

Diodes

Ordering Information & Standard Packing Quantities	200
Taping Specifications	202
Application Note	205
Marking Guide	206
4-1 Rectifier Diodes	207
Surface-Mount	207
Thru-Hole	207
4-2 Fast Recovery Diodes	208
Thru-Hole	208
4-3 Ultrafast Recovery Diodes	210
Surface-Mount	210
Thru-Hole	210
4-4 Schottky Barrier Diodes	213
Standard	213
• Surface-Mount	213
• Thru-Hole	213
Low VF "A Series"	214
• Surface-Mount	214
• Thru-Hole	214
Low IR "E Series"	215
• Surface-Mount	215
• Thru-Hole	215
Low VF/Low IR Balance "J Series"	215
• Surface-Mount	215
• Thru-Hole	215
4-5 Power Zener Diodes	216
4-6 Silicon Varistors	217
Package Type (Dimensions)	218

Ordering Information

All products listed must be ordered in standard packing increments.

Series Name/Product Name	Package	Standard Packing Quantities					
		Bulk	Taping				
AG01x	Axial(φ2.4 body/φ0.6 lead)	—	V:5000(Reel)	V1:3000(Box)	V0:3000(Box)	WS:2500(Box)	WK:2500(Box)
AK0x	Axial(φ2.4 body/φ0.6 lead)	—	V:5000(Reel)	V1:3000(Box)	V0:3000(Box)	WS:2500(Box)	WK:2500(Box)
AL01x	Axial(φ2.4 body/φ0.6 lead)	—	V:5000(Reel)	V1:3000(Box)	V0:3000(Box)	WS:2500(Box)	WK:2500(Box)
AM01x	Axial(φ2.4 body/φ0.6 lead)	—	V:5000(Reel)	V1:3000(Box)	V0:3000(Box)	WS:2500(Box)	WK:2500(Box)
AP01x	Axial(φ2.4 body/φ0.6 lead)	—	V:5000(Reel)	V1:3000(Box)	V0:3000(Box)	WS:2500(Box)	WK:2500(Box)
AS01x	Axial(φ2.4 body/φ0.6 lead)	—	V:5000(Reel)	V1:3000(Box)	V0:3000(Box)	WS:2500(Box)	WK:2500(Box)
AU01x	Axial(φ2.4 body/φ0.6 lead)	—	V:5000(Reel)	V1:3000(Box)	V0:3000(Box)	WS:2500(Box)	WK:2500(Box)
AU02x	Axial(φ2.4 body/φ0.6 lead)	—	V:5000(Reel)	V1:3000(Box)	V0:3000(Box)	WS:2500(Box)	WK:2500(Box)
EG01x	Axial(φ2.7 body/φ0.6 lead)	—	V:5000(Reel)	V1:2000(Box)	V0:2000(Box)	W:4000(Box)	
EK0x	Axial(φ2.7 body/φ0.6 lead)	—	V:5000(Reel)	V1:2000(Box)	V0:2000(Box)	W:4000(Box)	
EL02x	Axial(φ2.7 body/φ0.6 lead)	—	V:5000(Reel)	V1:2000(Box)	V0:2000(Box)	W:4000(Box)	
EM01x	Axial(φ2.7 body/φ0.6 lead)	—	V:5000(Reel)	V1:2000(Box)	V0:2000(Box)	W:4000(Box)	
EN01x	Axial(φ2.7 body/φ0.6 lead)	—	V:5000(Reel)	V1:2000(Box)	V0:2000(Box)	W:4000(Box)	
EP01x	Axial(φ2.7 body/φ0.6 lead)	—	V:5000(Reel)	V1:2000(Box)	V0:2000(Box)	W:4000(Box)	
ES01x	Axial(φ2.7 body/φ0.6 lead)	—	V:5000(Reel)	V1:2000(Box)	V0:2000(Box)	W:4000(Box)	
EU01x	Axial(φ2.7 body/φ0.6 lead)	—	V:5000(Reel)	V1:2000(Box)	V0:2000(Box)	W:4000(Box)	
EU02x	Axial(φ2.7 body/φ0.6 lead)	—	V:5000(Reel)	V1:2000(Box)	V0:2000(Box)	W:4000(Box)	
SVxx	Axial(φ2.7 body/φ0.6 lead)	—	V:5000(Reel)	V1:2000(Box)	V0:2000(Box)	W:4000(Box)	
VR-xx	Axial(φ2.7 body/φ0.6 lead)	—	V:5000(Reel)	V1:2000(Box)	V0:2000(Box)	W:4000(Box)	
EG1x	Axial(φ2.7 body/φ0.78 lead)	—	V:5000(Reel)	V1:2000(Box)	V0:2000(Box)		
EH1x	Axial(φ2.7 body/φ0.78 lead)	—	V:5000(Reel)	V1:2000(Box)	V0:2000(Box)		
EK1x	Axial(φ2.7 body/φ0.78 lead)	—	V:5000(Reel)	V1:2000(Box)	V0:2000(Box)		
EL1x	Axial(φ2.7 body/φ0.78 lead)	—	V:5000(Reel)	V1:2000(Box)	V0:2000(Box)		
EM1x	Axial(φ2.7 body/φ0.78 lead)	—	V:5000(Reel)	V1:2000(Box)	V0:2000(Box)		
EM2x	Axial(φ2.7 body/φ0.78 lead)	—	V:5000(Reel)	V1:2000(Box)	V0:2000(Box)		
ES1x	Axial(φ2.7 body/φ0.78 lead)	—	V:5000(Reel)	V1:2000(Box)	V0:2000(Box)		
EU1x	Axial(φ2.7 body/φ0.78 lead)	—	V:5000(Reel)	V1:2000(Box)	V0:2000(Box)		
EU2x	Axial(φ2.7 body/φ0.78 lead)	—	V:5000(Reel)	V1:2000(Box)	V0:2000(Box)		
RA1x	Axial(φ4.0 body/φ0.78 lead)	—	V:3000(Reel)	V1:1000(Box)			
RC2	Axial(φ4.0 body/φ0.78 lead)	—	V:3000(Reel)	V1:1000(Box)			
RF1x	Axial(φ4.0 body/φ0.78 lead)	—	V:3000(Reel)	V1:1000(Box)			
RG10x	Axial(φ4.0 body/φ0.78 lead)	—	V:3000(Reel)	V1:1000(Box)			
RG1x	Axial(φ4.0 body/φ0.78 lead)	—	V:3000(Reel)	V1:1000(Box)			
RH1x	Axial(φ4.0 body/φ0.78 lead)	—	V:3000(Reel)	V1:1000(Box)			
RK1x	Axial(φ4.0 body/φ0.78 lead)	—	V:3000(Reel)	V1:1000(Box)			
RL10x	Axial(φ4.0 body/φ0.78 lead)	—	V:3000(Reel)	V1:1000(Box)			
RM10x	Axial(φ4.0 body/φ0.78 lead)	—	V:3000(Reel)	V1:1000(Box)			
RM11x	Axial(φ4.0 body/φ0.78 lead)	—	V:3000(Reel)	V1:1000(Box)			
RM1x	Axial(φ4.0 body/φ0.78 lead)	—	V:3000(Reel)	V1:1000(Box)			
RN1x	Axial(φ4.0 body/φ0.78 lead)	—	V:3000(Reel)	V1:1000(Box)			
RP1x	Axial(φ4.0 body/φ0.78 lead)	—	V:3000(Reel)	V1:1000(Box)			
RS1x	Axial(φ4.0 body/φ0.78 lead)	—	V:3000(Reel)	V1:1000(Box)			
RU1x	Axial(φ4.0 body/φ0.78 lead)	—	V:3000(Reel)	V1:1000(Box)			
RU20x	Axial(φ4.0 body/φ0.78 lead)	—	V:3000(Reel)	V1:1000(Box)			
RU2x	Axial(φ4.0 body/φ0.78 lead)	—	V:3000(Reel)	V1:1000(Box)			
RX10x	Axial(φ4.0 body/φ0.78 lead)	—	V:3000(Reel)	V1:1000(Box)			
RD2x	Axial(φ4.0 body/φ0.98 lead)	—	V:3000(Reel)	V1:1000(Box)			
RG2x	Axial(φ4.0 body/φ0.98 lead)	—	V:3000(Reel)	V1:1000(Box)			
RH2x	Axial(φ4.0 body/φ0.98 lead)	—	V:3000(Reel)	V1:1000(Box)			
RK3x	Axial(φ4.0 body/φ0.98 lead)	—	V:3000(Reel)	V1:1000(Box)			
RL2x	Axial(φ4.0 body/φ0.98 lead)	—	V:3000(Reel)	V1:1000(Box)			
RM2x	Axial(φ4.0 body/φ0.98 lead)	—	V:3000(Reel)	V1:1000(Box)			
RN2x	Axial(φ4.0 body/φ0.98 lead)	—	V:3000(Reel)	V1:1000(Box)			
RO2x	Axial(φ4.0 body/φ0.98 lead)	—	V:3000(Reel)	V1:1000(Box)			
RU3x	Axial(φ4.0 body/φ0.98 lead)	—	V:3000(Reel)	V1:1000(Box)			
RG4x	Axial(φ6.5 body/φ1.4 lead)	500	—				
RH4x	Axial(φ6.5 body/φ1.4 lead)	500	—				
RJ4x	Axial(φ6.5 body/φ1.4 lead)	500	—				
RK4x	Axial(φ6.5 body/φ1.4 lead)	500	—				
RL4x	Axial(φ6.5 body/φ1.4 lead)	500	—				
RM4x	Axial(φ6.5 body/φ1.4 lead)	500	—				
RN4x	Axial(φ6.5 body/φ1.4 lead)	500	—				
RS4x	Axial(φ6.5 body/φ1.4 lead)	500	—				
RU4x	Axial(φ6.5 body/φ1.4 lead)	500	—				
RW5x	Axial(φ6.5 body/φ1.4 lead)	500	—				

