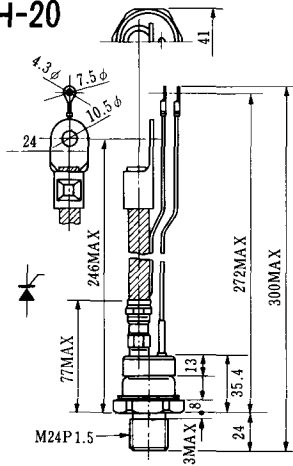
H-18



H-19



H-20



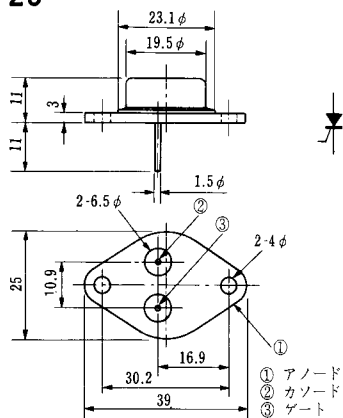
H-21



H-22



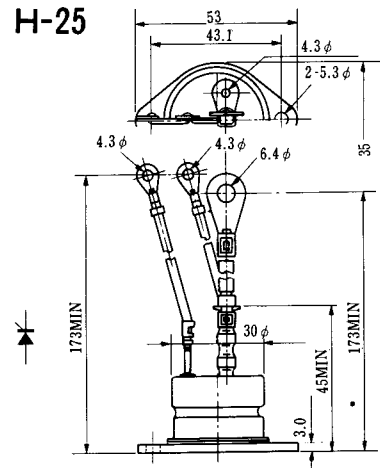
H-23



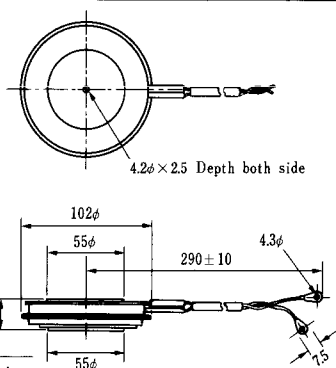
H-24



H-25

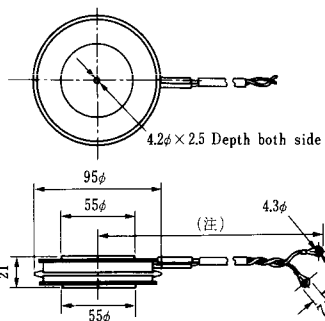


H-26



Type	Direction of polarity
CA12	

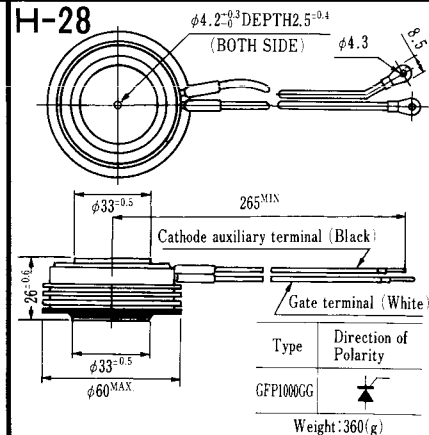
H-27



Type	Direction of polarity
CF11V	

(注) CC11V : 400 ± 10
CF11V : 250 ± 10

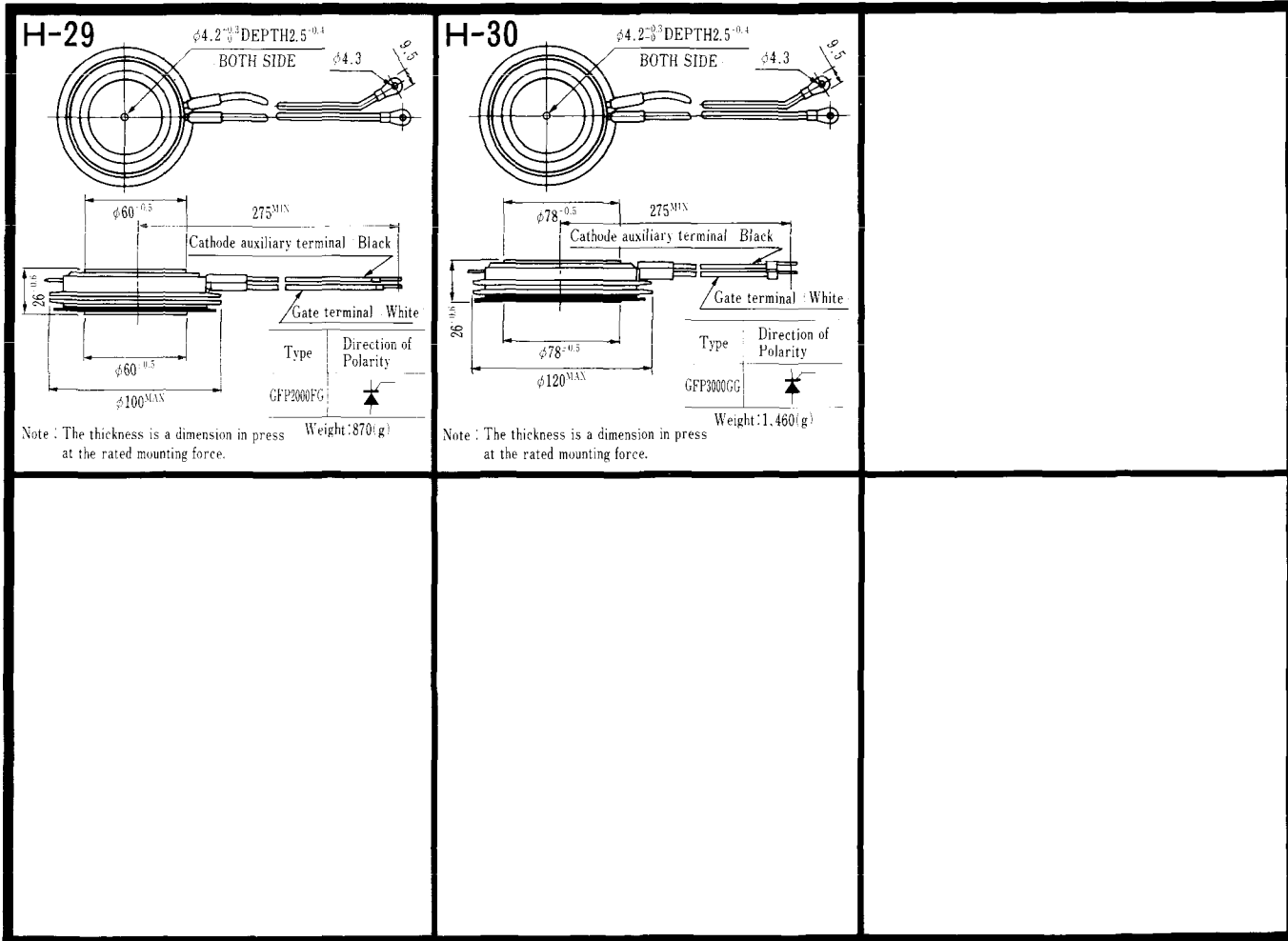
H-28



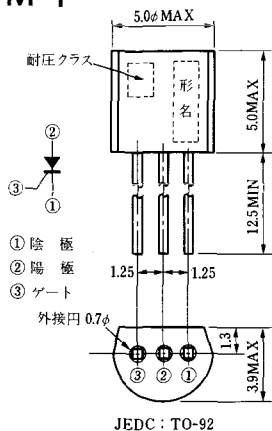
Type	Direction of Polarity
GFP100GG	

Weight: 360(g)

