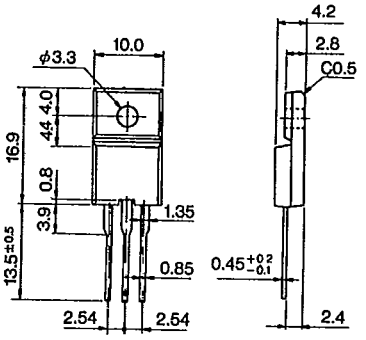
Rectifier Diodes

V_{RM}: 100~1000V Io: 1.5~15A

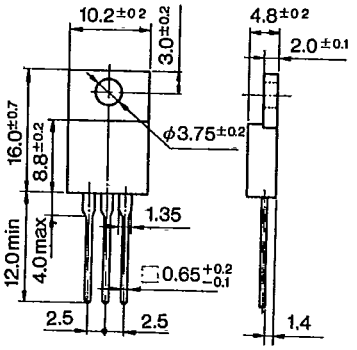
FMM/CTM/RB/LB

Rating/Characteristics / Type No.	Absolute Maximum Ratings V_{RSM} (V)	V_{RM} (V)	Io (A) With Fin	I_{FSM} (A) 50Hz Half Sine Wave Single Pulse	Tj (°C)	Tstg (°C)	Electrical Characteristics (Ta=25°C) V_F (V) max	V_F (V) I_F (A)	I_R (μA) $V_R=V_{RM}$ max	$I_{R(H)}$ (μA) $V_R=V_{RM}$ Ta=100°C max	Others Outline Drawing	Weight(g)	Taping	Internal Connections
FMM-22S, R	250	200	10	100	−40~+150		1.1	5.0	10	100	⑱	2.1	—	S Type R Type Rth(j-ℓ) 4.0°C/W max
FMM-24S, R	450	400												
FMM-26S, R	650	600												
CTM-21S, R	—	100	8				1.3	5.0			⑲	2.6		S Type
CTM-22S, R	—	200												
CTM-24S, R	—	400												
CTM-26S, R	—	600												
CTM-32S, R	250	200	15	120		−40~+140	1.2	10		50	⑳	6.1		R Type
CTM-34S, R	450	400												
RB-150	70	50	1.5 (w/o Fin)	40			0.95	1.0			㉑	1.8		
RB-151	150	100												
RB-152	250	200												
RB-154	450	400												
RB-156	650	600												
RB-158	850	800												
LB-156	650	600		120			0.91				㉒			
RB-401	150	100	4.0	80		−40~+150	0.95	2.0		100	㉔	5.0		
RB-402	250	200												
RB-404	450	400												
RB-406	650	600												
RB-40C	1050	1000												
RB-601	150	100	6.0	180				0.5			㉓	9.2		
RB-602	250	200												
RB-604	450	400												
RB-606	650	600												