Series Name/Product Name	Package	Standard Packing Quantities					
		Bulk	Taping				
SJPA-xx	SJP	–	V:1800(Reel)				
SJPB-xx	SJP	–	V:1800(Reel)				
SJPE-xx	SJP	–	V:1800(Reel)				
SJPJ-xx	SJP	–	V:1800(Reel)				
SJPL-xx	SJP	–	V:1800(Reel)				
SJPM-xx	SJP	–	V:1800(Reel)				
SJPW-xx	SJP	–	V:1800(Reel)				
SJPX-xx	SJP	–	V:1800(Reel)				
SJPZ-xx	SJP	–	V:1800(Reel)				
SZ-10xx	SZ-10(Surface-mount)	–	VL:750(Reel)	VR:750(Reel)			
FMC-2xU	TO220F(2-element)	500	–				
FM2-2202	TO220F(Center-tap)	500	–				
FMB-2x	TO220F(Center-tap)	500	–				
FMEN-2x	TO220F(Center-tap)	500	–				
FMG-1x	TO220F(Center-tap)	500	–				
FMG-2x	TO220F(Center-tap)	500	–				
FMJ-2x	TO220F(Center-tap)	500	–				
FML-1x	TO220F(Center-tap)	500	–				
FML-2x	TO220F(Center-tap)	500	–				
FMM-2x	TO220F(Center-tap)	500	–				
FMU-1x	TO220F(Center-tap)	500	–				
FMU-2x	TO220F(Center-tap)	500	–				
FMW-2x	TO220F(Center-tap)	500	–				
FMX-1x	TO220F(Center-tap)	500	–				
FMX-2x	TO220F(Center-tap)	500	–				
FMXA-2x	TO220F(Center-tap)	500	–				
FMB-G1x	TO220F-2Pin	500	–				
FMB-G2x	TO220F-2Pin	500	–				
FMC-G2x	TO220F-2Pin	500	–				
FMD-G2x	TO220F-2Pin	500	–				
FMG-G2x	TO220F-2Pin	500	–				
FML-G1x	TO220F-2Pin	500	–				
FML-G2x	TO220F-2Pin	500	–				
FMN-G1x	TO220F-2Pin	500	–				
FMN-1x	TO220F-2Pin	500	–				
FMU-G1x	TO220F-2Pin	500	–				
FMU-G2x	TO220F-2Pin	500	–				
FMXA-1x	TO220F-2Pin	500	–				
FMX-G1x	TO220F-2Pin	500	–				
FMX-G2x	TO220F-2Pin	500	–				
FMC-2xUA	TO220F-2Pin(2-element)	500	–				
MPE-2x	TO220S(Surface-mount)	–	VR:1000(Reel)				
MPL-102S	TO220S(Surface-mount)	–	VR:1000(Reel)				
MPEN-2x	TO263(Surface-mount)	–	VL:800(Reel)	VR:800(Reel)			
MPL-1036S	TO220S(Surface-mount)	–	VL:800(Reel)	VR:800(Reel)			
FMD-4x	TO3PF(Center-tap)	500	–				
FMXA-4x	TO3PF(Center-tap)	500	–				
FML-4x	TO3PF(Center-tap)	500	–				
FMW-4x	TO3PF(Center-tap)	500	–				
FMN-3x	TO3PF-2Pin	500	–				

Taping Specifications

Taping Name	Taping Type, Dimensions (mm)	Packing Dimensions (mm) and Packing Note	Quantity
V To specify the taping type, add a suffix [V]	Axial taping	Reel	5,000 pcs/reel (2.7φ body) 3,000 pcs/reel (4φ body)
V1 To specify the taping type, add a suffix [V1]	Axial taping	Ammunition (Ammo) pack	2,000 pcs/box (2.7φ body) 3,000 pcs/box (2.4φ body) 1,000 pcs/box (4φ body)
V0 To specify the taping type, add a suffix [V0]	Axial taping	Ammunition (Ammo) pack	2,000 pcs/box (2.7φ body) 3,000 pcs/box (2.4φ body)

Taping Name	Taping Type, Dimensions (mm)	Packing Dimensions (mm) and Packing Note	Quantity
W To specify the taping type, add a suffix [W]	Radial taping 	Ammunition (Ammo) pack 	4,000 pcs/box (2.7φ body 0.6φ lead only)
WS To specify the taping type, add a suffix [WS]	Radial taping (for A0 series) 	Ammunition (Ammo) pack 	2,500 pcs/box (2.4φ body)
WK To specify the taping type, add a suffix [WK]	Radial taping (for A0 series) 		2,500 pcs/box (2.4φ body)

Surface-Mount Taping Specifications

Taping Name	Taping Type, Dimensions (mm)	Packing Dimensions (mm) and Packing Note	Quantity
SJP VL VR To specify the taping type, add a suffix [VL] or [VR]	Emboss Taping (1) Device is placed in the embossed pocket with the mounting electrode down. (2) 150 to 200mm leader tape is attached to the tip of the tape. (3) 10 or more blank pockets are provided at both the beginning and the end of the tape.	Reel	1800 pcs/reel
TO-220 VR To specify the taping type, add a suffix [VR]			1000 pcs/reel

Power Zener Surface-Mount Taping Specifications

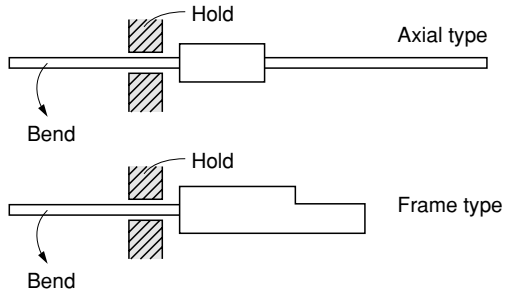
Taping Name	Taping Type, Dimensions (mm)	Packing Dimensions (mm) and Packing Note	Quantity
VL To specify the taping type, add a suffix [VL]			750 pcs/reel
VR To specify the taping type, add a suffix [VR]		Label the Part No., Quantity, Lot No. and seal it on the reel	750 pcs/reel

Application Note

General Description

(1) Lead Forming

When forming leads, hold the lead wire on the main body's side so as to prevent stress from being applied to the main body.



(2) Mounting

To mount a frame-type diode on a heatsink, use its screw hole. Do not fix its resin body as the silicon chip may get broken.

(3) Temperature Measurement

For an axial type diode, measure the temperature of the lead wire on the main body side. The thermocouple to be used must be as thin as possible (approximately $\phi 0.125\text{mm}$).

(4) Temperature Rise Consideration

A diode's temperature increases due to losses from forward current, reverse current and reverse recovery time. In normal use, losses are mainly attributable to forward current and voltage. However, in high frequency circuits such as switching power supplies, losses due to reverse recovery time also occurs. Moreover, in diodes having large reverse currents like Schottky barrier diode losses due to reverse current cannot be disregarded. Forward loss tends to decrease at high temperatures. However, reverse loss tends to increase at high temperatures. Therefore, it is necessary to consider the ambient temperature when verifying operation.

(5) Inrush Current

In a capacitor-input type rectifier circuit, inrush current flows when the power supply is switched on. The peak value of this inrush current shall be set less than peak forward surge current I_{FSM} (I^2t can also be obtained but set the minimum pulse width to 1 msec). The value of I_{FSM} is guaranteed for a single shot only. If the inrush current is repeated within a short period of time, the derating has to be taken into account.

(6) Peak Value Current

Considering normal use, limit of the peak value current must be set to 10 times of the average current I_F (AV). If the peak value increases, the diode's forward loss also increases. In this case, check the temperature rise.

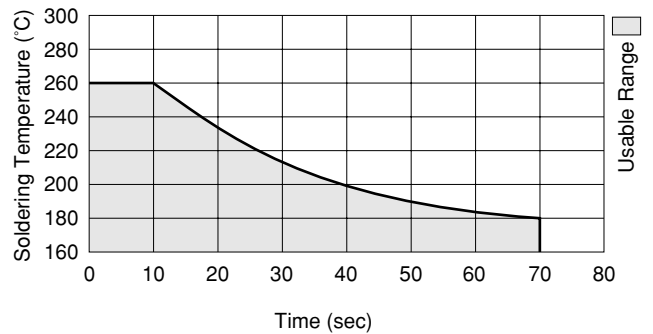
- Carefully study the mounting method when the usage environment is prone to creeping discharge.

Surface-Mount Diodes

(Part Number Type: SJP)

Soldering (common to flow and reflow)

- Use rosin based flux. Never use acidic fluxes.
- To prevent a large thermal stress, preheat within 1 to 2 minutes at 150°C and solder within the usable range shown below.



- For using a soldering iron, use the following references:

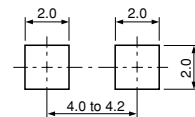
Temperature of soldering iron tip:

Lower than 300°C
(Power of the soldering iron: 30W or lower)
The soldering tip must be as thin as possible.

Soldering time: Less than 10 seconds

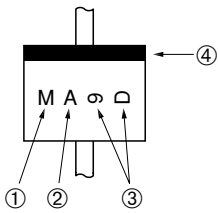
Reference SJP Series Copper Laminate Pattern

(Unit : mm)



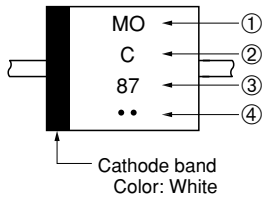
Marking Guide

1 Axial (A0)



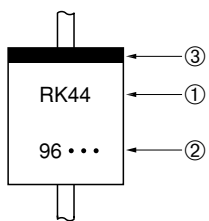
- ① Part Number (abbreviation)
The AM01 is indicated as "M."
- ② Class
Z: 200V None: 400V A: 600V
B: 800V C: 1000V
- ③ Manufacturing date
First letter: Year (Last digit of year)
Second letter: Month (1 to 9, O, N, D)
- ④ Cathode band: Continuous band
Color of the band: White (Yellow for AU02 series)

2 Axial (E0, E1)



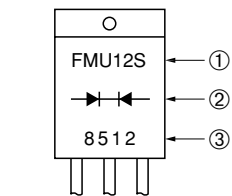
- ① Part Number (abbreviation)
EM01, EM2, EM1 are indicated as MO, M2 and M1, respectively.
- ② Class
Z: 200V None: 400V A: 600V
B: 800V C: 1000V F: 1500V
But EU02A is indicated as A2 and EU2YX as Y.
- ③ Manufacturing date
First letter: Year (Last digit of year)
Second letter: Month (1 to 9, O, N, D)
- ④ Manufacturing period
• First 10 days of month
• Middle 10 days of month
• Last 10 days of month