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



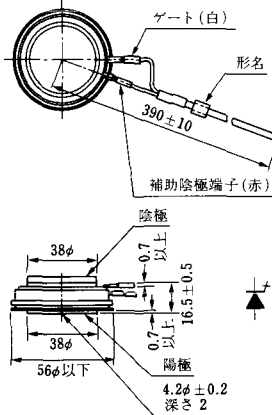
M-1



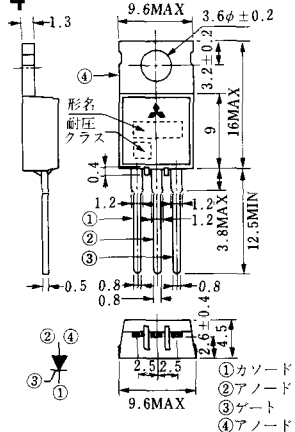
M-2



M-3



M-4



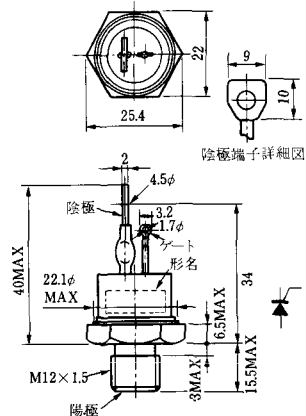
M-5



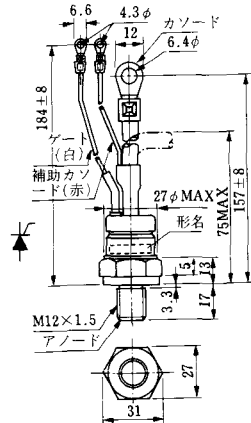
M-6

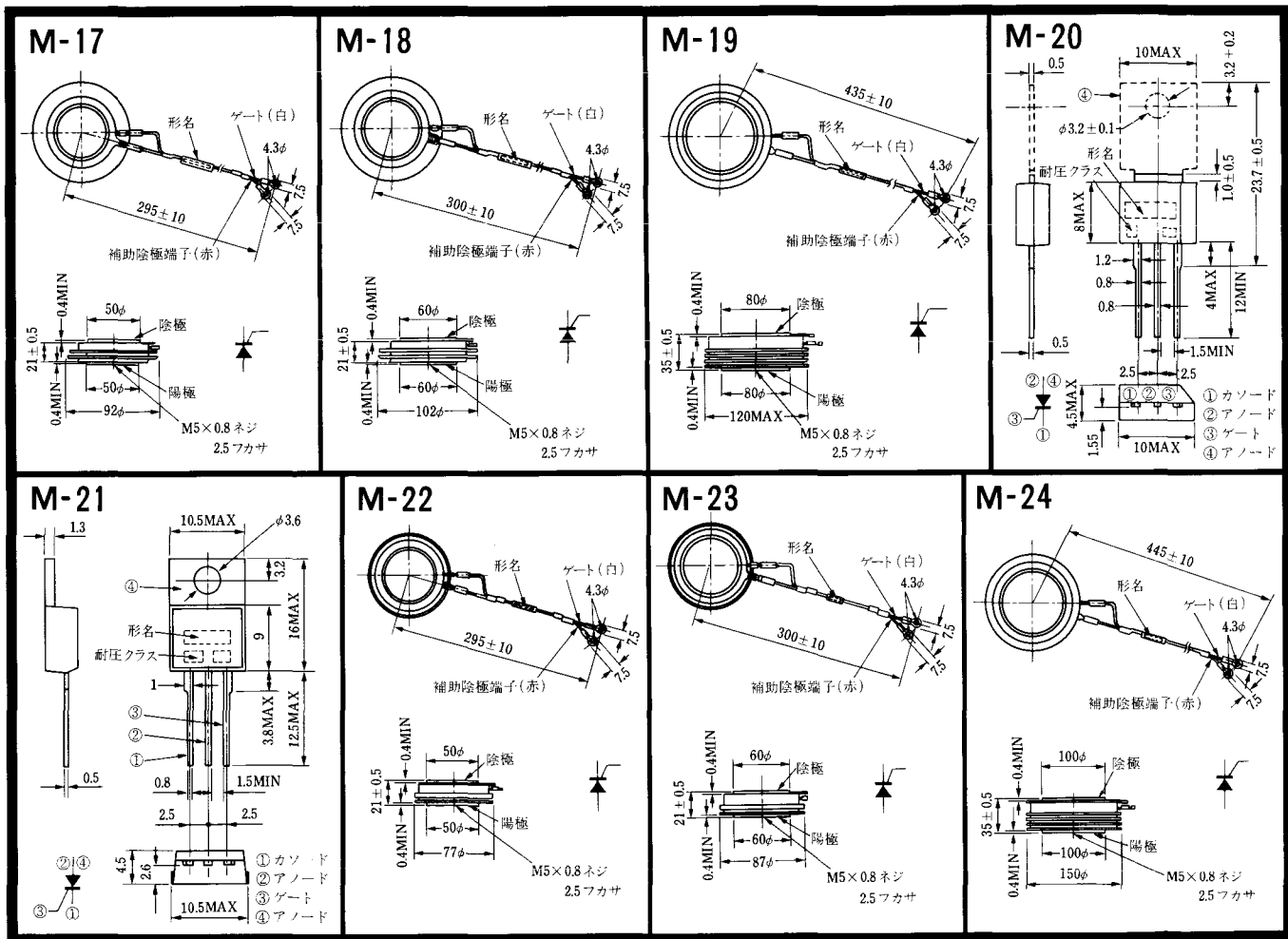


M-7



M-8





〈寸法図単位：mm〉

M-25



M-26



M-27



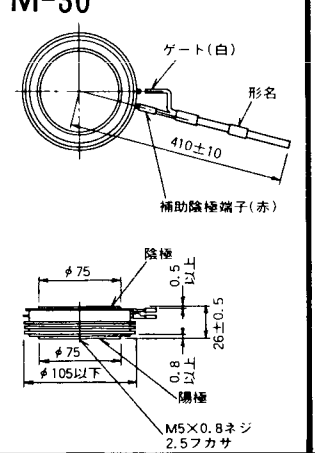
M-28



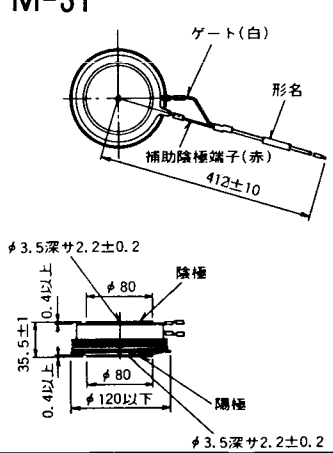
M-29



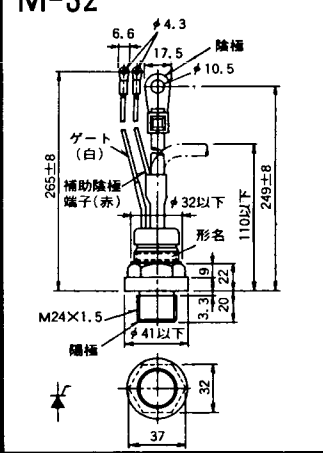
M-30



M-31

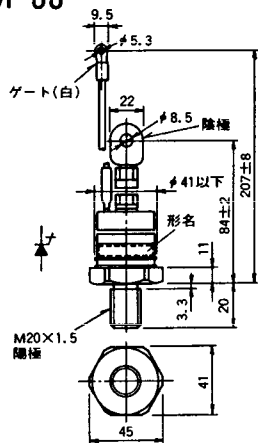


M-32



《寸法図単位：mm》

M-33



M-34



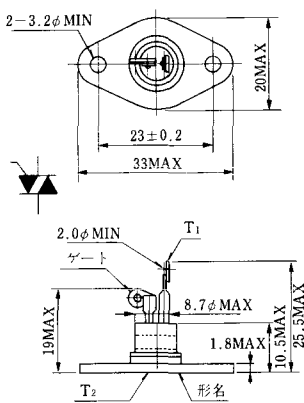
MT-8



MT-9



MT-10



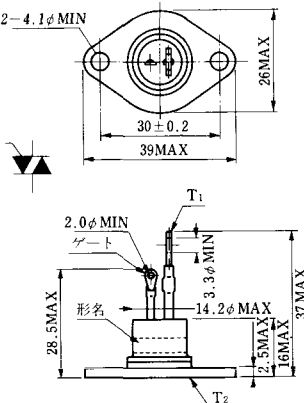
MT-11



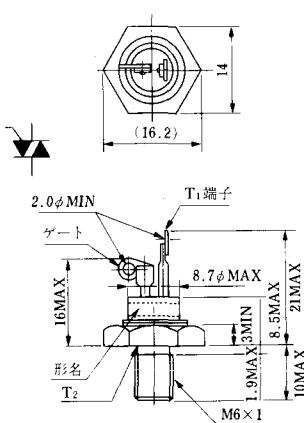
MT-12



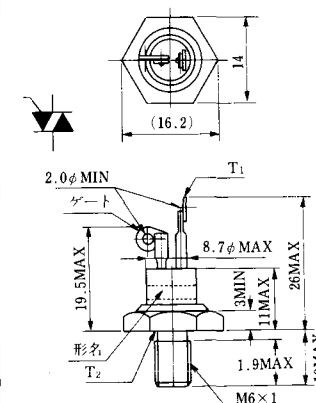
MT-13



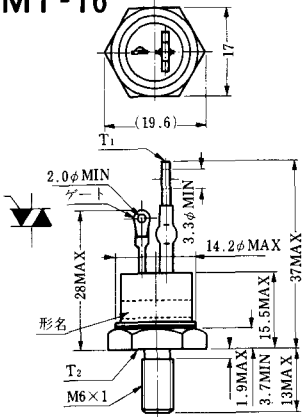
MT-14



MT-15



MT-16



MT-17



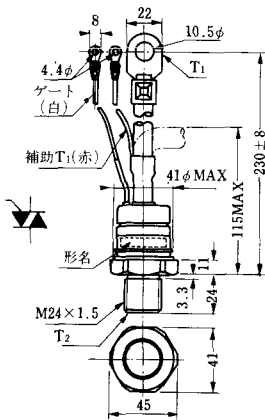
MT-18



MT-19



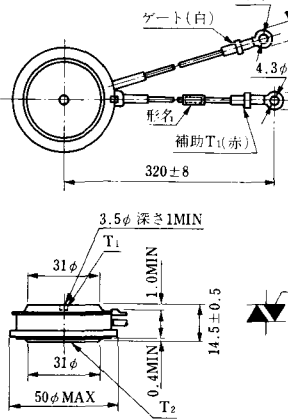
MT-20



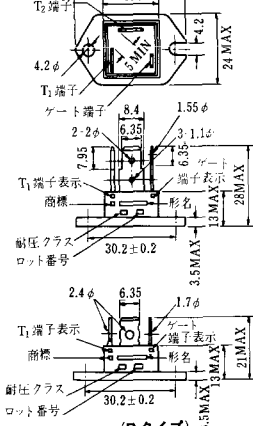
MT-21



MT-22



MT-23



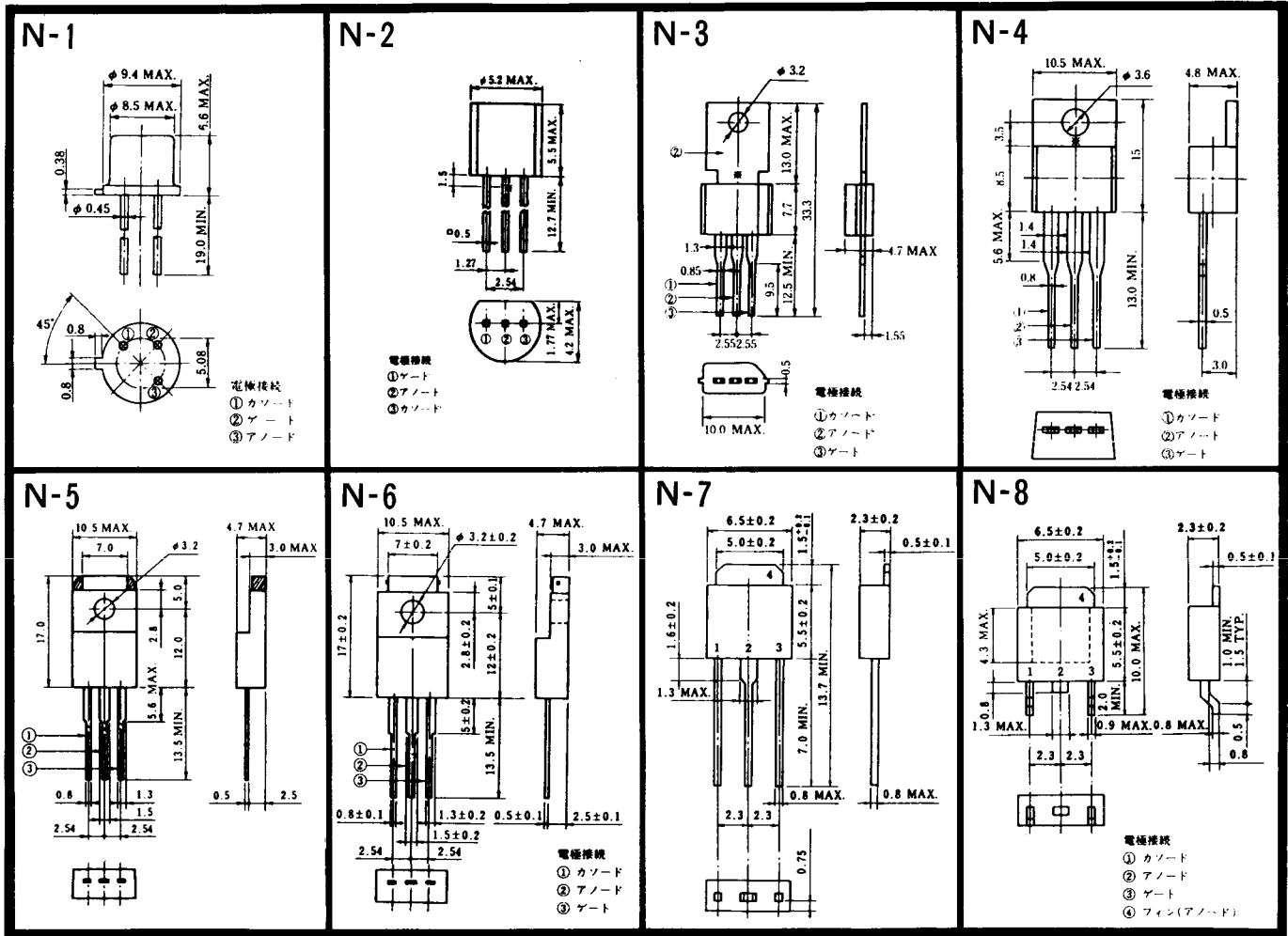
《寸法図単位：mm》

MT-24



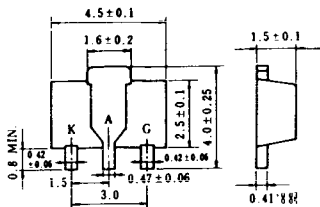
TO - 3P

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



〈寸法図単位: mm〉

N-9



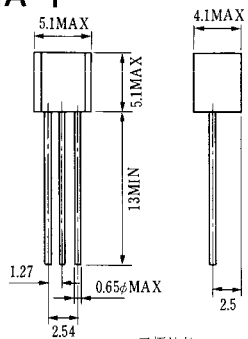
電極接続

K : カソード

A : アノード

G : ゲート

NA-1

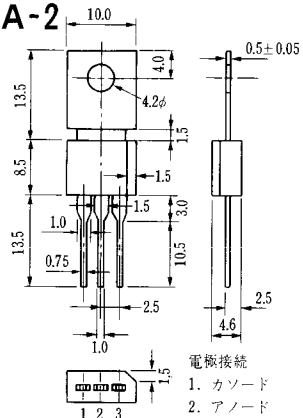


電極接続

1. ゲート
2. アノード
3. カソード