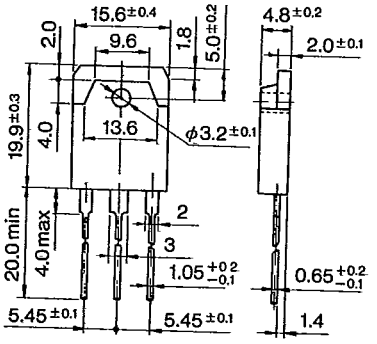
Outline Drawing ⑱



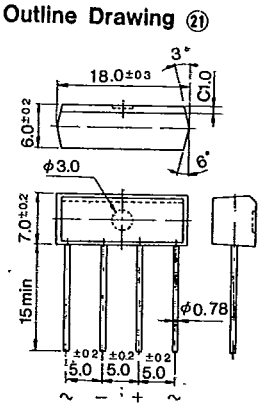
Outline Drawing ⑲



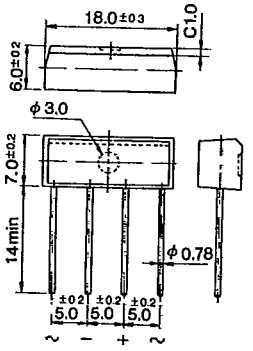
Outline Drawing ⑳



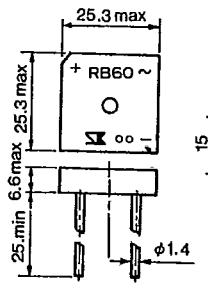
Outline Drawing ㉑



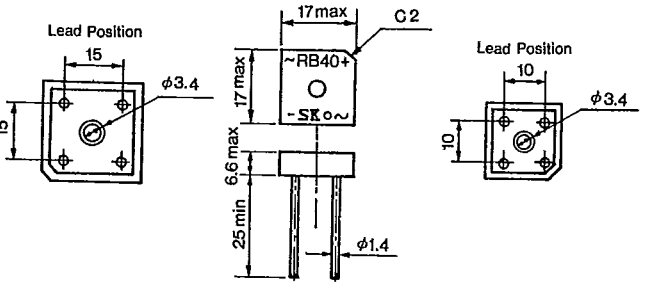
Outline Drawing ㉒



Outline Drawing ㉓



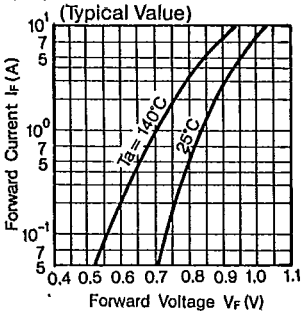
Outline Drawing ㉔



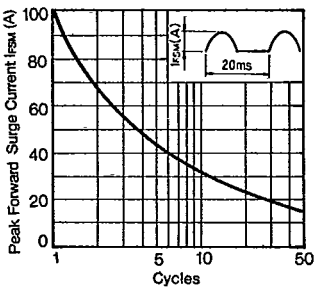
⑱~㉔ Plastic Molded, Flammability : UL94V-0 or Equivalent

CTM-2 Series

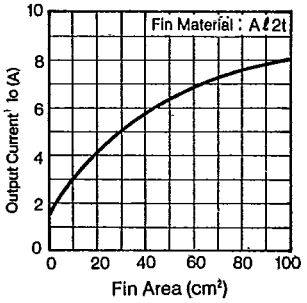
I_F–V_F Characteristics (Typical Value)