3 Axial (R1, R2, R3, R4)

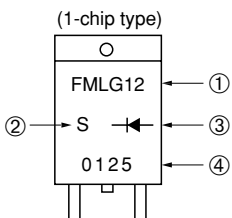


- ① Part Number: 2 set marking
- ② Manufacturing date and period: 2 set marking
First letter: Year (Last digit of year)
Second letter: Month (1 to 9, O, N, D)
• First 10 days of month
• Middle 10 days of month
• Last 10 days of month
- ③ Cathode band
Color of the band: { White: For Power Supply and SBD
Yellow: For Medium speed
Red: For Fast and ultrafast

4 TO-220F type

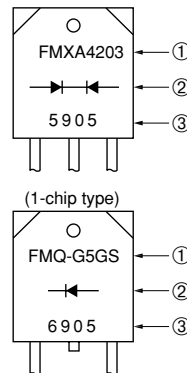


- ① Part Number
FMU-12S is indicated as "FMU12S."
- ② Polarity: Rectifier Symbol
- ③ Lot No.
First letter: Year (Last digit of year)
Second letter: Month (1 to 9, O, N, D)
Third and fourth letters: Day
Laser marking or White ink marking



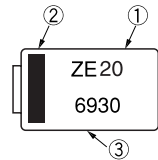
- ① Part Number: Excluding last letter
FML-G12S is indicated as "FML-G12."
- ② Last letter of Part Number
- ③ Polarity: Rectifier Symbol
- ④ Lot No.
First letter: Year (Last digit of year)
Second letter: Month (1 to 9, O, N, D)
Third and fourth letters: Day
Laser marking or White ink marking

5 TO-3PF, FM100 type



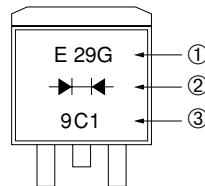
- ① Part Number: Full name
- ② Polarity: Rectifier Symbol
- ③ Lot No.
First letter: Year (Last digit of year)
Second letter: Month (1 to 9, O, N, D)
Third and fourth letters: Day
Laser marking or White ink marking

6 Surface-Mount (SJP)



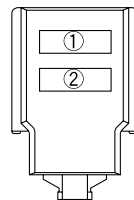
- ① Part Number
- ② Polarity: Rectifier Symbol
- ③ Lot No.
First letter: Year (Last digit of year)
Second letter: Month (1 to 9, O, N, and D)
Third and fourth letters: Day

7 Surface-Mount (TO-220S)



- ① Part Number
- ② Polarity: Rectifier Symbol
- ③ Lot No.
First letter: Year (Last digit of year)
Second letter: Month (A to M except I)
Third letter: Week

8 SZ-10 Series



- ① Part Number
- ② Lot No.
First letter: Year (Last digit of year)
Second letter: Month (1 to 9, O, N, and D)
Third letter: Day

9 Silicon Varistors

Refer to P217

4-1 Rectifier Diodes

●Surface-Mount

V _{RM} (V)	I _F (AV) (A) Values in parentheses are for the products with heatsinks	Package	Part Number	I _{FSM} (A)	T _J (°C)	T _{stg} (°C)	V _F (V) max	I _F (A)	I _R (μA)	I _R (H) (μA)	T _J (°C)	R _{th(j-l)} R _{th(j-c)} (°C/W)	Mass (g)
				50Hz Single Half Sine Wave					V _R =V _{RM} max	V _R =V _{RM} max			
400	2.0	Surface-Mount (SJP)	SJPM-H4	45	-40 to +150		1.1	2.0	10	50	150	20	0.072

●Thru-Hole

V _{RM} (V)	I _F (AV) (A) Values in parentheses are for the products with heatsinks	Package Axial (Body Diameter/Lead Diameter)	Part Number	I _{FSM} (A)	T _J (°C)	T _{stg} (°C)	V _F (V) max	I _F (A)	I _R (μA)	I _R (H) (μA)	T _J (°C)	R _{th(j-l)} R _{th(j-c)} (°C/W)	Mass (g)
				50Hz Single Half Sine Wave					V _R =V _{RM} max	V _R =V _{RM} max			
100	1.0	Axial(φ2.7/φ0.78)	EM 1Y	45	-40 to +150		0.97	1.0	10	500	150	17	0.3
	3.0	Axial(φ6.5/φ1.4)	RM 4Y	200	-40 to +150		0.95	3.0	10	50	150	8.0	1.2
200	1.0	Axial(φ2.4/φ0.6)	AM01Z	35	-40 to +150		0.98	1.0	10	50	100(Ta)	22	0.13
	1.0	Axial(φ2.7/φ0.6)	EM01Z	45	-40 to +150		0.97	1.0	10	50	100	20	0.2
	1.0	Axial(φ2.7/φ0.78)	EM 1Z	45	-40 to +150		0.97	1.0	10	500	150	17	0.3
	1.0	Axial(φ4.0/φ0.78)	RM 1Z	50	-40 to +150		0.95	1.0	5.0	50	100	15	0.4
	1.2	Axial(φ4.0/φ0.98)	RO 2Z	80	-40 to +150		0.92	1.5	10	50	100(Ta)	12	0.61
	1.2	Axial(φ4.0/φ0.98)	RM 2Z	100	-40 to +150		0.91	1.5	10	50	100	12	0.6
	1.5	Axial(φ4.0/φ0.78)	RM 10Z	120	-40 to +150		0.91	1.5	10	50	100(Ta)	15	0.4
	3.0	Axial(φ6.5/φ1.4)	RM 4Z	200	-40 to +150		0.95	3.0	10	50	100(Ta)	8.0	1.2
	10	TO-220F(Center-tap)	FMM-22S, R	100	-40 to +150		1.1	5.0	10	100	150	4.0	2.1
	1.0	Axial(φ2.4/φ0.6)	AM01	35	-40 to +150		0.98	1.0	10	50	100(Ta)	22	0.13
400	1.0	Axial(φ2.7/φ0.6)	EM01	45	-40 to +150		0.97	1.0	10	50	100(Ta)	20	0.2
	1.0	Axial(φ2.7/φ0.78)	EM 1	45	-40 to +150		0.97	1.0	10	500	150	17	0.3
	1.0	Axial(φ4.0/φ0.78)	RM 1	50	-40 to +150		0.95	1.0	5.0	50	100(Ta)	15	0.4
	1.2	Axial(φ2.7/φ0.78)	EM 2	80	-40 to +150		0.92	1.2	10	500	150	17	0.3
	1.2	Axial(φ4.0/φ0.98)	RO 2	80	-40 to +150		0.92	1.5	10	50	100(Ta)	12	0.61
	1.2	Axial(φ4.0/φ0.98)	RM 2	100	-40 to +150		0.91	1.5	10	50	100	12	0.6
	1.2	Axial(φ4.0/φ0.78)	RM 10	150	-40 to +150		0.91	1.5	10	50	100	15	0.4
	3.0	Axial(φ6.5/φ1.4)	RM 4	200	-40 to +150		0.95	3.0	10	50	150	8.0	1.2
	10	TO-220F(Center-tap)	FMM-24S, R	100	-40 to +150		1.1	5.0	10	100	150	4.0	2.1
	1.0	Axial(φ2.4/φ0.6)	AM01A	35	-40 to +150		0.98	1.0	10	50	100(Ta)	22	0.13
600	1.0	Axial(φ2.7/φ0.6)	EM01A	45	-40 to +150		0.97	1.0	10	50	100(Ta)	20	0.2
	1.0	Axial(φ2.7/φ0.78)	EM 1A	45	-40 to +150		0.97	1.0	10	500	150	17	0.3
	1.0	Axial(φ4.0/φ0.78)	RM 1A	50	-40 to +150		0.95	1.0	5.0	50	100	15	0.4
	1.2	Axial(φ2.7/φ0.78)	EM 2A	80	-40 to +150		0.92	1.2	10	50	100	17	0.3
	1.2	Axial(φ4.0/φ0.78)	RM 11A	100	-40 to +150		0.92	1.5	10	50	100	15	0.4
	1.2	Axial(φ4.0/φ0.98)	RM 2A	100	-40 to +150		0.91	1.5	10	50	100	12	0.6
	1.2	Axial(φ4.0/φ0.78)	RM 10A	150	-40 to +150		0.91	1.5	10	50	100	15	0.4
	3.0	Axial(φ6.5/φ1.4)	RM 4A	200	-40 to +150		0.95	3.0	10	50	150	8.0	1.2
	3.2	Axial(φ6.5/φ1.4)	RM 4AM	350	-40 to +150		0.92	3.5	10	50	100	8.0	1.2
	10	TO-220F(Center-tap)	FMM-26S, R	100	-40 to +150		1.1	5.0	10	100	150	4.0	2.1
800	0.8	Axial(φ4.0/φ0.78)	RM 1B	40	-40 to +150		1.2	1.0	5.0	50	100(Ta)	15	0.4
	1.0	Axial(φ2.7/φ0.78)	EM 1B	35	-40 to +150		1.05	1.0	20	200	150	17	0.3
	1.2	Axial(φ2.7/φ0.78)	EM 2B	80	-40 to +150		0.92	1.2	10	500	150	17	0.3
	1.2	Axial(φ4.0/φ0.78)	RM 11B	100	-40 to +150		0.92	1.5	10	50	100(Ta)	15	0.4
	1.2	Axial(φ4.0/φ0.98)	RM 2B	100	-40 to +150		0.91	1.5	10	50	100	12	0.6
	1.2	Axial(φ4.0/φ0.78)	RM 10B	150	-40 to +150		0.91	1.5	10	50	100(Ta)	15	0.4
1000	0.8	Axial(φ4.0/φ0.78)	RM 1C	40	-40 to +150		1.2	1.0	5.0	100	100(Ta)	15	0.4
	1.0	Axial(φ2.7/φ0.78)	EM 1C	35	-40 to +150		1.05	1.0	20	200	150	17	0.3
	1.2	Axial(φ4.0/φ0.98)	RO 2C	80	-40 to +150		0.92	1.5	10	50	100(Ta)	12	0.61
	1.2	Axial(φ4.0/φ0.78)	RM 11C	100	-40 to +150		0.92	1.5	10	50	100	15	0.4
	1.2	Axial(φ4.0/φ0.98)	RM 2C	100	-40 to +150		0.91	1.5	10	50	100	12	0.6
	3.0	Axial(φ6.5/φ1.4)	RM 4C	150	-40 to +150		0.97	3.0	10	50	100	8.0	1.2