JEDEC: TO-92

NA-2

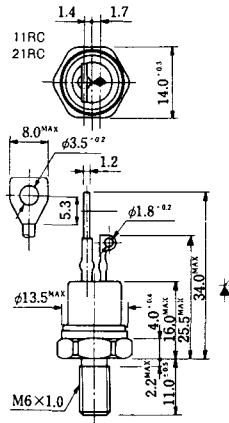


電極接続

1. カソード
2. アノード
3. ゲート

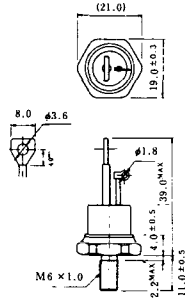
JEDEC: TO-202AA

NI-1



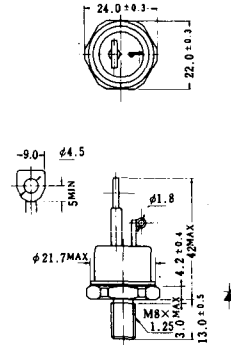
NI-2

29RD



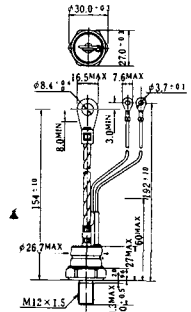
NI-3

39RC
59RC
39RF
59RF



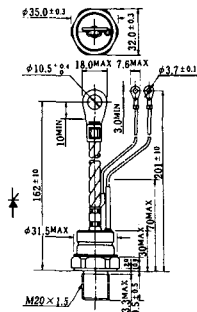
NI-4

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



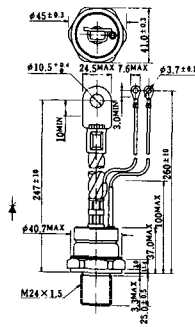
NI-5

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



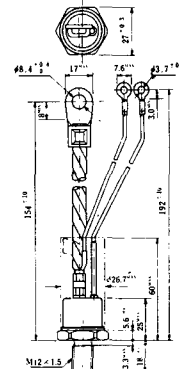
NI-6

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



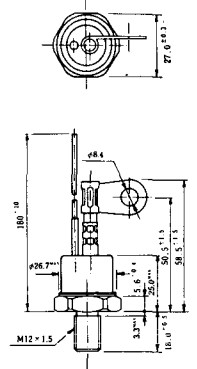
NI-7

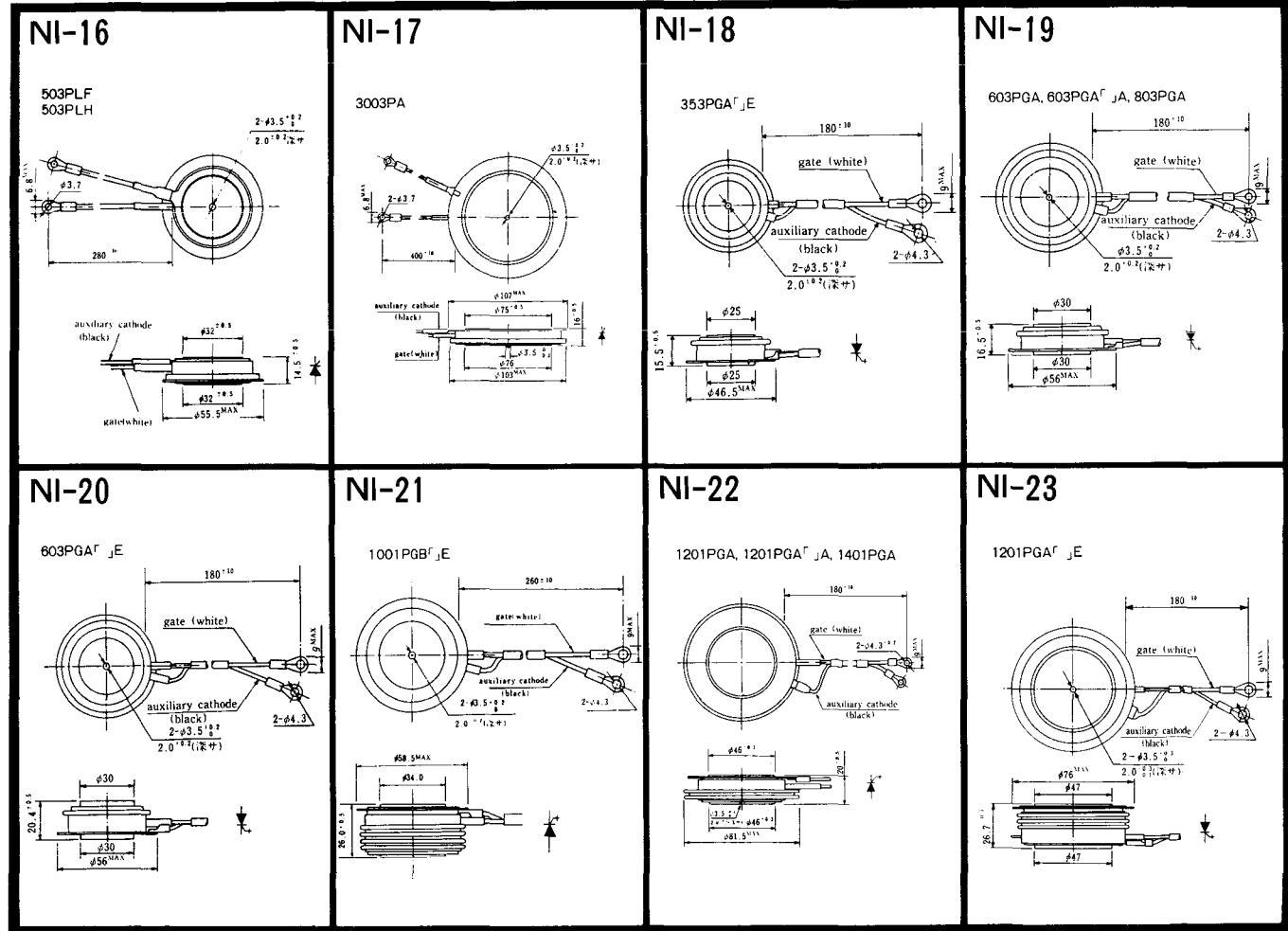
89RW_{JL}
129RW_{JL}



NI-8

89RW
129RW

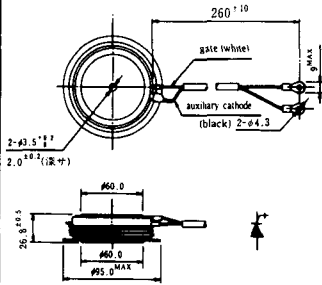




《寸法图单位:mm》

NI-24

2001PGB^r JE



NI-25

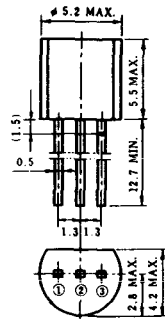
NI-26

NT-1



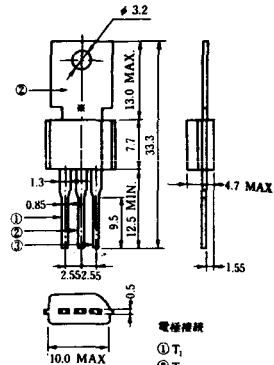
電極接続
① T₁
② ゲート
③ T₂

NT-2



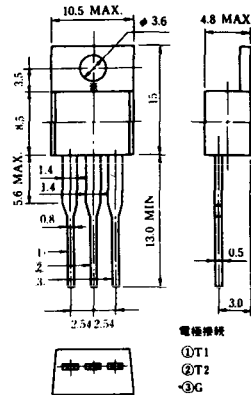
電極接続
① T₁
② ゲート
③ T₂

NT-3



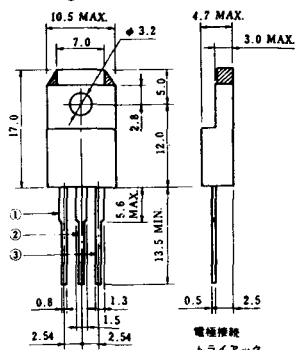
電極接続
① T₁
② T₂
③ ゲート

NT-4



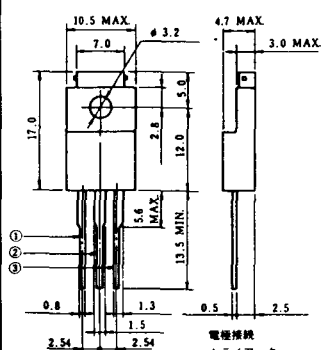
電極接続
① T₁
② T₂
③ G

NT-5



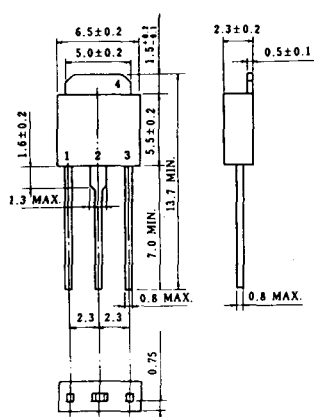
電極接続
トライアック
① T₁
② T₂
③ ゲート
④ G

NT-6

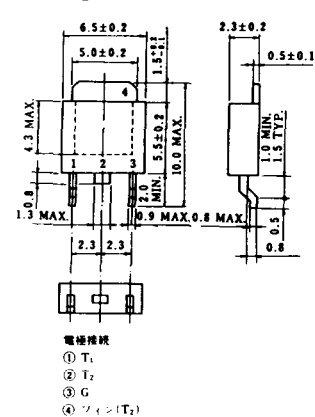


電極接続
トライアック
① T₁
② T₂
③ ゲート
④ G

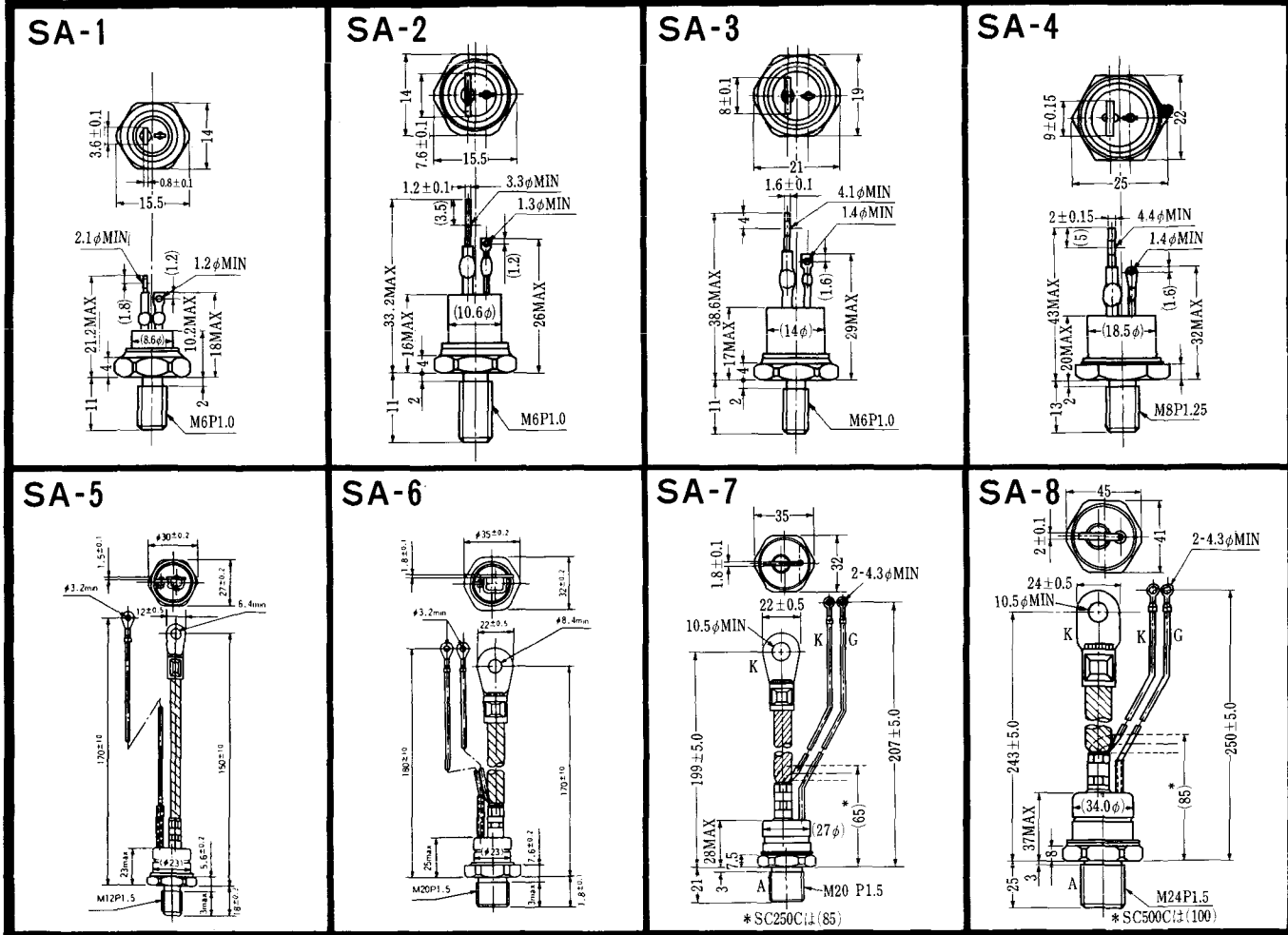
NT-7



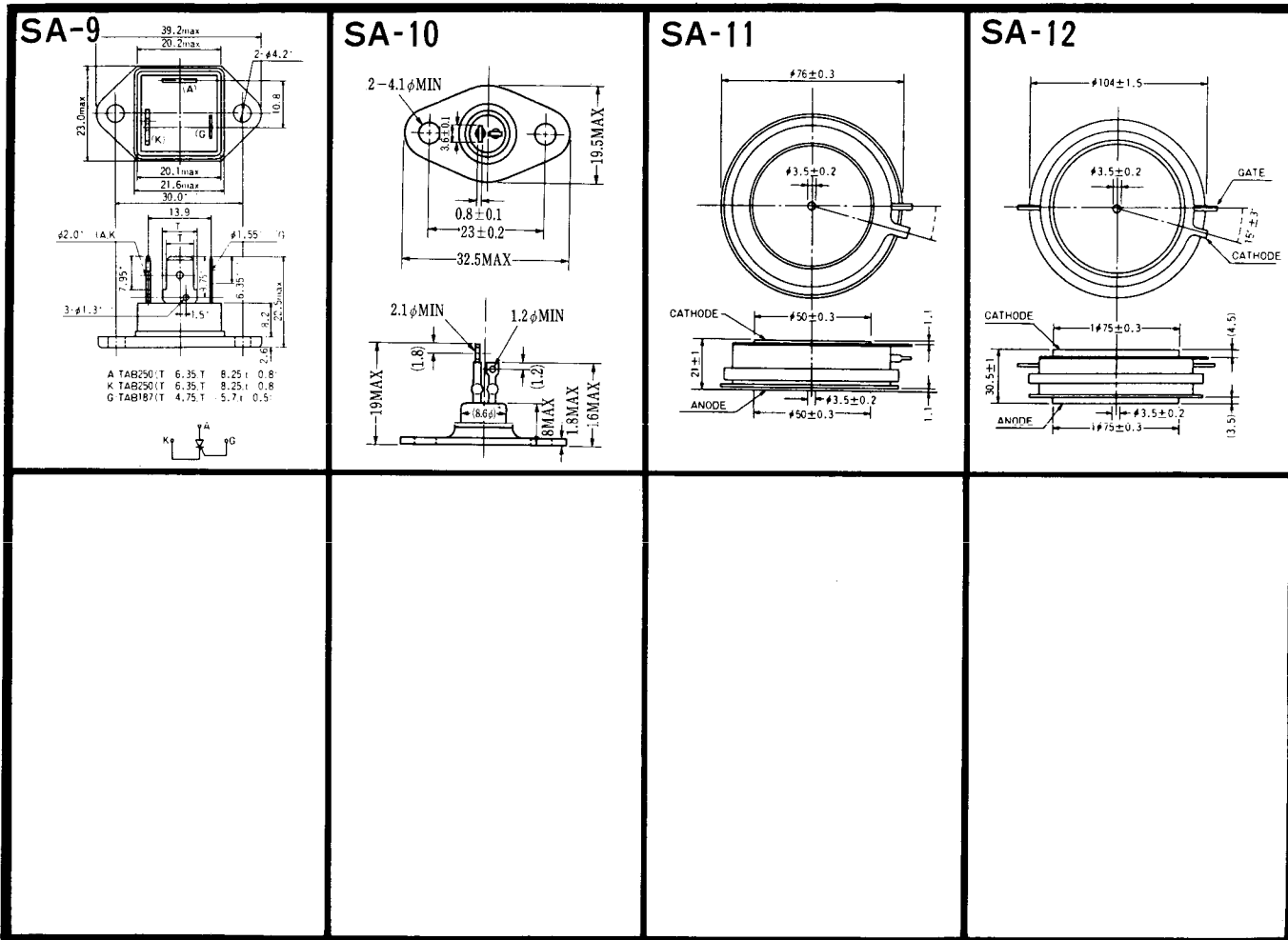
NT-8