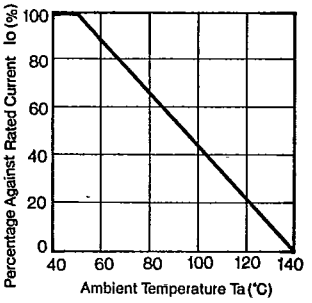
I_{FSM} Characteristics



Io –Fin Characteristics

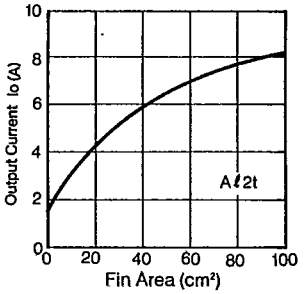


Io–Ta Deratings

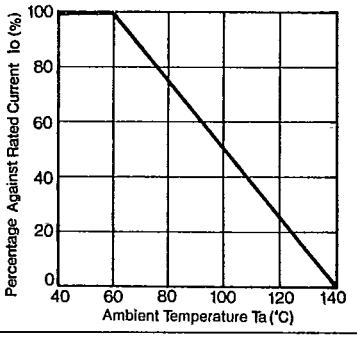


CTM-22U/24U Series

Io –Fin Characteristics

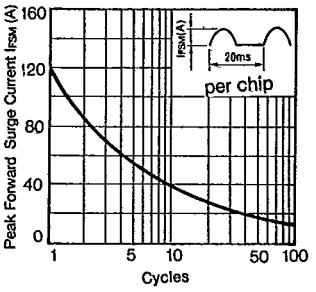


Io–Ta Deratings

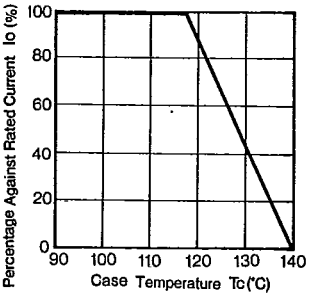


CTM-3 Series

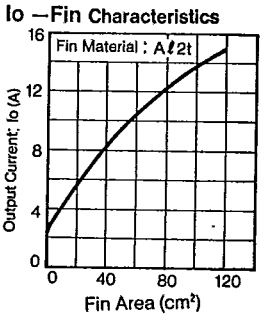
I_{FSM} Characteristics



$I_{F(AV)}$–Tc Deratings

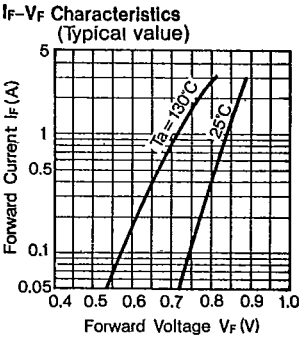


Io –Fin Characteristics

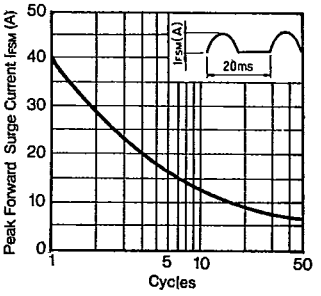


RB-15 Series

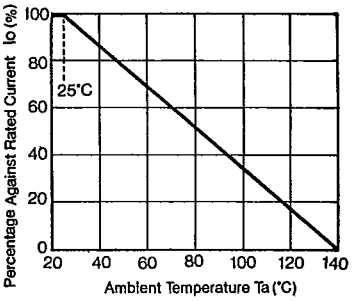
I_F–V_F Characteristics (Typical value)