4-2 Fast Recovery Diodes

●Thru-Hole

V _{RM} (V)	I _F (A) (A) Values in parentheses are for the products with heatsinks	Package Axial (Body Diameter/Lead Diameter)	Part Number	I _{FSM} (A)	T _j (°C)	T _{stg} (°C)	V _F (V) max	I _F	I _R	I _R (H)	T _j (°C)	trr ⁽¹⁾ (μs)	I _F /I _{RP} (mA)	trr ⁽²⁾ (μs)	I _F /I _{RP} (mA)	R _{th} (j-l) R _{th} (j-c) (°C/W)	Mass (g)
				50Hz				(A)	(μA)								
				Single Half Sine Wave				V _R =V _{RM} max	V _R =V _{RM} max								
200	0.5	Axial(φ2.7/φ0.6)	EU01Z	15	-40 to +150		1.0	0.5	10	150	100(Ta)	0.4	10/10	0.18	10/20	20	0.2
	0.5	Axial(φ2.7/φ0.78)	EU 1Z	15	-40 to +150		1.0	0.5	10	150	100(Ta)	0.4	10/10	0.18	10/20	17	0.3
	0.5	Axial(φ2.4/φ0.6)	AU01Z	15	-40 to +150		1.7	0.5	10	150	100(Ta)	0.4	10/10	0.18	10/20	22	0.13
	0.6	Axial(φ4.0/φ0.78)	RH 1Z	35	-40 to +150		1.3	0.6	5.0	70	150(Ta)	4.0	10/10	1.3	10/20	15	0.4
	0.7	Axial(φ2.7/φ0.78)	ES 1Z	30	-40 to +150		2.5	0.8	10	200	100(Ta)	1.5	10/10	0.6	10/20	17	0.3
	0.8	Axial(φ2.4/φ0.6)	AU02Z	25	-40 to +150		1.3	0.8	10	250	100	0.4	10/10	0.18	10/20	22	0.13
	1.0	Axial(φ2.7/φ0.6)	EU02Z	15	-40 to +150		1.4	1.0	10	300	100	0.4	10/10	0.18	10/20	20	0.2
	1.0	Axial(φ2.7/φ0.78)	EU 2Z	15	-40 to +150		1.4	1.0	10	3000	150	0.4	10/10	0.18	10/20	17	0.3
	1.0	Axial(φ4.0/φ0.78)	RU 2Z	20	-40 to +150		1.5	1.0	10	300	100(Ta)	0.4	10/10	0.18	10/20	15	0.4
	3.5	Axial(φ6.5/φ1.4)	RU 4Z	70	-40 to +150		1.3	3.5	10	300	100	0.4	10/10	0.18	10/20	8.0	1.2
	5.0	TO-220F(Center-tap)	FMU-12S, R	30	-40 to +150		1.5	2.5	50	500	100(Ta)	0.4	100/100	0.18	100/200	4.0	2.1
10	TO-220F(Center-tap)	FMU-22S, R	40	-40 to +150		1.5	5.0	50	3000	150	0.4	100/100	0.18	100/200	4.0	2.1	
400	0.25	Axial(φ2.7/φ0.6)	EU01	15	-40 to +150		2.5	0.25	10	150	100(Ta)	0.4	10/10	0.18	10/20	20	0.2
	0.25	Axial(φ2.7/φ0.78)	EU 1	15	-40 to +150		2.5	0.25	10	150	100(Ta)	0.4	10/10	0.18	10/20	17	0.3
	0.25	Axial(φ4.0/φ0.78)	RU 1	15	-40 to +150		2.5	0.25	10	200	100(Ta)	0.4	10/10	0.18	10/20	15	0.4
	0.5	Axial(φ2.4/φ0.6)	AU01	15	-40 to +150		1.7	0.5	10	150	100(Ta)	0.4	10/10	0.18	10/20	22	0.13
	0.6	Axial(φ2.4/φ0.6)	AS01	20	-40 to +150		1.5	0.6	10	50	100	1.5	10/10	0.6	10/20	22	0.13
	0.6	Axial(φ2.7/φ0.78)	EH 1	30	-40 to +150		1.35	0.6	10	200	100(Ta)	4.0	10/10	1.3	10/20	17	0.3
	0.7	Axial(φ2.7/φ0.78)	ES 1	30	-40 to +150		2.5	0.8	10	200	100(Ta)	1.5	10/10	0.6	10/20	17	0.3
	0.8	Axial(φ2.4/φ0.6)	AU02	25	-40 to +150		1.3	0.8	10	250	100	0.4	10/10	0.18	10/20	22	0.13
	1.0	Axial(φ2.7/φ0.6)	EU02	15	-40 to +150		1.4	1.0	10	300	100	0.4	10/10	0.18	10/20	20	0.2
	1.0	Axial(φ2.7/φ0.78)	EU 2	15	-40 to +150		1.4	1.0	10	300	100	0.4	10/10	0.18	10/20	17	0.3
	1.1	Axial(φ4.0/φ0.78)	RU 2M	20	-40 to +150		1.2	1.1	10	300	100	0.4	10/10	0.18	10/20	15	0.4
	1.5	Axial(φ4.0/φ0.98)	RU 3	20	-40 to +150		1.5	1.5	10	400	100	0.4	10/10	0.18	10/20	12	0.6
	1.5	Axial(φ4.0/φ0.98)	RU 3M	50	-40 to +150		1.1	1.5	10	350	100	0.4	10/10	0.18	10/20	12	0.6
	1.5(3.0)	Axial(φ6.5/φ1.4)	RU 4	50	-40 to +150		1.5	3.0	10	300	100(Ta)	0.4	10/10	0.18	10/20	8.0	1.2
	2.0(3.5)	Axial(φ6.5/φ1.4)	RU 4M	70	-40 to +150		1.3	3.5	10	300	100	0.4	100/100	0.18	100/200	8.0	1.2
	5.0	TO-220F(Center-tap)	FMU-14S, R	30	-40 to +150		1.5	2.5	50	500	100(Ta)	0.4	100/100	0.18	100/200	4.0	2.1
	10	TO-220F(Center-tap)	FMU-24S, R	40	-40 to +150		1.5	5.0	50	3000	150	0.4	100/100	0.18	100/200	4.0	2.1
600	0.25	Axial(φ4.0/φ0.78)	RU 1A	15	-40 to +150		2.5	0.25	10	150	100	0.4	10/10	0.18	10/20	15	0.4
	0.5	Axial(φ2.4/φ0.6)	AU01A	15	-40 to +150		1.7	0.5	10	150	100(Ta)	0.4	10/10	0.18	10/20	22	0.13
	0.6	Axial(φ4.0/φ0.78)	RF 1A	15	-40 to +150		2.0	0.6	10	200	100(Ta)	0.4	10/10	0.18	10/20	15	0.4
	0.6	Axial(φ2.4/φ0.6)	AS01A	20	-40 to +150		1.5	0.6	10	50	100	1.5	10/10	0.6	10/20	22	0.13
	0.6	Axial(φ4.0/φ0.78)	RH 1A	35	-40 to +150		1.3	0.6	5.0	70	150(Ta)	4.0	10/10	1.3	10/20	15	0.4
	0.7	Axial(φ2.7/φ0.6)	ES01A	20	-40 to +150		3.0	0.8	10	200	100(Ta)	1.5	10/10	0.6	10/20	20	0.2
	0.7	Axial(φ4.0/φ0.78)	RS 1A	30	-40 to +150		2.5	0.8	10	2000	150	1.5	10/10	0.6	10/20	15	0.4
	0.8	Axial(φ2.4/φ0.6)	AU02A	25	-40 to +150		1.3	0.8	10	250	100(Ta)	0.4	10/10	0.18	10/20	22	0.13
	1.0	Axial(φ2.7/φ0.6)	EU02A	15	-40 to +150		1.4	1.0	10	300	100	0.4	10/10	0.18	10/20	20	0.2
	1.0	Axial(φ2.7/φ0.78)	EU 2A	15	-40 to +150		1.4	1.0	10	300	100(Ta)	0.4	10/10	0.18	10/20	17	0.3
	1.0	Axial(φ4.0/φ0.78)	RU 2	20	-40 to +150		1.5	1.0	10	300	100(Ta)	0.4	10/10	0.18	10/20	15	0.4
	1.1	Axial(φ4.0/φ0.78)	RU 2AM	20	-40 to +150		1.2	1.1	10	300	100	0.4	10/10	0.18	10/20	15	0.4
	1.5	Axial(φ4.0/φ0.98)	RU 3A	20	-40 to +150		1.5	1.5	10	400	100	0.4	10/10	0.18	10/20	12	0.6
	1.5	Axial(φ4.0/φ0.78)	RU 20A	50	-40 to +150		1.1	1.5	10	350	100	0.4	10/10	0.18	10/20	15	0.4
	1.5	Axial(φ4.0/φ0.98)	RU 3AM	50	-40 to +150		1.1	1.5	10	350	100	0.4	10/10	0.18	10/20	12	0.6
	1.5(3.0)	Axial(φ6.5/φ1.4)	RU 4A	50	-40 to +150		1.5	3.0	10	300	100(Ta)	0.4	10/10	0.18	10/20	8	1.2
	3.0	Axial(φ4.0/φ0.98)	RY 2A	50	-40 to +150		1.15	3.0	10	1000	150	0.2	100/100	0.1	100/200	12	0.6
	3.0	TO-220F2Pin	FMY-1036S	50	-40 to +150		1.15	3.0	10	1000	150	0.2	100/100	0.1	100/200	4.0	2.1
	5.0	TO-220F2Pin	FMU-G16S	30	-40 to +150		1.25	5.0	50	500	100(Ta)	0.4	100/100	0.18	100/200	4.0	2.1
	5.0	TO-220F(Center-tap)	FMU-16S, R	30	-40 to +150		1.5	2.5	50	500	100(Ta)	0.4	100/100	0.18	100/200	4.0	2.1
	10	TO-220F(Center-tap)	FMU-26S, R	40	-40 to +150		1.5	5.0	50	3000	150	0.4	100/100	0.18	100/200	4.0	2.1
	10	TO-220F2Pin	FMU-G26S	40	-40 to +150		1.35	10	50	500	150	0.4	100/100	0.18	100/200	4.0	2.1
	10	TO-220F2Pin	FMY-1106S	180	-40 to +150		1.15	10	30	3000	150	0.2	100/100	0.1	100/200	4.0	2.1
	20	TO-220F(Center-tap)	FMY-2206S*	180	-40 to +150		1.15	10	30	3000	150	0.2	100/100	0.1	100/200	4.0	2.1