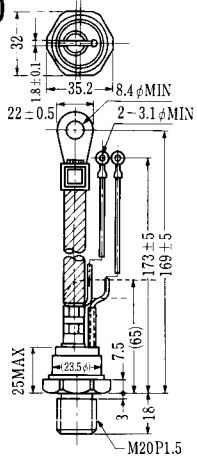
電極接続
① T₁
② T₂
③ G
④ ツイン(T₂)



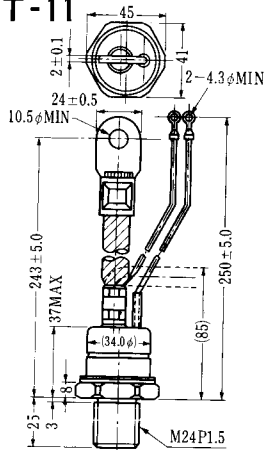
《寸法图单位:mm》



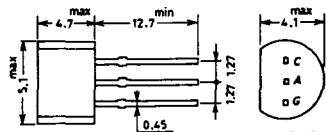
SAT-10



SAT-11



SY-1 (1096A)



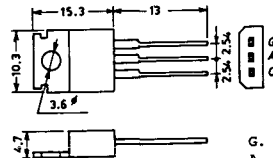
C: Cathode
A: Anode
G: Gate

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



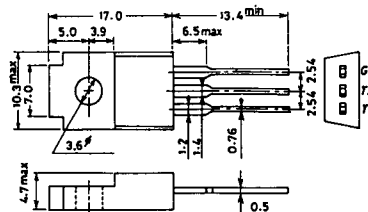
1141



1142



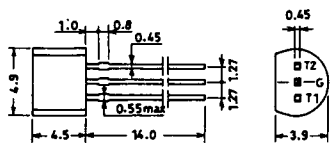
1144



1155

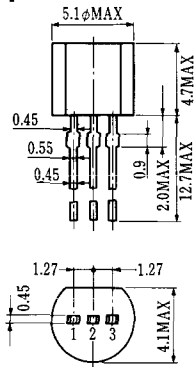


1192A



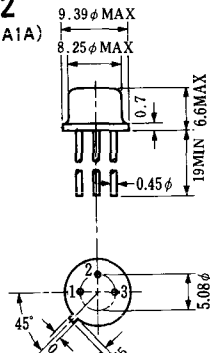
G: Gate

T-1 (13-5A1A)



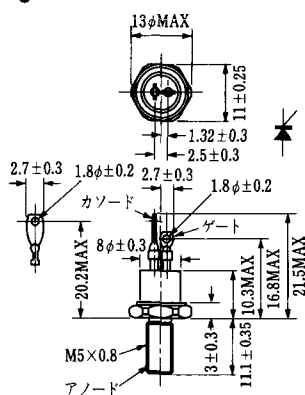
- 1 ゲート
- 2 アノード
- 3 カソード

T-2 (13-8A1A)



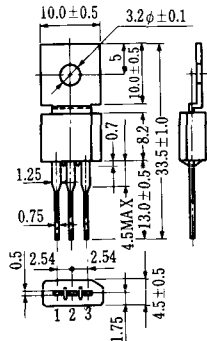
1. カソード
2. ゲート
3. アノード(ケース)

T-3 (13-8C1A)



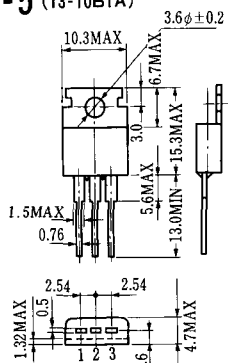
- 1 カソード
- 2 アノード
- 3 ゲート

T-4 (13-10A1A)



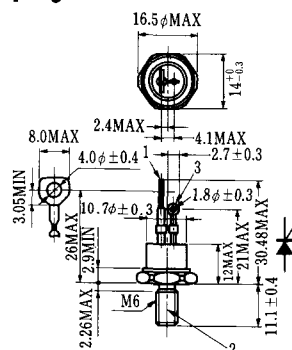
- 1 カソード
- 2 アノード
- 3 ゲート

T-5 (13-10B1A)



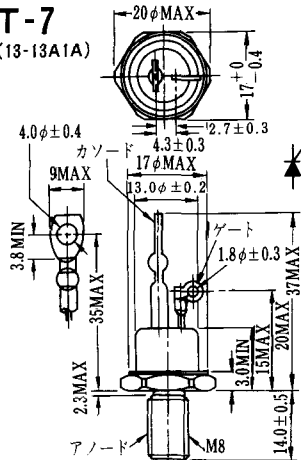
- 1 カソード
- 2 アノード
- 3 ゲート

T-6 (13-11D1A)



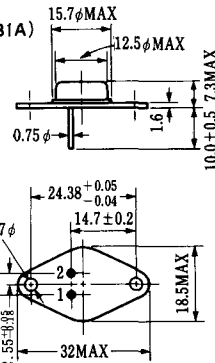
- 1 カソード
- 2 アノード
- 3 ゲート

T-7 (13-13A1A)

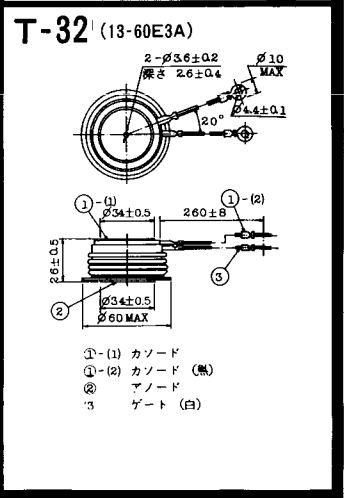
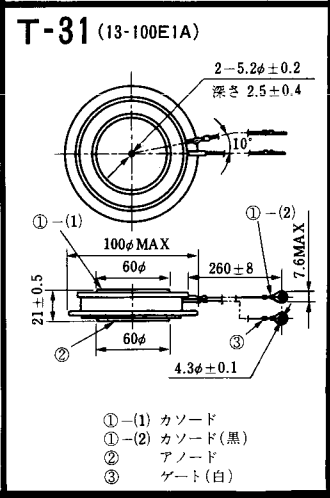
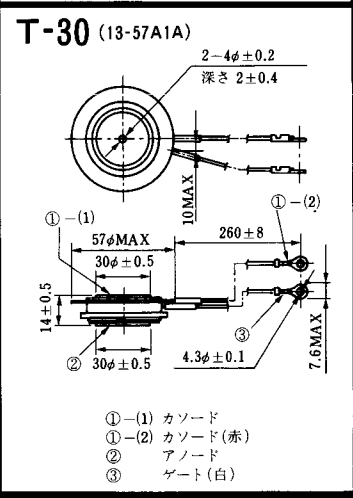
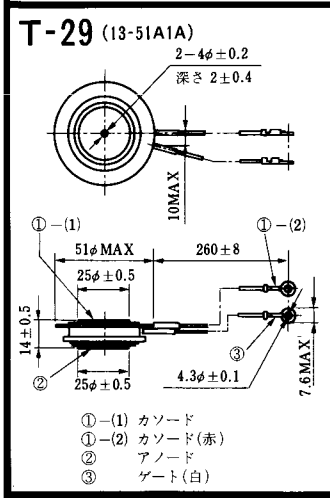
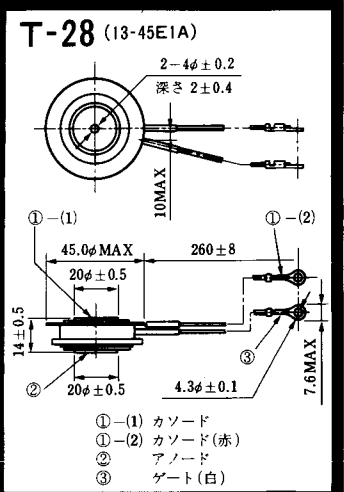
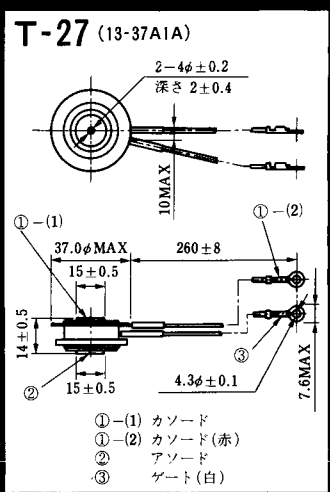
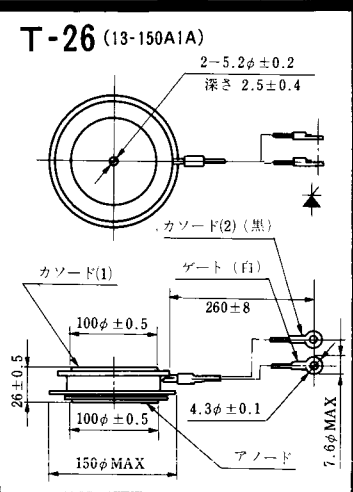
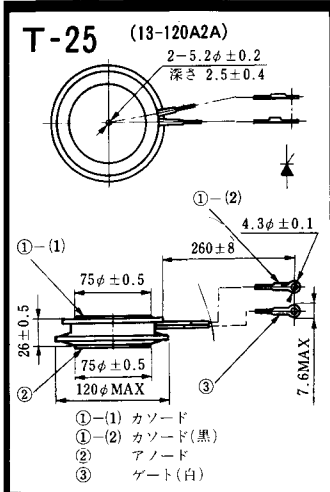