I_{FSM} Characteristics

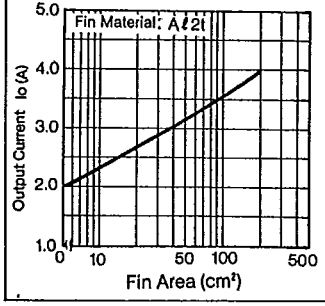


Io–Ta Deratings

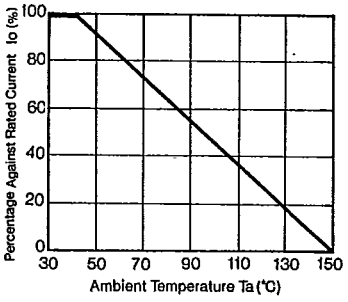


RB-40, Series

Io –Fin Characteristics

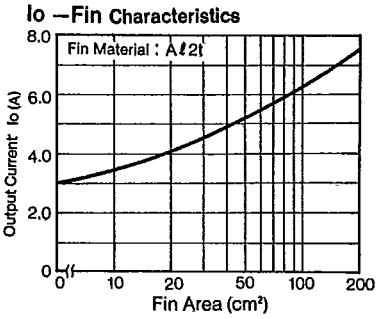


Io–Ta Deratings

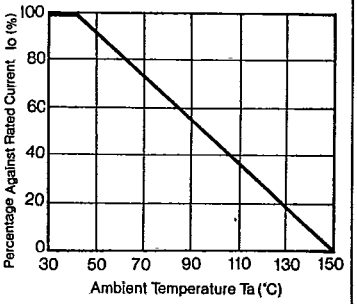


RB-60 Series

Io –Fin Characteristics



Io–Ta Deratings



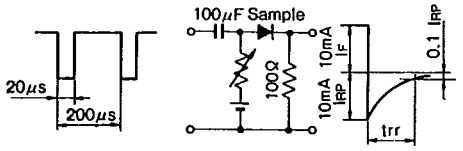
Symbols/trr Measurement Circuit

Symbols

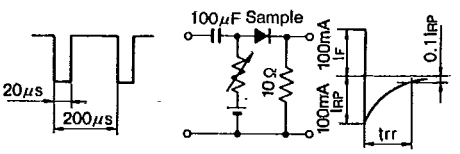
V_{RSM}	Peak Reverse Surge Voltage	I_{RSM}	Peak Reverse Surge Current	Tstg	Storage Temperature
V_{RM}	Peak Reverse Voltage	I_R	Reverse Current	trr	Reverse Recovery Time
V_{P-P}	Reverse Voltage (Peak to Peak)	I_{RP}	Peak Reverse Current	Ct	Total Capacitance Between Terminals
V_R	Reverse Voltage	$I_{R(H)}$	Reverse Current (High Temperature)	Rth(j-c)	Thermal Resistance, Junction to Case
V_F	Forward Voltage	Iz	Avalanche Current	rz	Temperature Coefficient of Breakdown Voltage
V_B	Breakdown Voltage	I_{ZSM}	Allowable Avalanche Current	Rz	Equivalent Resistance of Breakdown Region
I_O	Average Rectified Forward Current	Ta	Ambient Temperature	$P_{F(AV)}$	Average Forward Power Dissipation
I_F	Forward Current	Tj	Junction Temperature	I^2t	I^2t limiting Value
$I_{F(AV)}$	Average Forward Current	Topr	Operating Ambient Temperature		
I_{FSM}	Peak Forward Surge Current	Tc	Case Temperature		

Reverse Recovery Time Measurement Circuit

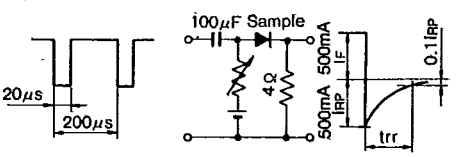
① $I_F = I_{RP} = 10mA$ to $1mA$



② $I_F = I_{RP} = 100mA$ to $10mA$

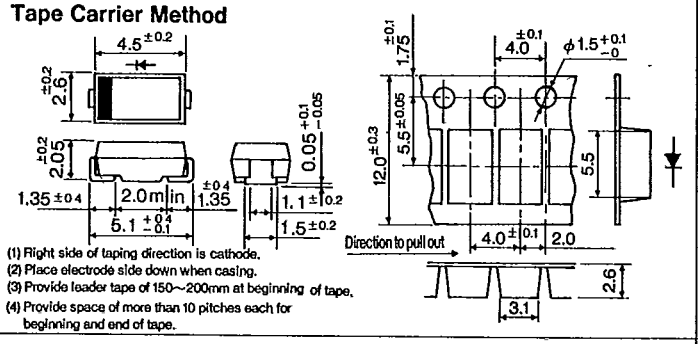
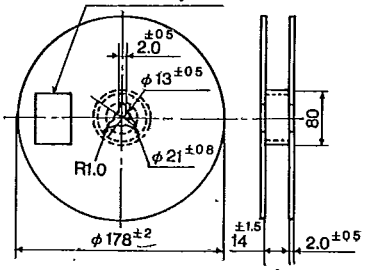
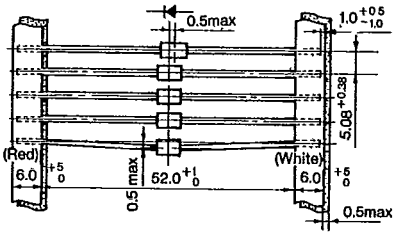
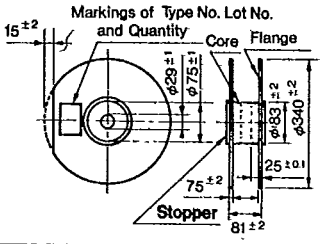