*Under development

V _{RM} (V)	I _F (A) (A) Values in parentheses are for the products with heatsinks	Package Axial (Body Diameter/Lead Diameter)	Part Number	I _{FSM} (A)	T _j (°C)	T _{stg} (°C)	V _F (V) max	I _F (A)	I _R (μA)	I _R (H) (μA)	T _j (°C)	trr ⁽¹⁾ (μs)		trr ⁽²⁾ (μs)		R _{th} (j-l) R _{th} (j-c) (°C/W)	Mass (g)
				50Hz Single Half Sine Wave					V _R =V _{RM} max	V _R =V _{RM} max		I _F /I _{RP} (mA)	I _F /I _{RP} (mA)				
800	0.25	Axial(φ4.0/φ0.78)	RU 1B	15	-40 to +150	2.5	0.25	10	200	100(Ta)	0.4	10/10	0.18	10/20	15	0.4	
	0.6	Axial(φ4.0/φ0.78)	RF 1B	15	-40 to +150	2.0	1.0	10	200	100	0.4	10/10	0.18	10/20	15	0.4	
	0.6	Axial(φ4.0/φ0.78)	RH 1B	35	-40 to +150	1.3	0.6	5.0	70	150(Ta)	4.0	10/10	1.3	10/20	15	0.4	
	0.7	Axial(φ4.0/φ0.78)	RS 1B	30	-40 to +150	2.5	0.8	10	2000	150	1.5	10/10	0.6	10/20	15	0.4	
	1.0	Axial(φ4.0/φ0.78)	RU 2B	20	-40 to +150	1.5	1.0	10	300	100	0.4	10/10	0.18	10/20	15	0.4	
	1.1	Axial(φ4.0/φ0.98)	RU 3B	20	-40 to +150	1.5	1.0	10	400	100	0.4	10/10	0.18	10/20	12	0.6	
	1.5(3.0)	Axial(φ6.5/φ1.4)	RU 4B	50	-40 to +150	1.6	3.0	10	500	100(Ta)	0.4	10/10	0.18	10/20	8.0	1.2	
1000	0.2	Axial(φ4.0/φ0.78)	RU 1C	15	-40 to +150	3.0	0.25	10	250	100	0.4	10/10	0.18	10/20	15	0.4	
	0.6	Axial(φ4.0/φ0.78)	RH 1C	35	-40 to +150	1.3	0.6	5.0	70	150(Ta)	4.0	10/10	1.3	10/20	15	0.4	
	0.8	Axial(φ4.0/φ0.78)	RU 2C	20	-40 to +150	1.5	1.0	10	300	100(Ta)	0.4	10/10	0.18	10/20	15	0.4	
	1.5	Axial(φ4.0/φ0.98)	RU 3C	20	-40 to +150	2.5	1.5	10	400	100	0.4	10/10	0.18	10/20	12	0.6	
	1.5(2.5)	Axial(φ6.5/φ1.4)	RU 4C	50	-40 to +150	1.6	3.0	50	500	100	0.4	100/100	0.18	100/200	8.0	1.2	
1300	1.5	Axial(φ6.5/φ1.4)	RU 4D	50	-40 to +150	1.8	1.5	50	500	100	0.4	500/500	0.18	500/1000	8.0	1.2	
	1.5(2.5)	Axial(φ6.5/φ1.4)	RU 4DS	50	-40 to +150	1.6	3.0	10	500	100	0.4	500/500	0.18	500/1000	8.0	1.2	
1500	0.5	Axial(φ2.7/φ0.6)	ES01F	15	-40 to +150	2.0	0.5	10	200	100(Ta)	1.5	10/10	0.6	10/20	20	0.2	
	0.5	Axial(φ2.7/φ0.78)	ES 1F	20	-40 to +150	2.0	0.5	10	200	100(Ta)	1.5	10/10	0.6	10/20	17	0.3	
	1.5(2.5)	Axial(φ6.5/φ1.4)	RS 4FS	50	-40 to +150	1.5	3.0	50	500	100	1.0	100/100	0.4	100/200	8.0	1.2	
2000	0.2	Axial(φ4.0/φ0.78)	RC 2	20	-40 to +150	2.0	0.2	10	300	100	4.0	10/10	1.3	10/20	15	0.4	

4-3 Ultrafast Recovery Diodes

●Surface-Mount

V _{RM} (V)	I _F (AV) (A) Values in parentheses are for the products with heatsinks	Package	Part Number	I _{FSM} (A)	T _j (°C)	T _{stg} (°C)	V _F (V) max	I _F (A)	I _R (μA)	I _R (H) (mA)	T _j (°C)	trr ⁽¹⁾ (ns)	I _F /I _{RP} (mA)	trr ⁽²⁾ (ns)	I _F /I _{RP} (mA)	R _{th(j-l)} (°C/W)	Mass (g)
				50Hz Single Half Sine Wave					V _R =V _{RM} max	V _R =V _{RM} max							
200	1.0	Surface-Mount (SJP)	SJPL-D2	25	-40 to +150		0.98	1.0	25	0.1	150	50	100/100	35	100/200	20	0.072
	1.5	Surface-Mount (SJP)	SJPX-F2	30	-40 to +150		0.98	1.5	10	2.0	150	30	100/100	25	100/200	20	0.072
	2.0	Surface-Mount (SJP)	SJPL-H2	25	-40 to +150		0.98	2.0	50	0.2	150	50	100/100	35	100/200	20	0.072
	3.0	Surface-Mount (SJP)	SJPL-L2	60	-40 to +150		0.98	3.0	50	0.3	150	50	100/100	35	100/200	20	0.072
	10	Surface-Mount (TO220S)	MPL-102S	65	-40 to +150		0.98	5.0	100	0.2	150(Ta)	40	100/100	30	100/200	2.5	1.4
300	2.0	Surface-Mount (SJP)	SJPX-H3	20	-40 to +150		1.3	2.0	50	3.0	150	30	100/100	25	100/200	20	0.072
400	1.5	Surface-Mount (SJP)	SJPL-F4	25	-40 to +150		1.3	1.5	10	0.05	150(Ta)	50	100/100	35	100/200	20	0.072
	3.0	Surface-Mount (SJP)	SJPL-L4	30	-40 to +150		1.3	3.0	50	0.1	150	50	100/100	35	100/200	20	0.072
500	1.0	Surface-Mount (SJP)	SJPD-D5*	20	-40 to +150		1.4	1.0	10	0.1	150	40	100/100	30	100/200	20	0.072
	3.0	Surface-Mount (SJP)	SJPD-L5	50	-40 to +150		1.4	3.0	15	0.15	150	50	100/100	35	100/200	20	0.072
600	2.0	Surface-Mount (SJP)	SJPL-H6	30	-40 to +150		1.5	2.0	50	0.1	150	50	100/100	35	100/200	20	0.072
	2.0	Surface-Mount (SJP)	SJPX-H6	20	-40 to +150		1.5	2.0	10	3.0	150	30	100/100	20	100/200	20	0.072
	3.0	Surface-Mount (TO220S)	MPL-1036S	50	-40 to +150		1.75	3.0	50	0.1	150	50	100/100	—	—	2.5	1.4