- 1 カソード
- 2 アノード
- 3 ゲート

T-8 (13-13B1A)



1. ゲート
2. カソード
3. アノード(ケース)

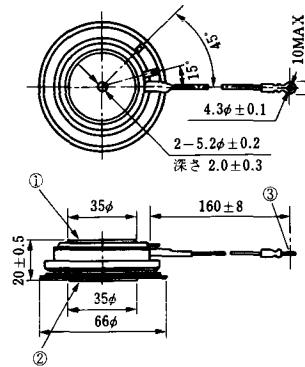


T-33 (13-78B1A)



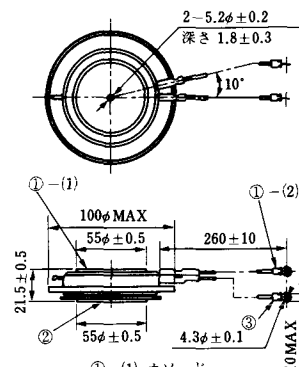
- ① カソード
- ② アノード
- ③ ゲート

T-34 (13-66A1A)



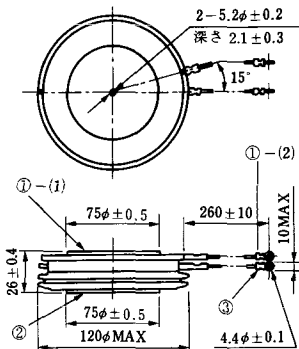
- ① カソード
- ② アノード
- ③ ゲート

T-35 (13-100D1A)



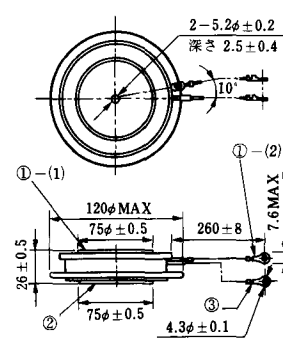
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

T-36 (13-120E1A)



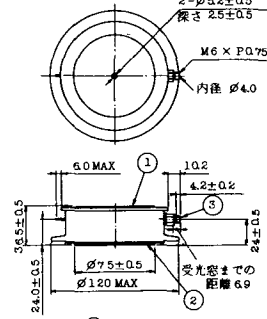
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

T-37 (13-120A1A)



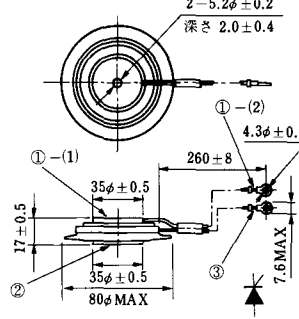
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

T-38 (13-120C1A)



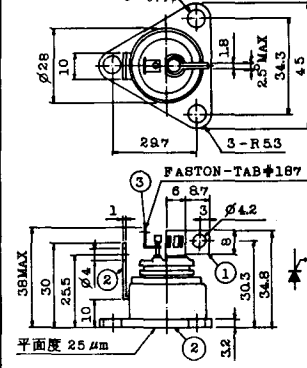
- ① カソード
- ② アノード
- ③ ゲート

T-39 (13-80B1A)



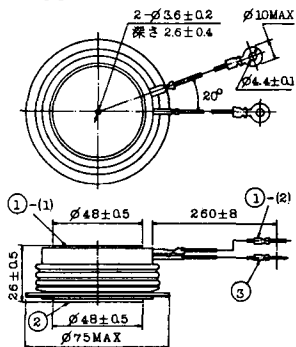
- ①-(1) カソード
- ①-(2) カソード(黒)
- ② アノード
- ③ ゲート(白)

T-40 (13-28A1A)



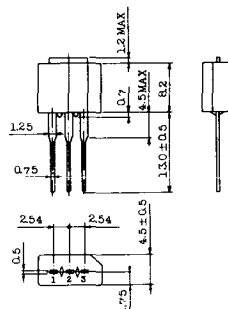
- 1. カソード
- 2. アノード
- 3. ゲート

T-49 (13-75A1A)



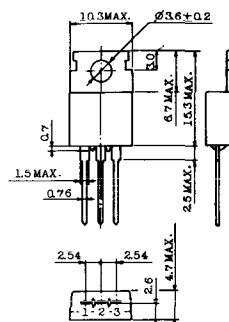
- 1-(1) カソード
- 1-(2) カソード (黒)
- 2 アノード
- 3 ゲート (白)

T-50 (13-10A3A)



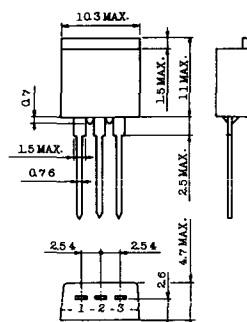
- 1 カソード
- 2 アノード
- 3 ゲート

T-51 (13-10D1A)



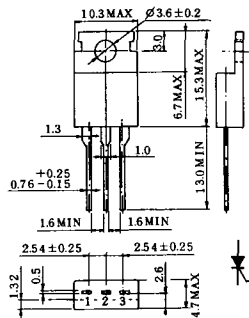
- 1 カソード
- 2 アノード
- 3 ゲート

T-52 (13-10D2A)



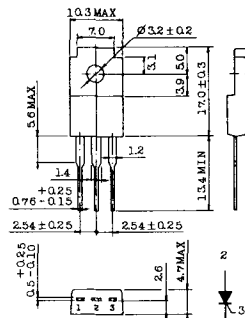
- 1 カソード
- 2 アノード
- 3 ゲート

T-53 (13-10E1B)



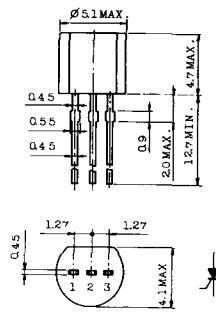
- 1 カソード
- 2 アノード
- 3 ゲート

T-54 (13-10F1B)



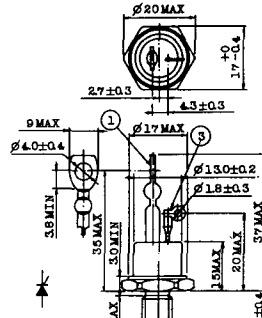
- 1 カソード
- 2 アノード
- 3 ゲート

T-55 (13-5A1D)



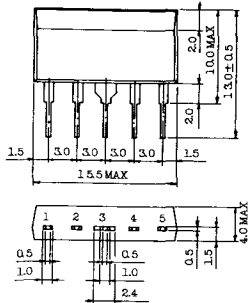
- 1 カソード
- 2 アノード
- 3 アノード

T-56 (13-13C1A)



- 1 カソード
- 2 アノード
- 3 ゲート

T-57 (12-16C1A)



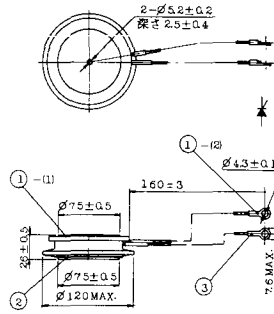
1. アノード (主)
2. ゲート (主)
3. カソード (共通)
4. ゲート (補助)
5. アノード (補助)

T-58 (13-10H1B)



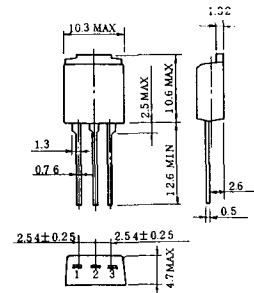
1. カソード
2. アノード
3. ゲート

T-59 (13-120A1A)



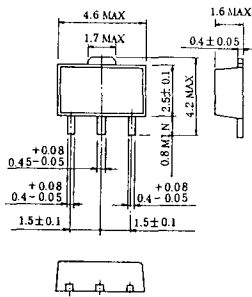
- 1-(1) カソード
- 1-(2) カソード (黒)
- 2 アノード
- 3 ゲート (白)

T-60



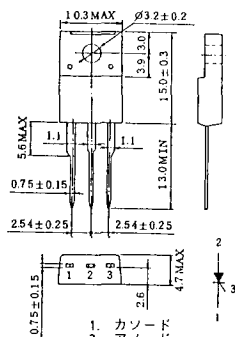
1. カソード
2. アノード
3. ゲート

T-61 (13-5B1A)



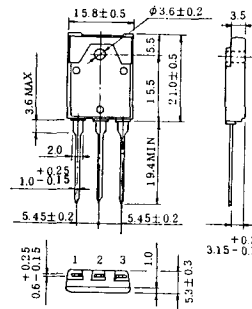
1. ゲート
2. アノード
3. カソード

T-62 (13-10H1A)

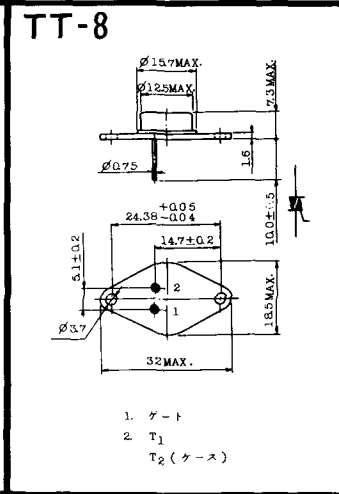
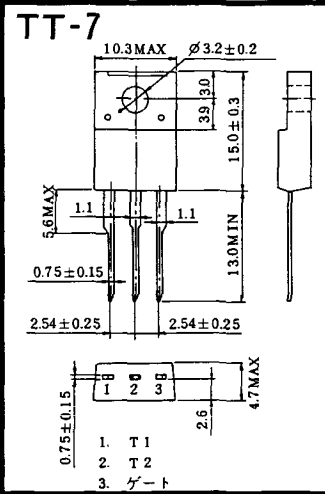
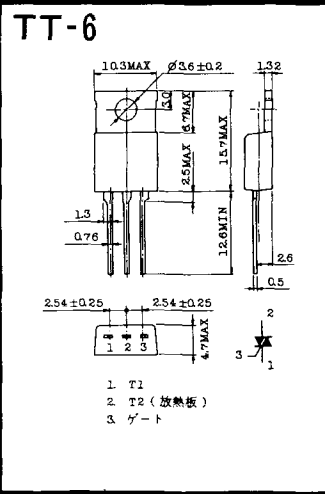
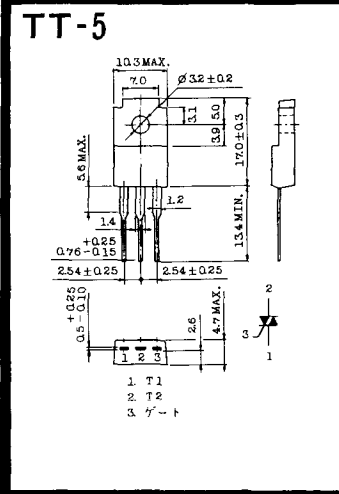
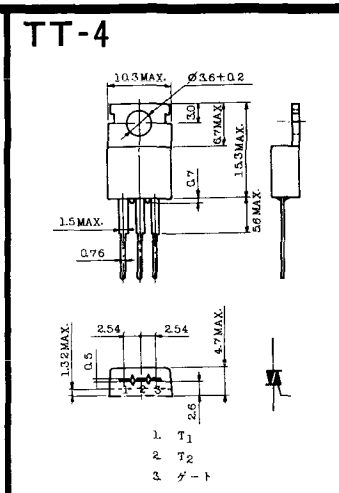
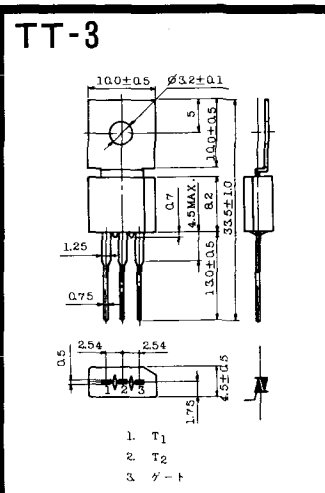
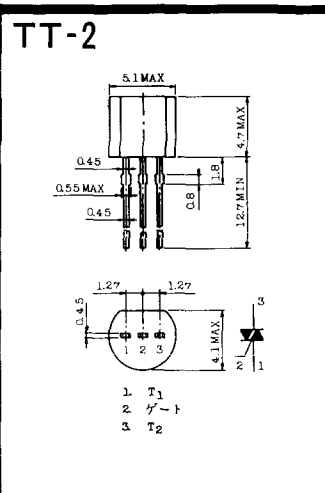
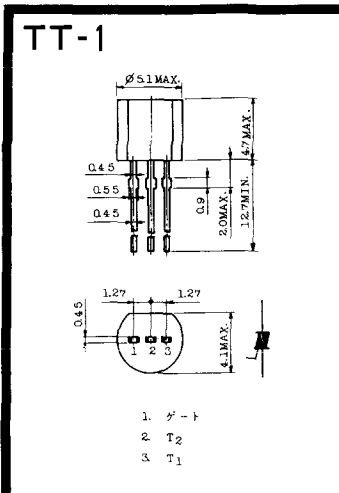