③ $I_F = I_{RP} = 500mA$ to $50mA$

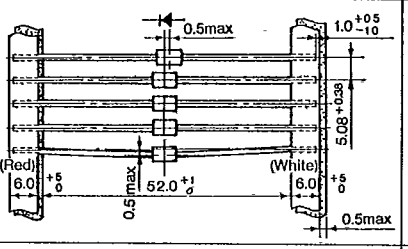
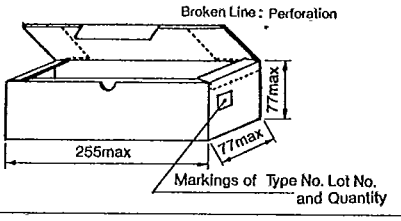
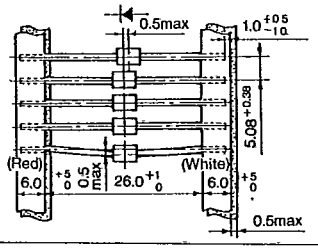
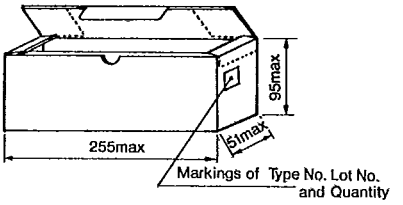
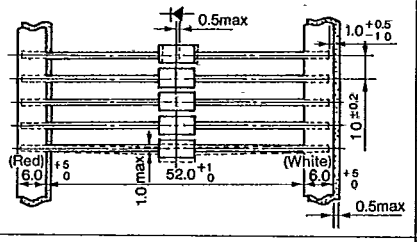
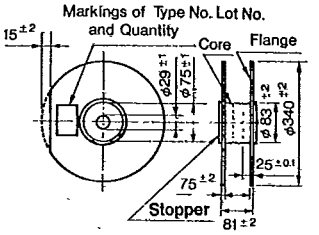
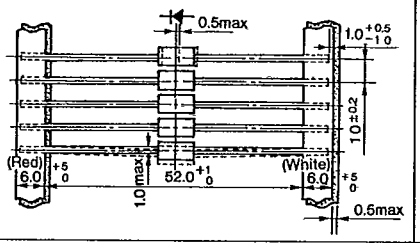
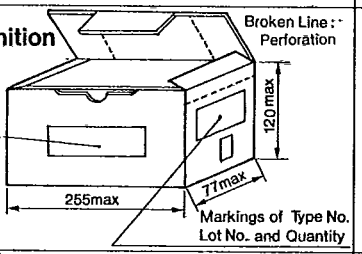
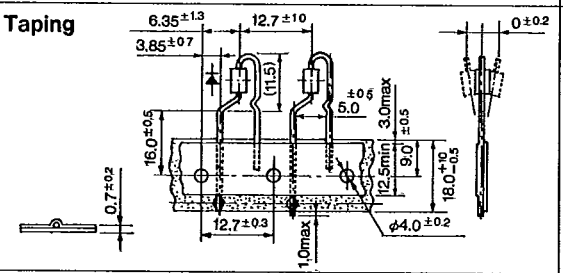
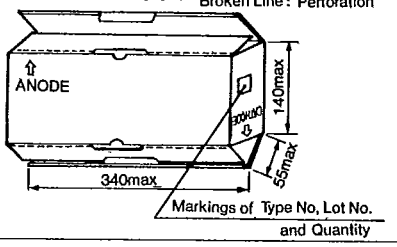
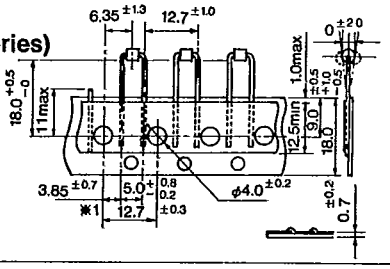
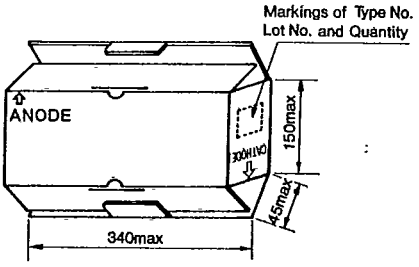
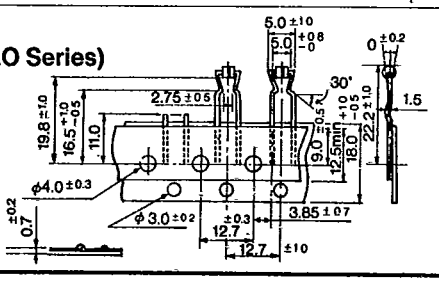