*Under development

●Thru-Hole

V _{RM} (V)	I _F (AV) (A) Values in parentheses are for the products with heatsinks	Package Axial (Body Diameter/Lead Diameter)	Part Number	I _{FSM} (A)	T _j (°C)	T _{stg} (°C)	V _F (V) max	I _F (A)	I _R (μA)	I _R (H) (mA)	T _j (°C)	trr ⁽¹⁾ (ns)	I _F /I _{RP} (mA)	trr ⁽²⁾ (ns)	I _F /I _{RP} (mA)	R _{th(j-l)} (°C/W)	Mass (g)
				50Hz Single Half Sine Wave					V _R =V _{RM} max	V _R =V _{RM} max							
200	1.0	Axial (φ 2.4/φ 0.6)	AL01Z	25	-40 to +150		0.98	1.0	50	0.1	100	50	100/100	35	100/200	22	0.13
	1.5	Axial (φ 2.7/φ 0.6)	EN01Z	50	-40 to +150		0.92	1.5	10	2.0	150	100	100/100	50	100/200	20	0.2
	1.5	Axial (φ 2.7/φ 0.78)	EL 1Z	25	-40 to +150		0.98	1.5	50	0.1	100	50	100/100	35	100/200	17	0.3
	1.5	Axial (φ 2.7/φ 0.6)	EL02Z	25	-40 to +150		0.98	1.5	50	0.1	100	40	100/100	30	100/200	20	0.2
	1.5	Axial (φ 4.0/φ 0.78)	RN 1Z	60	-40 to +150		0.92	1.5	20	3.0	150	100	100/100	50	100/200	15	0.4
	2.0	Axial (φ 4.0/φ 0.78)	RX 10Z	30	-40 to +150		0.98	2.0	50	3.0	150	30	100/100	25	100/200	15	0.4
	2.0	Axial (φ 4.0/φ 0.78)	RL 10Z	30	-40 to +150		0.98	2.0	50	0.1	100(Ta)	50	100/100	35	100/200	15	0.4
	2.0	Axial (φ 4.0/φ 0.98)	RL 2Z	30	-40 to +150		0.98	2.0	50	0.1	150	50	100/100	35	100/200	12	0.6
	2.0	Axial (φ 4.0/φ 0.98)	RN 2Z	70	-40 to +150		0.92	2.0	50	4.0	150	100	100/100	50	100/200	12	0.6
	3.5	Axial (φ 6.5/φ 1.4)	RL 4Z	80	-40 to +150		0.95	3.5	150	0.5	150	50	100/100	35	100/200	8.0	1.2
	3.5	Axial (φ 6.5/φ 1.4)	RN 4Z	120	-40 to +150		0.92	3.5	50	6.0	150	100	100/100	50	100/200	8.0	1.2
	5.0	TO-220F (Center-tap)	FML-12S	35	-40 to +150		0.98	2.5	50	0.1	150	40	100/100	30	100/200	4.0	2.1
	5.0	TO-220F (Center-tap)	FMX-12S	35	-40 to +150		0.98	2.5	50	10	150	30	100/100	25	100/200	4.0	2.1
	5.0	TO-220F2Pin	FML-G12S	65	-40 to +150		0.98	5.0	100	0.2	150	40	100/100	30	100/200	4.0	2.1
	5.0	TO-220F2Pin	FMX-G12S	65	-40 to +150		0.98	5.0	100	20	150	30	100/100	25	100/200	4.0	2.1
	5.0	TO-220F2Pin	FMN-G12S	100	-40 to +150		0.92	5.0	100	10	150(Ta)	100	100/100	50	100/200	4.0	2.1
	10	TO-220F (Center-tap)	FMXA-2102ST	100	-40 to +150		1.2	5.0	100	20	150	25	500/500	—	—	4.0	2.1
	10	TO-220F (Center-tap)	FML-22S	65	-40 to +150		0.98	5.0	100	0.2	150	40	100/100	30	100/200	4.0	2.1
	10	TO-220F (Center-tap)	FMX-22S	65	-40 to +150		0.98	5.0	100	20	100(Ta)	30	100/100	25	100/200	4.0	2.1
	10	TO-220F2Pin	FML-G22S	150	-40 to +150		0.98	10	200	0.4	150	40	500/500	30	500/1000	4.0	2.1
	10	TO-220F2Pin	FMX-G22S	150	-40 to +150		0.98	10	200	50	100(Ta)	30	500/500	25	500/1000	4.0	2.1
	15	TO-220F (Center-tap)	FMX-22SL	100	-40 to +150		0.98	7.5	150	30	150	30	500/500	25	500/1000	4.0	2.1
	20	TO-220F (Center-tap)	FM2-2202	110	-40 to +150		0.98	10	200	0.4	150	50	100/100	35	100/200	4.0	2.1
	20	TO-220F (Center-tap)	FMXA-2202S	100	-40 to +150		1.2	10	100	30	150	25	500/500	—	—	4.0	2.1
	20	TO-3PF (Center-tap)	FML-4202S	150	-40 to +150		0.98	10	10	0.4	150	40	500/500	30	500/1000	2.0	6.5
	20	TO-3PF (Center-tap)	FMX-4202S	150	-40 to +150		0.98	10	200	50	150	30	500/500	25	500/1000	2.0	6.5
	20	TO-3PF (Center-tap)	FMXA-4202S*	100	-40 to +150		1.2	10	100	30	150	25	500/500	—	—	2.0	6.5
	20	TO-3PF (Center-tap)	FMXS-4202S	150	-40 to +150		1.05	10	50	30	150	30	500/500	25	500/1000	2.0	6.5
300	5.0	TO-220F (Center-tap)	FML-13S	40	-40 to +150		1.3	2.5	50	0.25	100(Ta)	50	100/100	35	100/200	4.0	2.1
	5.0	TO-220F2Pin	FML-G13S	70	-40 to +150		1.3	5.0	100	0.2	100(Ta)	50	100/100	35	100/200	4.0	2.1
	10	TO-220F (Center-tap)	FML-23S	75	-40 to +150		1.3	5.0	100	0.2	150	50	100/100	30	100/200	4.0	2.1
	10	TO-220F (Center-tap)	FMX-23S	65	-40 to +150		1.3	5.0	50	15	150	30	100/100	25	100/200	4.0	2.1
	15	TO-220F (Center-tap)	FMXA-2153S	75	-40 to +150		1.3	7.5	75	23	150	25	500/500	—	—	4.0	2.1
	20	TO-220F (Center-tap)	FMX-2203	100	-40 to +150		1.3	10	100	30	150(Ta)	30	500/500	25	500/1000	4.0	2.1
	20	TO-3PF (Center-tap)	FMX-4203S	100	-40 to +150		1.3	10	100	30	150	30	500/500	25	500/1000	2.0	6.5
	20	TO-220F (Center-tap)	FMXA-2203S	100	-40 to +150		1.3	10	100	30	150	25	500/500	—	—	4.0	2.1
	20	TO-3PF (Center-tap)	FMXA-4203S	100	-40 to +150		1.3	10	100	30	150	25	500/500	—	—	2.0	6.5

*Under development

V _{RM} (V)	I _F (A) (A) Values in parentheses are for the products with heatsinks	Package Axial (Body Diameter/Lead Diameter)	Part Number	I _{FSM} (A) 50Hz Single Half Sine Wave	T _J (°C)	T _{stg} (°C)	V _F (V) max	I _F (A)	I _R (μA) V _R =V _{RM} max	I _R (H) (mA) V _R =V _{RM} max	T _J (°C)	trr ^① (ns)	I _F /I _{RP} (mA)	trr ^② (ns)	I _F /I _{RP} (mA)	R _{th(j-l)} (°C/W)	Mass (g)
400	0.7	Axial (φ 2.4/ f 0.6)	AG01	15	-40 to +150		1.8	0.7	100	0.5	100(Ta)	100	100/100	50	100/200	22	0.13
	0.7	Axial (φ 2.7/ f 0.6)	EG01	15	-40 to +150		2.0	0.7	50	0.3	100	100	100/100	50	100/200	20	0.2
	0.8	Axial (φ 2.7/ f 0.78)	EG 1	15	-40 to +150		1.8	0.8	50	0.3	100	100	100/100	50	100/200	17	0.3
	1.0	Axial (φ 2.4/ f 0.6)	AL01	20	-40 to +150		1.4	1.0	10	0.05	150	50	100/100	35	100/200	22	0.13
	1.2	Axial (φ 2.7/ f 0.78)	RG 10	50	-40 to +150		1.8	1.5	500	2.5	150	100	100/100	50	100/200	15	0.4
	1.2	Axial (φ 4.0/ f 0.98)	RG 2	50	-40 to +150		1.8	1.5	500	2.5	150	100	100/100	50	100/200	12	0.6
	1.5	Axial (φ 2.7/ f 0.78)	EL 1	40	-40 to +150		1.3	1.5	10	0.05	150	50	100/100	35	100/200	17	0.3
	2.0	Axial (φ 4.0/ f 0.98)	RL 2	40	-40 to +150		1.3	2.0	10	0.1	150	50	100/100	35	100/200	12	0.6
	5.0	TO-220F2Pin	FMXA-1054S	50	-40 to +150		1.5	5.0	50	15	150	20	500/500	—	—	4.0	2.1
	5.0	TO-220F (Center-tap)	FMG-14S, R	35	-40 to +150		2.0	2.5	500	1.5	100	100	100/100	50	100/200	4.0	2.1
	5.0	TO-220F (Center-tap)	FML-14S	40	-40 to +150		1.3	2.5	50	0.1	100(Ta)	50	100/100	35	100/200	4.0	2.1
	5.0	TO-220F2Pin	FMX-G14S	70	-40 to +150		1.3	5.0	50	15	150	30	100/100	25	100/200	4.0	2.1
	5.0	TO-220F2Pin	FML-G14S	70	-40 to +150		1.3	5.0	100	0.2	150	50	100/100	35	100/200	4.0	2.1
	5.0	TO-220F2Pin	FMN-G14S	70	-40 to +150		1.0	5.0	50	10	150	100	100/100	50	100/200	4.0	2.1
	8.0	TO-220F (Center-tap)	FMG-24S, R	65	-40 to +150		2.0	5.0	500	2.5	150	100	100/100	50	100/200	4.0	2.1
	10	TO-220F (Center-tap)	FML-24S	70	-40 to +150		1.3	5.0	100	0.2	100(Ta)	50	100/100	35	100/200	4.0	2.1
	10	TO-220F2Pin	FMXA-1104S	100	-40 to +150		1.5	10	100	30	150	25	500/500	—	—	4.0	2.1
	20	TO-3PF (Center-tap)	FML-4204S	100	-40 to +150		1.3	10	50	0.4	150	50	500/500	35	500/1000	2.0	6.5
	20	TO-3PF (Center-tap)	FMXA-4204S*	100	-40 to +150		1.5	10	100	30	150	25	500/500	—	—	2.0	6.5
	20	TO-3PF (Center-tap)	FMD-4204S	100	-40 to +150		1.4	10	20	0.2	150	50	500/500	30	500/1000	2.0	6.5
600	0.5	Axial (φ 2.7/ φ 0.6)	EG01A	10	-40 to +150		2.0	0.5	100	0.5	100	100	100/100	50	100/200	20	0.2
	0.5	Axial (φ 2.4/ φ 0.6)	AG01A	15	-40 to +150		1.8	0.5	100	0.5	100(Ta)	100	100/100	50	100/200	22	0.13
	0.6	Axial (φ 2.7/ φ 0.78)	EG 1A	10	-40 to +150		2.0	0.6	100	0.5	100	100	100/100	50	100/200	17	0.3
	1.0	Axial (φ 4.0/ φ 0.78)	RG 10A	50	-40 to +150		2.0	1.0	500	1.0	150	100	100/100	50	100/200	15	0.4
	1.0	Axial (φ 4.0/ φ 0.98)	RG 2A	50	-40 to +150		2.0	1.0	500	1.0	150	100	100/100	50	100/200	12	0.6
	1.2	Axial (φ 4.0/ φ 0.98)	RD 2A	30	-40 to +150		1.55	1.2	50	0.1	150	50	100/100	35	100/200	12	0.6
	3.0	TO-220F (Two elements)	FMC-26U	50	-40 to +150		2.0	3.0	500	3.0	150	70	500/500	35	500/1000	4.0	2.1
	3.0	Axial (φ 6.5/ φ 1.4)	RL 4A	80	-40 to +150		1.5	3.0	50	0.1	150	50	500/500	35	500/1000	8.0	1.2
	3.0	Axial (φ 6.5/ φ 1.4)	RN 4A	50	-40 to +150		1.3	3.0	50	5.0	150	100	100/100	50	100/200	8.0	1.2
	4.0	TO-220F2Pin	FMG-G26S	50	-40 to +150		2.5	4.0	500	3.0	100(Ta)	100	100/100	50	100/200	4.0	2.1
	5.0	TO-220F2Pin	FMX-G16S	50	-40 to +150		1.5	5.0	50	15	150	30	100/100	25	100/200	4.0	2.1
	5.0	TO-220F2Pin	FML-G16S	50	-40 to +150		1.5	5.0	100	0.5	150	50	500/500	35	500/1000	4.0	2.1
	5.0	TO-220F2Pin	FMN-1056S	60	-40 to +150		1.3	5.0	50	5.0	150	100	100/100	50	100/200	4.0	2.1
	5.0	TO-220F2Pin	FMD-1056S*	90	-40 to +150		1.7	5.0	10	0.1	150	50	500/500	35	500/1000	4.0	2.1
	6.0	TO-220F (Center-tap)	FMG-26S, R	50	-40 to +150		2.2	3.0	500	3.0	150	100	100/100	50	100/200	4.0	2.1
	8.0	TO-220F2Pin	FMXK-1086S	100	-40 to +150		1.75	8.0	30	6.0	150	27	500/500	—	—	4.0	2.1
	10	TO-220F2Pin	FMX-1106S	50	-40 to +150		1.5	5.0	50	15	150	30	100/100	25	100/200	4.0	2.1
	10	TO-220F2Pin	FMX-G26S	100	-40 to +150		1.5	10	100	20	150(Ta)	30	100/100	25	100/200	4.0	2.1
	10	TO-220F2Pin	FMD-G26S	100	-40 to +150		1.7	10	100	0.3	100(Ta)	50	500/500	30	500/1000	4.0	2.1
	10	TO-220F2Pin	FMXA-1106S	100	-40 to +150		1.98	10	100	30	150	28	500/500	—	—	4.0	2.1
	10	TO-220F2Pin	FMNS-1106S	100	-40 to +150		1.3	10	100	10	150	100	100/100	50	100/200	4.0	2.1
	10	TO-220F2Pin	FMN-1106S	150	-40 to +150		1.3	10	100	10	150	100	100/100	50	100/200	4.0	2.1
	10	TO-220F2Pin	FMD-1106S*	180	-40 to +150		1.7	10	20	0.2	150	50	500/500	35	500/1000	4.0	2.1
	10	TO-220F2Pin	FMXK-1106S	100	-40 to +150		1.75	10	100	10	150	27	500/500	—	—	4.0	2.1
	20	TO-220F2Pin	FMN-1206S	150	-40 to +150		1.3	20	200	20	150	150	500/500	100	500/1000	4.0	2.1
	20	TO-220F (Center-tap)	FMN-2206S	150	-40 to +150		1.3	10	100	10	150	100	100/100	50	100/200	4.0	2.1
	20	TO-220F (Center-tap)	FMXK-2206S	100	-40 to +150		1.75	10	100	10	150	27	500/500	—	—	4.0	2.1
	20	TO-220F (Center-tap)	FMXS-2206S	100	-40 to +150		1.6	10	50	15	150	30	500/500	25	500/1000	4.0	2.1
	20	TO-3PF (Center-tap)	FMD-4206S	100	-40 to +150		1.7	10	100	0.3	150	50	500/500	30	500/1000	2.0	6.5
	20	TO-3PF (Center-tap)	FMX-4206S*	100	-40 to +150		1.5	10	100	20	150	30	500/500	—	—	2.0	6.5
	20	TO-3PF (Center-tap)	FMXA-4206S*	100	-40 to +150		1.98	10	100	30	150	28	500/500	—	—	2.0	6.5
	30	TO-3PF2Pin	FMN-3306S	150	-40 to +150		1.3	30	200	20	150	150	500/500	100	500/1000	2.0	6.5
	30	TO-3PF (Center-tap)	FMN-4306S	150	-40 to +150		1.5	15	100	10	150	100	100/100	50	100/200	2.0	6.5