1. カソード
2. アノード
3. ゲート

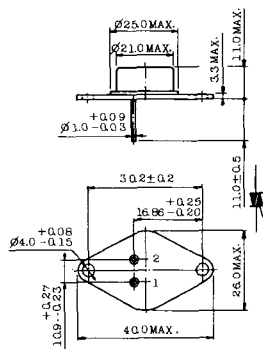
T-63 (13-16A1B)



1. カソード
2. アノード
3. ゲート

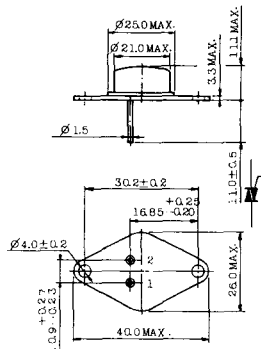


TT-9



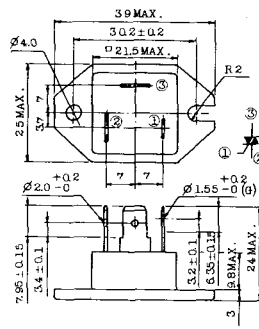
1. ゲート
2. T₁
3. T₂ (ケース)

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)

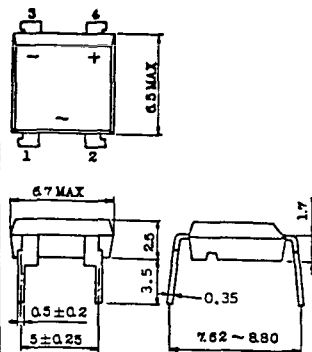
TT-12



ゲート端子詳細

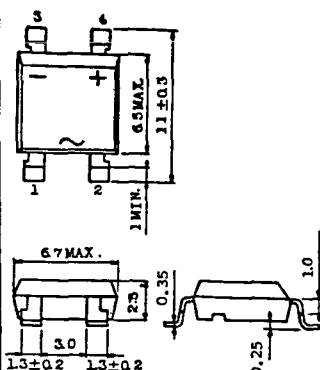
- ① ゲート (フーストン端子 # 187)
- ② T₁ (" " # 250)
- ③ T₂ (" " # 250)

TT-13



- 1, 2: T₂
- 3: GATE
- 4: T₁

TT-14



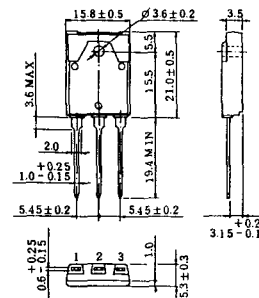
- 1, 2: T₂
- 3: GATE
- 4: T₁

TT-15 (13-14A1B)

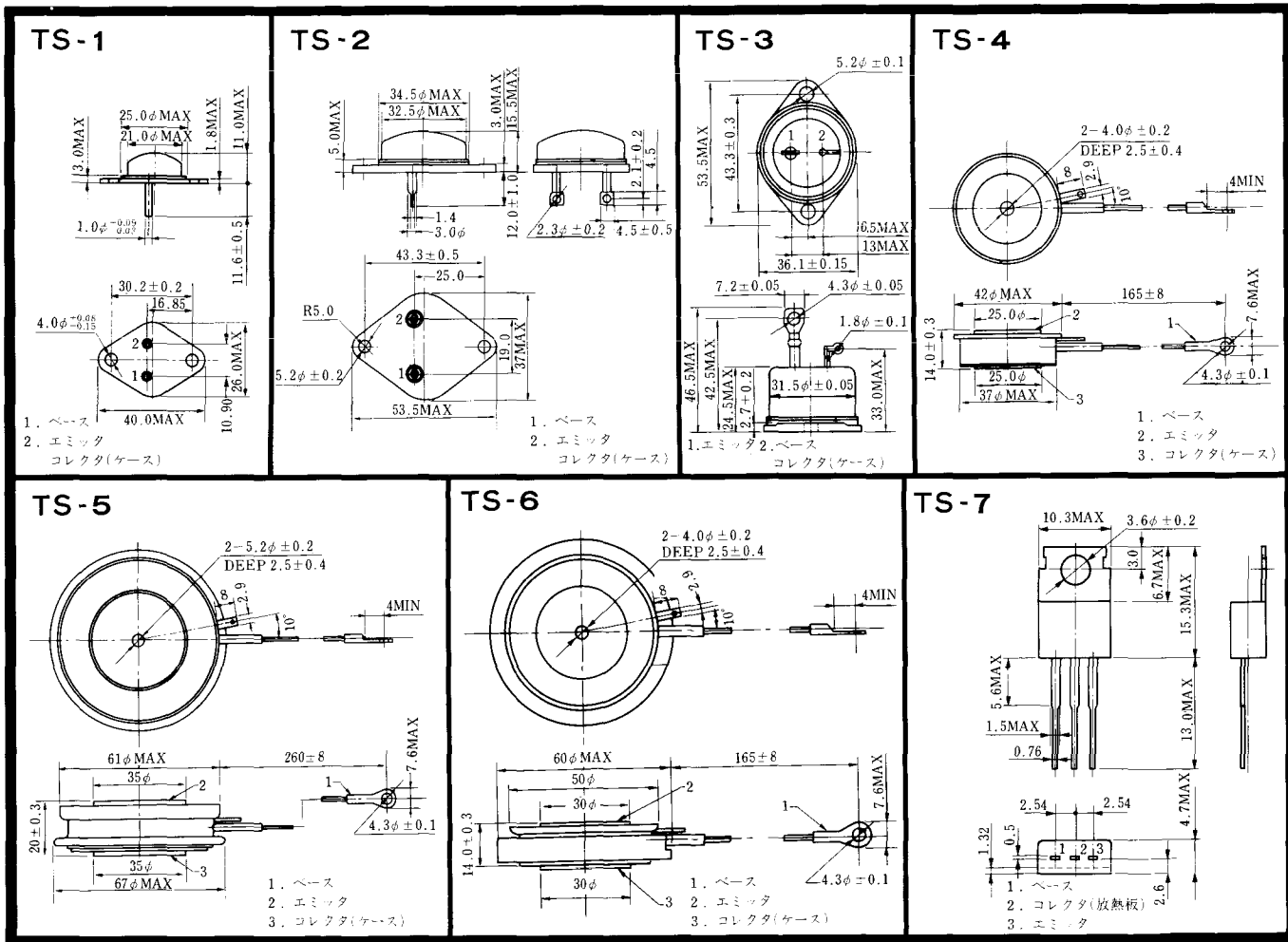


1. ゲート
2. T₁
- T₂ (ケース)

TT-16 (13-16A1A)

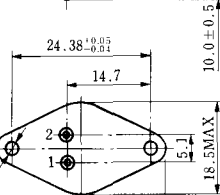
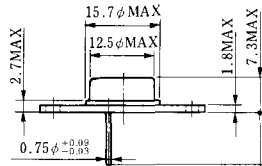


1. T₁
2. T₂
3. ゲート



《寸法図単位：mm》

TS-8

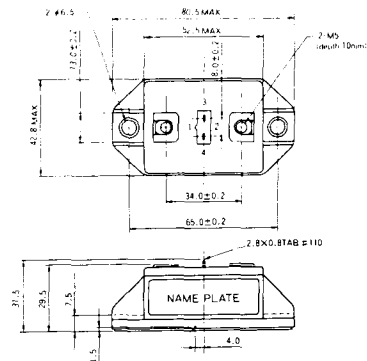


- 1. ベース
- 2. エミッタ
コレクタ
(ケース)