Taping Specifications

Excluding High Voltage Diodes

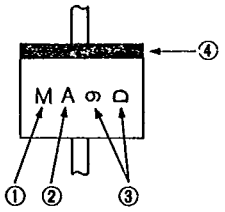
Designation	Dimension (in mm)	Packaging Dimension and Marking	Quantity
V Add Suffix [V] to Type No.	**Tape Carrier Method**  (1) Right side of taping direction is cathode. (2) Place electrode side down when casing. (3) Provide leader tape of 150~200mm at beginning of tape. (4) Provide space of more than 10 pitches each for beginning and end of tape.	**Reel** Marking of Type No., Lot No. and Quantity 	1,800 pcs per reel
V Add Suffix [V] to type No.	**Axial Taping** 	**Reel** Markings of Type No. Lot No. and Quantity 	5,000 pcs per reel (2.7φ body) 3,000 pcs per reel (4.0φ body)

Taping Specifications

Designation	Dimension (in mm)	Packaging Dimension and Marking	Quantity
V1 Add Suffix [V1] to Type No.	Axial Taping 	Ammunition Pack 	2,000 pcs per box (2.7 ϕ body) 1,000 pcs per box (4.0 ϕ body)
VO Add Suffix [VO] to Type No.	Axial Taping 	Ammunition Pack 	2,000 pcs per box (2.7 ϕ body) (2.4 ϕ body)
V3 Add Suffix [V3] to Type No.	Axial Taping 	Reel 	1,500 pcs per reel (5.2 ϕ body)
V4 Add Suffix [V4] to Type No.	Axial Taping 	Ammunition Pack 	1,000 pcs per box (5.2 ϕ body)
W Add Suffix [W] to Type No.	Radial Taping 	Ammunition Pack 	4,000 pcs per box (2.7 ϕ body) (0.6 ϕ lead)
WS Add Suffix [WS] to Type No.	Radial Taping (Applicable to AO Series) 	Ammunition Pack 	2,500 pcs per box (2.4 ϕ body)
WK Add Suffix [WK] to Type No.	Radial Taping (Applicable to AO Series) 		

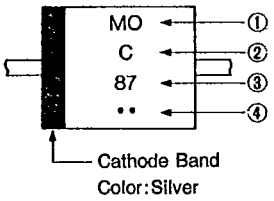
Marking Guide

1 Small TMD



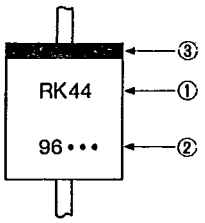
①Type Designation (in abbreviation)
AM01 is abbreviated as M.
②Class Designation
Z:200V, No Letter: 400V, A: 600V
③A:Year (Last Number of AD Year)
B:Month (Jan. to Sept. are represented by numbers 1 to 9 respectively, and Oct., Nov., and Dec. are abbreviated as O, N and D respectively)
④Cathode Band: Successive Band, however AU02 Type is Non-Successive Band.

2 E/EO Type TMD



①Type Designation (in abbreviation)
EM01 is abbreviated as MO, EM2 Is abbreviated as M2.
②Class Designation
Z:200V, No Letter:400V, A:600V
B:800 V, C:1000V, F:1500V
However, EU02A to be marked 2A, and EU2YX to be marked Y.
③Abbreviations Representing Production Period
A:Year (Last Number of AD Year)
B:Month (1~9, 0, N, D)
④Production Period Divided in 3 ten day terms
• : 1st 10days •• : 2nd 10days ••• : 3rd 10days