*Under development

4-3 Ultrafast Recovery Diodes

V _{RM} (V)	I _F (AV) (A) Values in parentheses are for the products with heatsinks	Package Axial (Body Diameter/Lead Diameter)	Part Number	I _{FSM} (A)	T _j (°C)	T _{stg} (°C)	V _F (V) max	I _F	I _R	I _R (H)	T _j (°C)	trr①	trr②	R _{th} (j-l) (°C/W)	Mass (g)		
				50Hz Single Half Sine Wave				(A)	(μA) V _R =V _{RM} max	(mA) V _R =V _{RM} max		(ns)				I _F /I _{RP} (mA)	I _F /I _{RP} (mA)
800	0.5	Axial (ϕ 2.4/ ϕ 0.6)	AB01B	10	-40 to +150		2.0	0.5	10	0.2	150	200	100/100	80	100/200	22	0.13
	3.0	TO-220F (Two elements)	FMC-28U	50	-40 to +150		3.0	3.0	100	0.5	150	70	500/500	35	500/1000	4.0	2.1
	3.0	TO-220F2Pin	FMC-G28S	50	-40 to +150		3.0	3.0	100	1.0	150	70	500/500	35	500/1000	4.0	2.1
	5.0	TO-220F2Pin	FMC-G28SL	60	-40 to +150		3.0	5.0	200	2.0	150	70	500/500	35	500/1000	4.0	2.1
1000	0.2	Axial (ϕ 2.4/ ϕ 0.6)	AP01C	5.0	-40 to +150		4.0	0.2	100	0.5	100	200	100/100	80	100/200	22	0.13
	0.2	Axial (ϕ 2.7/ ϕ 0.6)	EP01C	5.0	-40 to +150		4.0	0.2	5.0	0.05	100(Ta)	200	100/100	80	100/200	20	0.2
	0.4	Axial (ϕ 4.0/ ϕ 0.78)	RU 1P	10	-40 to +150		4.0	0.4	5.0	0.5	150	100	100/100	50	100/200	15	0.4
	0.5	Axial (ϕ 2.7/ ϕ 0.6)	EG01C	10	-40 to +150		3.3	0.5	50	0.5	100(Ta)	100	100/100	50	100/200	20	0.2
	0.7	Axial (ϕ 4.0/ ϕ 0.78)	RG 1C	10	-40 to +150		3.3	0.7	20	0.25	150	100	100/100	50	100/200	15	0.4
	2.0	Axial (ϕ 6.5/ ϕ 1.4)	RG 4C	60	-40 to +150		3.0	2.0	500	2.5	100	100	500/500	50	500/1000	8.0	1.2
	3.0	TO-220F2Pin	FMG-G2CS	30	-40 to +150		4.0	3.0	50	0.3	100	100	500/500	50	500/1000	4.0	2.1
1200	3.0	TO-220F2Pin (Two elements)	FMC-26UA	50	-40 to +150		4.0	3.0	500	3.0	150	70	500/500	35	500/1000	4.0	2.1
1600	3.0	TO-220F2Pin (Two elements)	FMC-28UA	50	-40 to +150		6.0	3.0	100	0.5	150	70	500/500	35	500/1000	4.0	2.1
2000	0.1	Axial (ϕ 4.0/ ϕ 0.78)	RP 1H	5.0	-40 to +150		7.0	0.1	2.0	0.01	100	100	10/20	50	10/20	15	0.4

4-4 Schottky Barrier Diodes

Standard

●Surface-Mount

V _{RM} (V)	I _F (AV) (A)	Package	Part Number	I _{FSM} (A)	T _j (°C)	T _{stg} (°C)	V _F (V)	I _F (A)	I _R (mA)	I _R (H) (mA)	T _j (°C)	R _{th(j-l)} R _{th(j-c)} (°C/W)	Mass (g)
				50Hz Single Half Sine Wave					V _R =V _{RM} max	V _R =V _{RM} max			
40	1.0	Surface-Mount (SJP)	SJPB-D4	30	-40 to +150		0.55	1.0	0.1	35	150	20	0.072
	2.0	Surface-Mount (SJP)	SJPB-H4	50	-40 to +150		0.55	2.0	0.2	70	150	20	0.072
	3.0	Surface-Mount (SJP)	SJPB-L4	60	-40 to +150		0.55	3.0	0.3	100	150	20	0.072
	5.0	Surface-Mount (SJP)	SJPW-T4	80	-40 to +150		0.55	5.0	0.5	150	150	20	0.072
60	1.0	Surface-Mount (SJP)	SJPB-D6	20	-40 to +150		0.68	1.0	0.1	30	150	20	0.072
	1.5	Surface-Mount (SJP)	SJPW-F6	25	-40 to +150		0.70	1.5	1.0	70	150	20	0.072
	2.0	Surface-Mount (SJP)	SJPB-H6	40	-40 to +150		0.69	2.0	0.2	55	150	20	0.072
	3.0	Surface-Mount (SJP)	SJPB-L6	50	-40 to +150		0.70	3.0	0.3	70	150	20	0.072
90	1.0	Surface-Mount (SJP)	SJPB-D9	20	-40 to +150		0.85	1.0	0.1	30	150	20	0.072
	2.0	Surface-Mount (SJP)	SJPB-H9	40	-40 to +150		0.85	2.0	0.2	55	150	20	0.072
100	20	Surface-Mount (TO220S)Center-tap	MPE-220A	120	-40 to +150		0.85	10	1.0	100	150	2.5	1.04