S-62A1A



S-80A1A



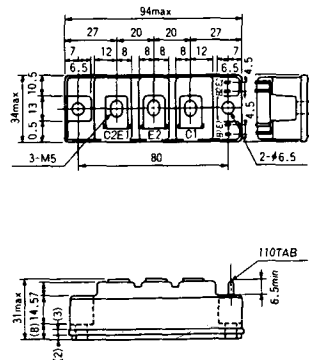
S-88D1A



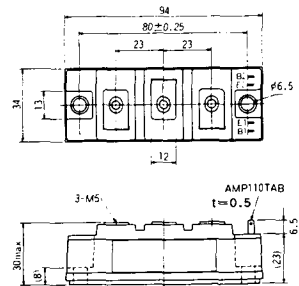
S-92B1A



S-94B1A



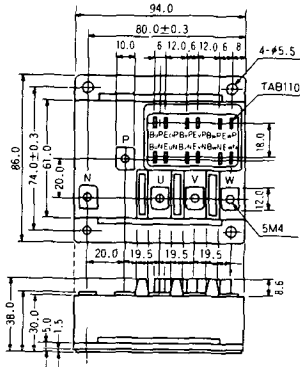
S-94B1B



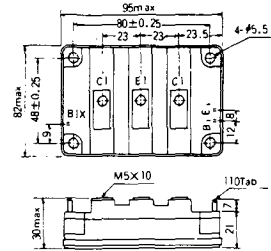
S-94B2A



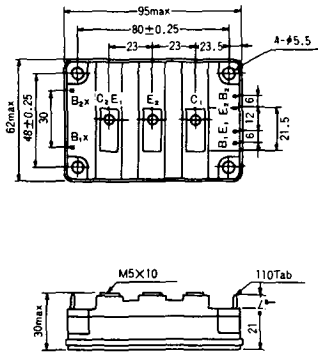
S-94D1A



S-95A1A



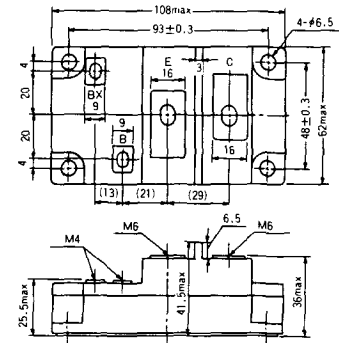
S-95B1A



S-98B1B



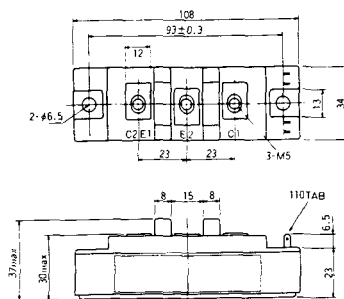
S-108A2A



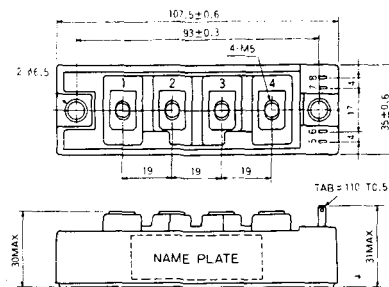
S-108B1A



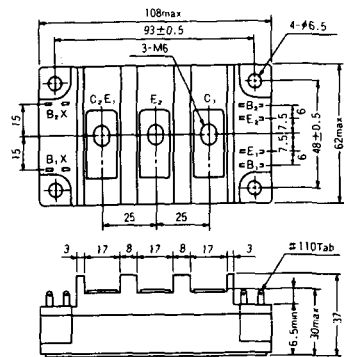
S-108B1B



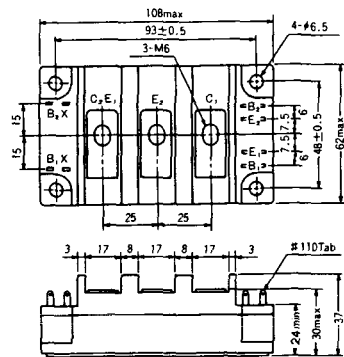
S-108B1C



S-108B2A



S-108B2B



2-22B1A



2-27A4A



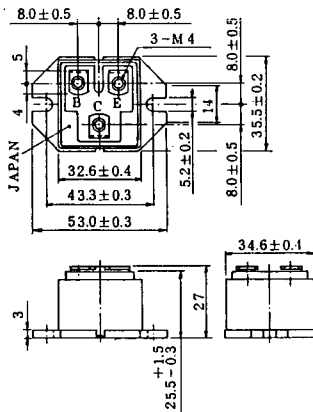
2-33C1A



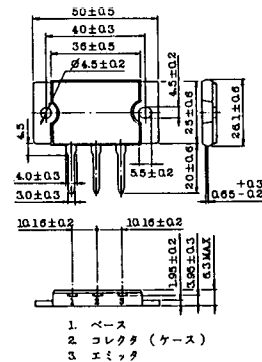
2-33D1A



2-33F1A



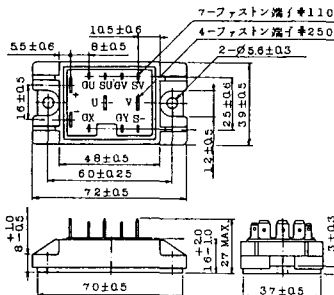
2-37A1A



2-48A3A



2-48A3B



2-48A4A



2-64A2A



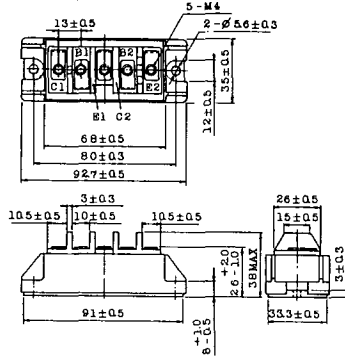
2-64A2B



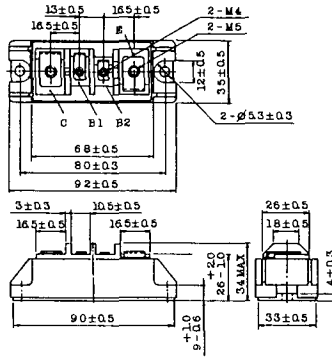
2-68A2A



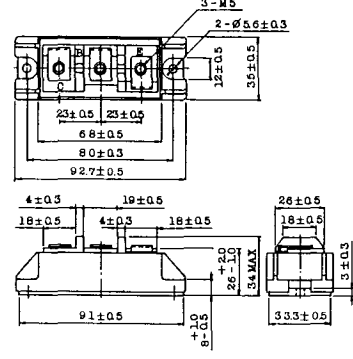
2-68B2A



2-68C1A



2-68D2A



2-72A3A



2-80A1A



2-80B1A



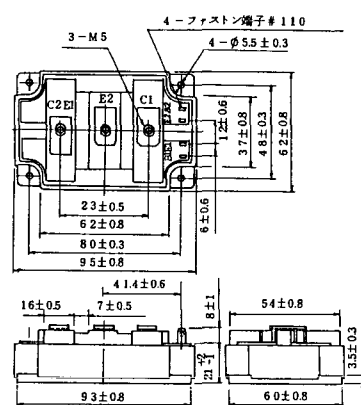
2-94D1A



2-96A3A



2-96A4A



2-98B1A



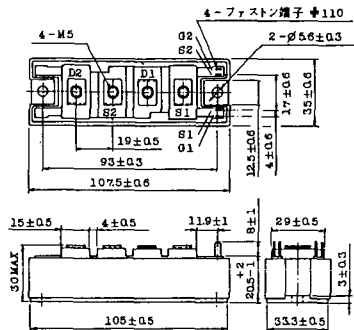
2-98C2A



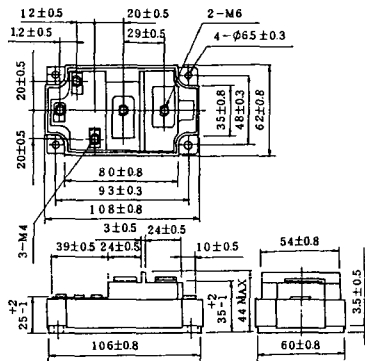
2-108A2A



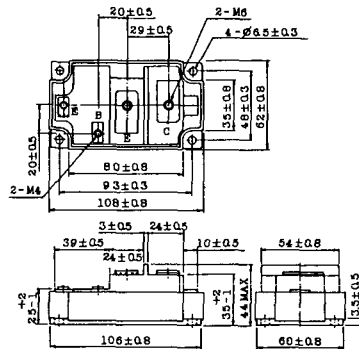
2-108B1A



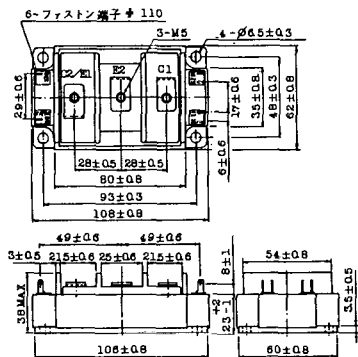
2-109A3A



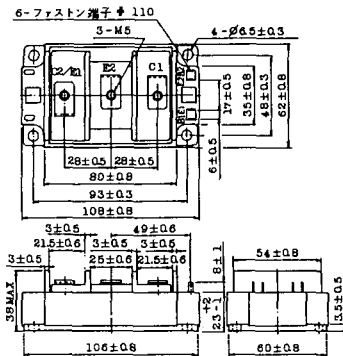
2-109A4A



2-109B3A



2-109B4A



BBT-II

BBTII
1D200A-020



BBT-III

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



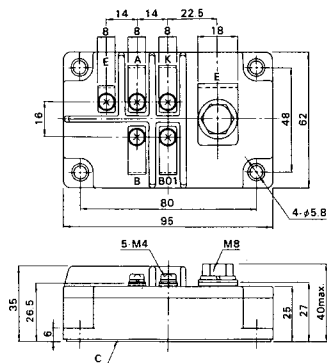
BBT-III

BBTIII
ETN01-055
ET1257

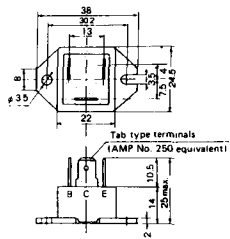


BBT-IV

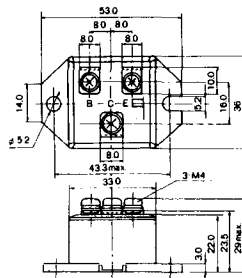
BBTIV
1D500A-030



M-101



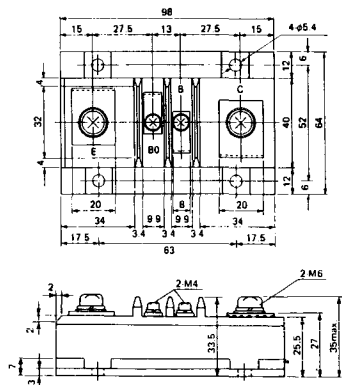
M-102



M-103



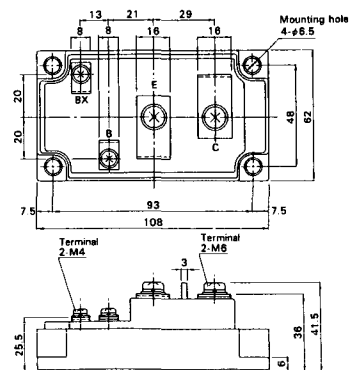
M-104



M-105



M-106



M-107



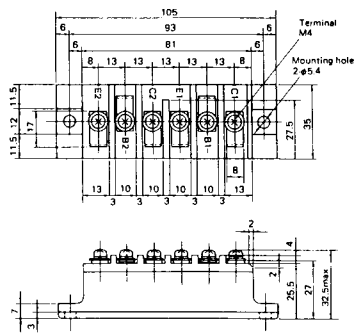
M-116



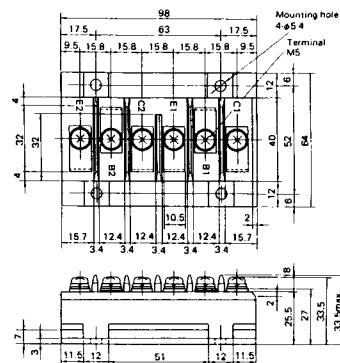
M-201



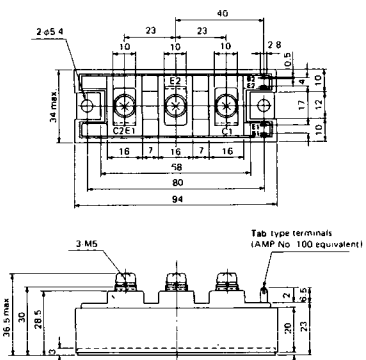
M-202



M-203



M-204