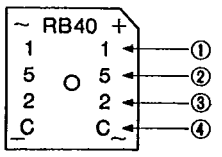
3 R Type TMD



①Type Designation:Mark in 2 sets
②Production Period:Mark in 4 sets
A:Year (Last Number of AD Year)
B:Month (1~9, 0, N, D)
③Production Period Divided in 3 ten day terms
• : 1st 10days •• : 2nd 10days ••• : 3rd 10days
④Cathode Band Color:Silver:For Power Supply
Yellow: For Middle Speed
Red : For High Speed and Ultra-High Speed

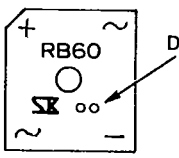
4 RB40/60

(RB40 Series)



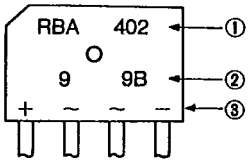
①Peak Reverse Voltage Designation
1, 2, 4, 6, C
Production Period
②Year (Last Number of AD Year)
③Month (1~9, 0, N, D)
④Divided in 3 ten day terms
A: 1st 10days, B: 2nd 10days
C: 3rd 10days
Color Designation: Silver

(RB60 Series)



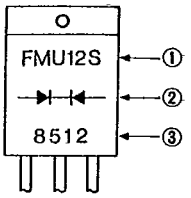
Dot Designation RB601 Violet
RB602 No Color
RB604 Blue
RB606 White

5 RBV/RBA



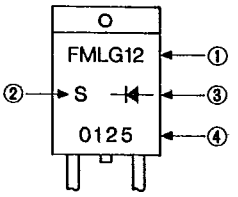
①Type Designation
②Lot Number
1st : Year (Last Number of AD Year)
2nd: Month (1~9, 0, N, D)
3rd : Divided 1~3 ten day Terms
A: 1st 10 days B: 2nd 10 days
C: 3rd 10 days
③In-Put Designation

6 TO220 Type (FM or CT Type)



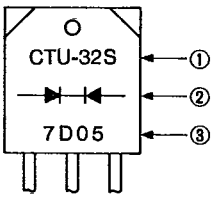
①Type Designation
Show FMU-12S as FMU12S.
②Polarity:Rectifier Symbols
③Lot Number (Laser Marking)
1st : Year (Last Number of AD Year)
2nd : Month (0~9, 0, N, D)
3rd, 4th: Day

7 TO220 Type (FM or CT Type, single chip)



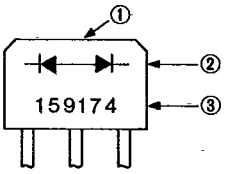
①Type Designation:Omit Last Letter
Show FML-G12S as FMLG12.
②Last Letter of Type Designation
③Polarity:Recitifier Symbols
④Lot Number (Laser Marking)
1st : Year (Last Number of AD Year)
2nd : Month (0~9, 0, N, D)
3rd, 4th: Day

8 TO3P Type (FM or CT Type)



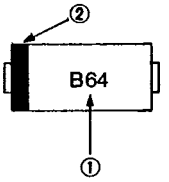
①Type shown in full designation
However, CTB-34/34S/34M are marked as CTB-34, CTU-G3DR is marked as CTUG3DR.
②Polarity:Rectifier Symbols
③Lot Number:
1) M, U, G and L Types
First Number : Last Digit of AD Year
Second Number : Month
Third and Fourth Numbers:Day
Fifth Number : None
2) For types CTB-34/34S/34M, the fifth letter shows type designation. If no fifth number, the type is CTB-33 or CTB-34.
3) Marking Color:Silver

9 MI-10/15 Type



①MI-10/15 is die-stamped on the top of the case.
②Rectifier Symbols
③Lot Number:
First Number (Letter) :Peak Reverse Voltage:
0=50V, 1=100V, 2=200V, 4=400V, 6=600V, C=1000V
Second Number :Last Digit of AD Year
Third Number :Month
Fourth and Fifth Numbers: Day
Sixth Number :Production number and U:Voltage Doubler Type

10 SFP Type



①Type Designation:
SFPB-64 Is abbreviated at B64.
②Cathode Band