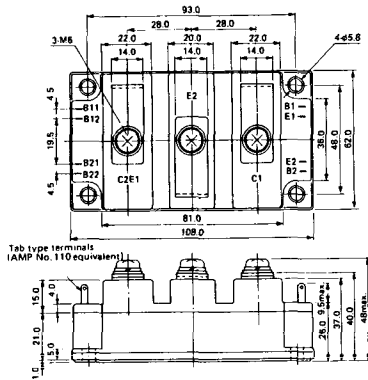
M-205



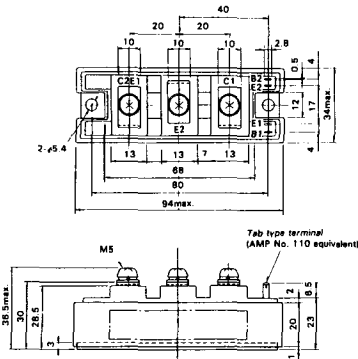
M-206



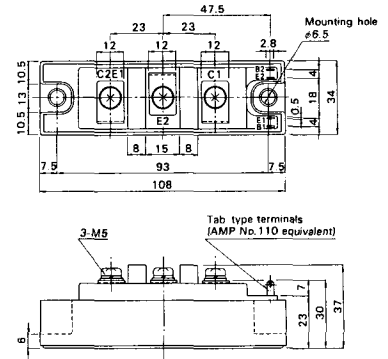
M-207



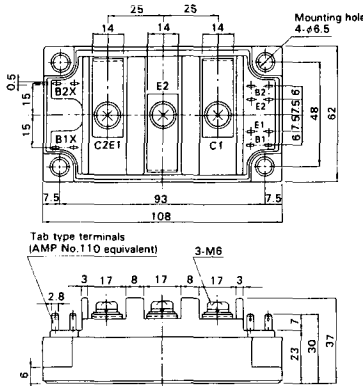
M-208



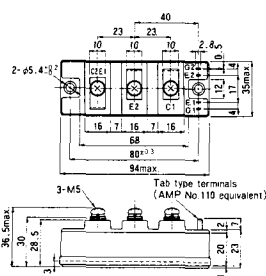
M-209



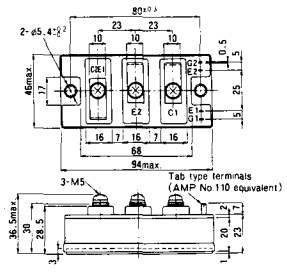
M-210



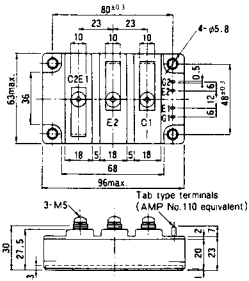
M-211



M-212

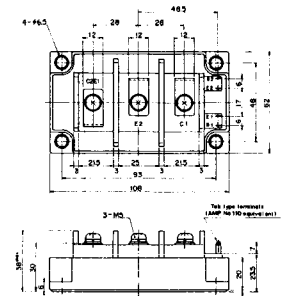


M-213

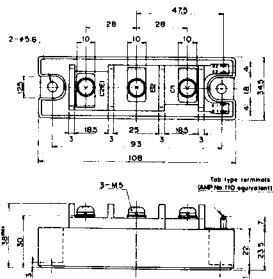


M-214

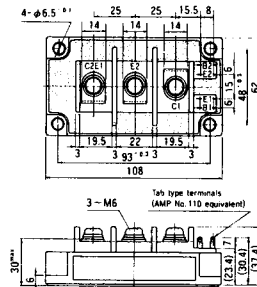
M-215



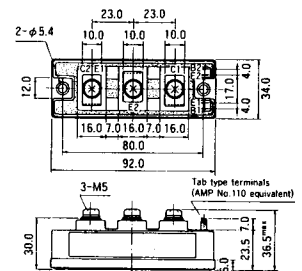
M-216



M-217



M-218



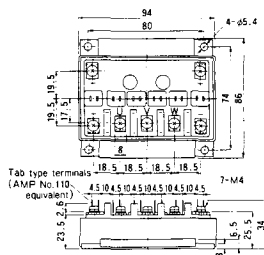
M-219



M-607



M-608



M-609



M-610



M-616



M-3C1A



M-3D6A



M-3E6A



M-4A1A



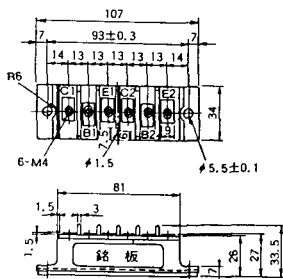
M-4A2A



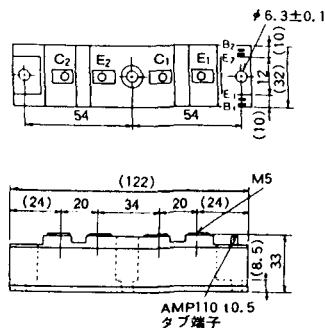
M-4A1B



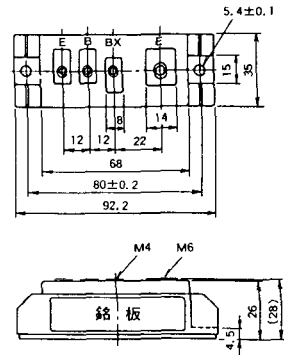
M-5C2A



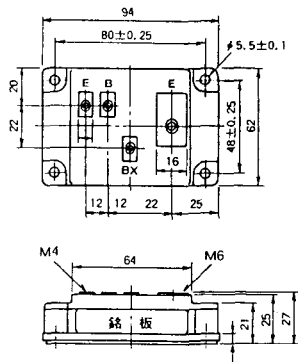
M-5D2A



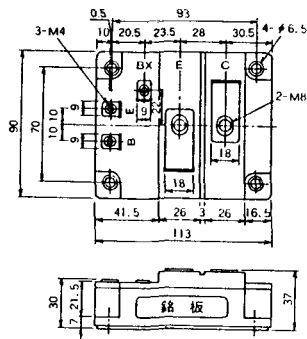
M-6A1A



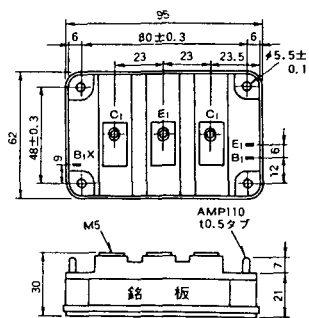
M-7A1A



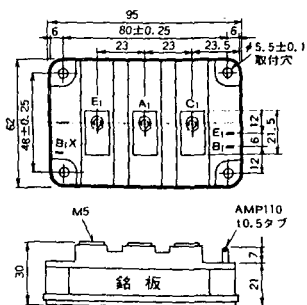
M-7B1A



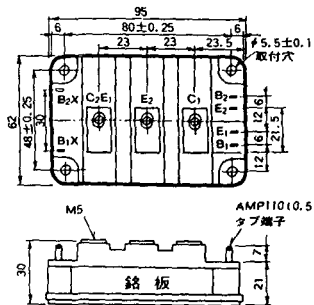
M-8A1A



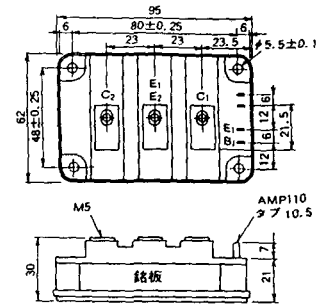
M-8A1B



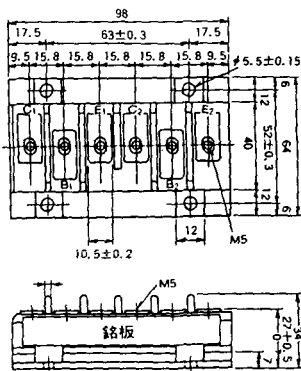
M-8A2A



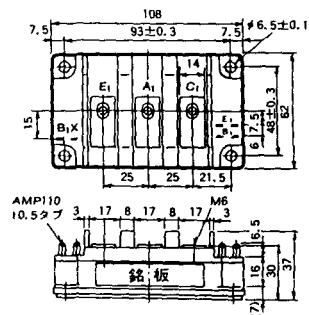
M-8A2B



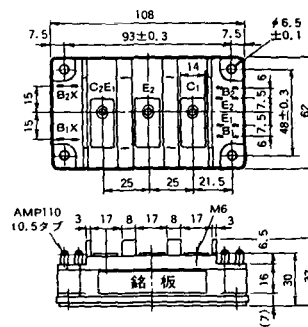
M-8B2A



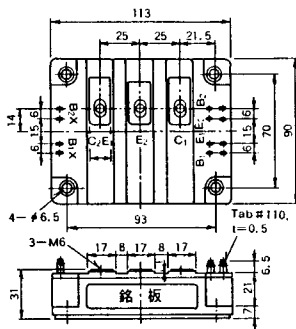
M-9A1A



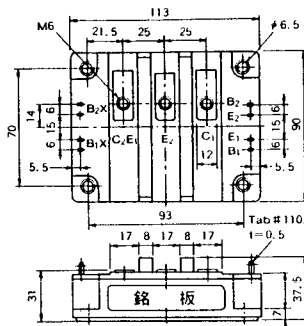
M-9A2A



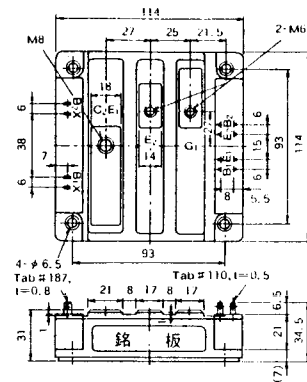
M-10A2A



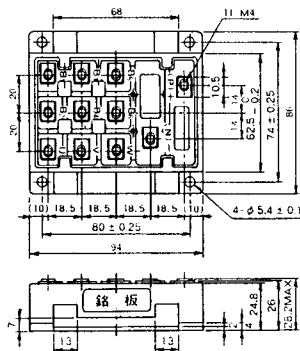
M-10A2B



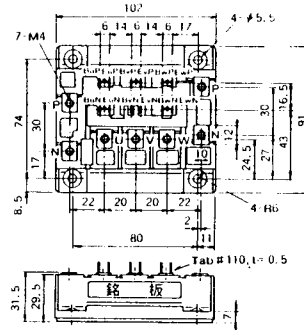
M-11A2A



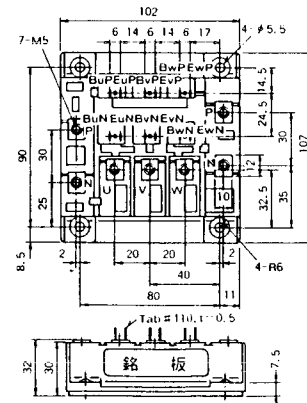
M-12A6A



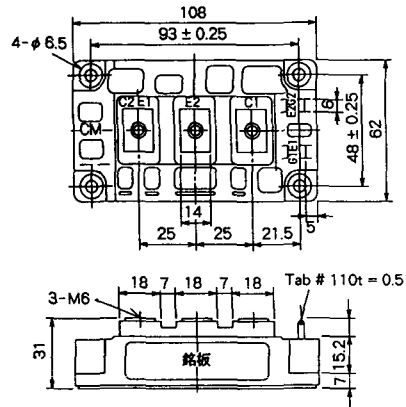
M-12B6A



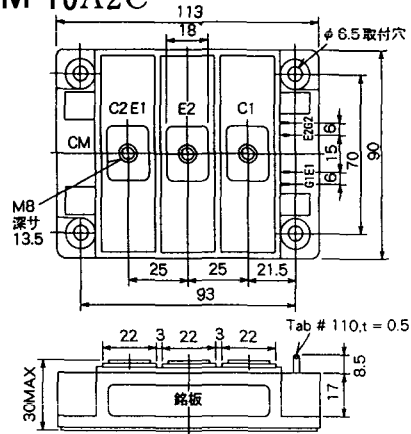
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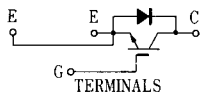
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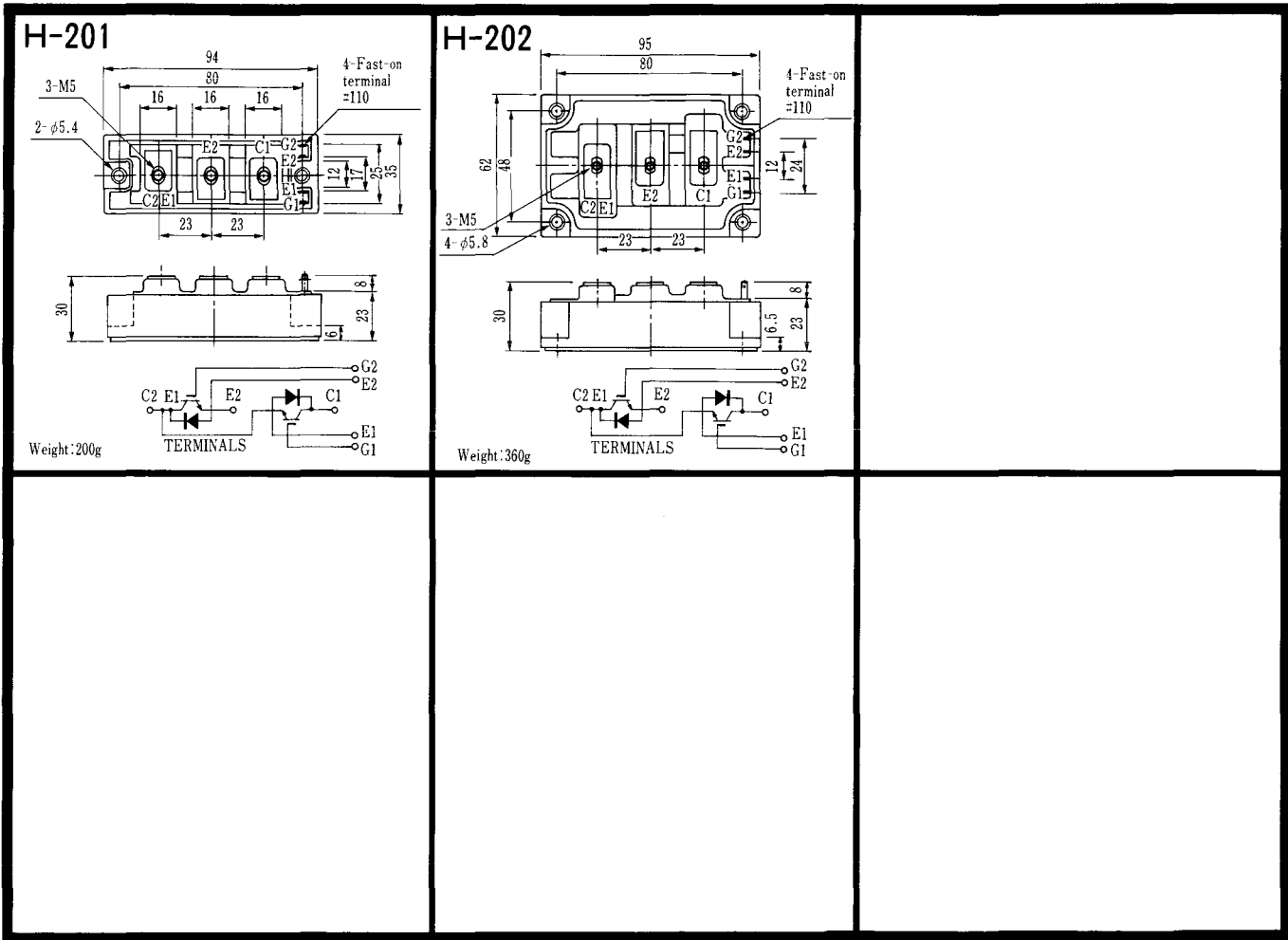
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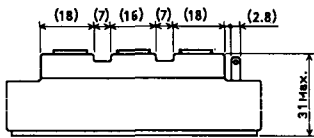
H-101



Weight :480g



LF-J



LF-K