●Thru-Hole

V _{RM} (V)	I _F (AV) (A)	Package Axial (Body Diameter/Lead Diameter)	Part Number	I _{FSM} (A)	T _j (°C)	T _{stg} (°C)	V _F (V)	I _F (A)	I _R (mA)	I _R (H) (mA)	T _j (°C)	R _{th(j-l)} R _{th(j-c)} (°C/W)	Mass (g)
				50Hz Single Half Sine Wave					V _R =V _{RM} max	V _R =V _{RM} max			
40	1.0	Axial(φ2.4/φ0.6)	AK 04	25	-40 to +150		0.55	1.0	5.0	35	150	22	0.13
	1.0	Axial(φ2.7/φ0.6)	EK 04	40	-40 to +150		0.55	1.0	5.0	35	150	20	0.3
	1.5	Axial(φ2.7/φ0.78)	EK 14	40	-40 to +150		0.55	1.5	5.0	50	150	17	0.3
	1.7	Axial(φ4.0/φ0.78)	RK 14	60	-40 to +150		0.55	2.0	5.0	70	150	15	0.45
	2.5	Axial(φ4.0/φ0.98)	RK 34	50	-40 to +150		0.55	2.5	5.0	100	150	12	0.6
	3.0	TO-220F2Pin	FMB-G14	60	-40 to +150		0.60	3.0	2.0	70	150	4.0	2.1
	3.0	Axial(φ6.5/φ1.4)	RK 44	80	-40 to +150		0.55	3.0	5.0	100	150	8.0	1.2
	4.0	TO-220F(Center-tap)	FMB-24	50	-40 to +150		0.55	2.0	5.0	250	150	4.0	2.1
	5.0	Axial(φ6.5/φ1.4)	RW54	120	-40 to +150		0.55	5.0	1.0	150	150	8.0	1.2
	5.0	TO-220F2Pin	FMB-G14L	60	-40 to +150		0.55	5.0	5.0	175	150	4.0	2.1
	6.0	TO-220F(Center-tap)	FMB-24M	60	-40 to +150		0.55	3.0	5.0	100	150	4.0	2.1
	10	TO-220F(Center-tap)	FMB-24L	60	-40 to +150		0.55	5.0	5.0	175	150	4.0	2.1
	10	TO-220F(Center-tap)	FMW-24L	100	-40 to +150		0.55	5.0	0.5	175	150	4.0	2.1
	10	TO-220F2Pin	FMB-G24H	150	-40 to +150		0.55	10	10	350	150	4.0	2.1
	15	TO-220F(Center-tap)	FMB-24H	100	-40 to +150		0.55	7.5	7.5	250	150	4.0	2.1
	15	TO-220F(Center-tap)	FMW-24H	120	-40 to +150		0.55	7.5	7.5	250	150	4.0	2.1
	20	TO-220F(Center-tap)	FMB-2204	150	-40 to +150		0.55	10	10	350	150	4.0	2.1
	20	TO-220F(Center-tap)	FMW-2204	120	-40 to +150		0.55	10	1.0	350	150	4.0	2.1
	30	TO-220F(Center-tap)	FMB-2304	150	-40 to +150		0.55	15	15	500	150	4.0	2.1
	30	TO-3PF(Center-tap)	FMW-4304	150	-40 to +150		0.55	15	1.5	500	150	2.0	6.5

4-4 Schottky Barrier Diodes

V _{RM} (V)	I _F (AV) (A)	Package Axial (Body Diameter/Lead Diameter)	Part Number	I _{FSM} (A)	T _j (°C)	T _{stg} (°C)	V _F (V) max	I _F (A)	I _R (mA)	I _R (H) (mA)	T _j (°C)	R _{th(j-l)} R _{th(j-c)} (°C/W)	Mass (g)
				50Hz Single Half Sine Wave					V _R =V _{RM} max	V _R =V _{RM} max			
60	0.7	Axial(φ2.4/φ0.6)	AK 06	10	-40 to +150		0.62	0.7	1.0	30	150	22	0.13
	0.7	Axial(φ2.7/φ0.6)	EK 06	10	-40 to +150		0.62	0.7	1.0	30	150	20	0.3
	1.5	Axial(φ2.7/φ0.78)	EK 16	25	-40 to +150		0.62	1.5	1.0	55	150	17	0.3
	1.5	Axial(φ4.0/φ0.78)	RK 16	25	-40 to +150		0.62	1.5	1.0	55	150	15	0.45
	2.0	Axial(φ4.0/φ0.98)	RK 36	40	-40 to +150		0.62	2.0	2.0	70	150	12	0.6
	3.5	Axial(φ6.5/φ1.4)	RK 46	70	-40 to +150		0.62	3.5	3.0	125	150	8.0	1.2
	4.0	TO-220F(Center-tap)	FMB-26	40	-40 to +150		0.62	2.0	2.0	70	150	4.0	2.1
	6.0	TO-220F2Pin	FMB-G16L	50	-40 to +150		0.72	6.0	5.0	200	150	4.0	2.1
	10	TO-220F(Center-tap)	FMW-2106	100	-40 to +150		0.70	5.0	3.0	125	150	4.0	2.1
	15	TO-220F(Center-tap)	FMW-2156	100	-40 to +150		0.70	7.5	5.0	175	150	4.0	2.1
	20	TO-220F(Center-tap)	FMW-2206	120	-40 to +150		0.70	10	1.0	250	150	4.0	2.1
	30	TO-220F(Center-tap)	FMB-2306	150	-40 to +150		0.70	15	8.0	400	150	4.0	2.1
	30	TO-3PF(Center-tap)	FMW-4306	150	-40 to +150		0.70	15	3.0	350	150	2.0	6.5
90	0.7	Axial(φ2.4/φ0.6)	AK 09	10	-40 to +150		0.81	0.7	1.0	30	150	22	0.13
	0.7	Axial(φ2.7/φ0.6)	EK 09	10	-40 to +150		0.81	0.7	1.0	30	150	20	0.3
	1.5	Axial(φ2.7/φ0.78)	EK 19	40	-40 to +150		0.81	1.5	2.0	55	150	17	0.3
	1.5	Axial(φ4.0/φ0.78)	RK 19	40	-40 to +150		0.81	1.5	2.0	55	150	15	0.45
	2.0	Axial(φ4.0/φ0.98)	RK 39	50	-40 to +150		0.81	2.0	3.0	70	150	12	0.6
	3.5	Axial(φ6.5/φ1.4)	RK 49	60	-40 to +150		0.81	3.5	5.0	125	150	8.0	1.2
	4.0	TO-220F(Center-tap)	FMB-29	50	-40 to +150		0.81	2.0	3.0	55	150	4.0	2.1
	4.0	TO-220F2Pin	FMB-G19L	60	-40 to +150		0.81	4.0	5.0	125	150	4.0	2.1
	8.0	TO-220F(Center-tap)	FMB-29L	60	-40 to +150		0.81	4.0	5.0	125	150	4.0	2.1

Low V_F "A Series"

●Surface-Mount

V _{RM} (V)	I _F (AV) (A)	Package	Part Number	I _{FSM} (A)	T _j (°C)	T _{stg} (°C)	V _F (V) max	I _F (A)	I _R (mA)	I _R (H) (mA)	T _j (°C)	R _{th(j-l)} R _{th(j-c)} (°C/W)	Mass (g)
				50Hz Single Half Sine Wave					V _R =V _{RM} max	V _R =V _{RM} max			
30	1.0	Surface-Mount (SJP)	SJPA-D3	30	-40 to +125		0.36	1.0	1.5	70	100	20	0.072
	2.0	Surface-Mount (SJP)	SJPA-H3*	40	-40 to +125		0.36	2.0	3.0	140	100	20	0.072
	3.0	Surface-Mount (SJP)	SJPA-L3	70	-40 to +125		0.36	3.0	4.5	210	100	20	0.072

*Under development

●Thru-Hole

V _{RM} (V)	I _F (AV) (A)	Package Axial (Body Diameter/Lead Diameter)	Part Number	I _{FSM} (A)	T _j (°C)	T _{stg} (°C)	V _F (V) max	I _F (A)	I _R (mA)	I _R (H) (mA)	T _j (°C)	R _{th(j-l)} R _{th(j-c)} (°C/W)	Mass (g)
				50Hz Single Half Sine Wave					V _R =V _{RM} max	V _R =V _{RM} max			
30	2.0	Axial(φ4.0/φ0.78)	RA 13	50	-40 to +125		0.36	2.0	3.0	140	100	15	0.45

Low IR “E Series”**●Surface-Mount**

V _{RM} (V)	I _F (AV) (A)	Package Axial (Body Diameter/Lead Diameter)	Part Number	I _{FSM} (A)	T _J (°C)	T _{stg} (°C)	V _F (V) max	I _F (A)	I _R (mA)	I _R (H) (mA)	T _J (°C)	R _{th(j-l)} R _{th(j-c)} (°C/W)	Mass (g)
				50Hz Single Half Sine Wave					V _R =V _{RM} max	V _R =V _{RM} max			
30	2.0	Surface-Mount (SJP)	SJPE-H3*	40	-40 to +150		0.55	2.0	0.2	70	150	20	0.072
40	2.0	Surface-Mount (SJP)	SJPE-H4	40	-40 to +150		0.6	2.0	0.05	20	150	20	0.072

*Under development

●Thru-Hole

V _{RM} (V)	I _F (AV) (A)	Package	Part Number	I _{FSM} (A)	T _J (°C)	T _{stg} (°C)	V _F (V) max	I _F (A)	I _R (mA)	I _R (H) (mA)	T _J (°C)	R _{th(j-l)} R _{th(j-c)} (°C/W)	Mass (g)
				50Hz Single Half Sine Wave					V _R =V _{RM} max	V _R =V _{RM} max			
80	20	TO-220F(Center-tap)	FMEN-2208	120	-40 to +150		0.76	10	0.2	100	150	4.0	2.1
	30	TO-220F(Center-tap)	FMEN-2308	150	-40 to +150		0.765	15	0.3	150	150	4.0	2.1
100	10	TO-220F(Center-tap)	FMEN-210A	100	-40 to +150		0.85	5.0	0.1	50	150	4.0	2.1
	15	TO-220F(Center-tap)	FMEN-215A*	100	-40 to +150		0.85	7.5	0.15	75	150	4.0	2.1
	20	TO-220F(Center-tap)	FMEN-220A	120	-40 to +150		0.85	10	0.2	100	150	4.0	2.1
	20	TO-3PF(Center-tap)	FMEN-420A*	120	-40 to +150		0.85	10	0.2	100	150	2.0	6.5
	30	TO-220F(Center-tap)	FMEN-230A	150	-40 to +150		0.85	15	0.3	150	150	4.0	2.1
	30	TO-262	MPEN-230AF	150	-40 to +150		0.90	15	0.25	125	150	1.5	1.55
	30	TO-3PF(Center-tap)	FMEN-430A	150	-40 to +150		0.85	15	0.3	150	150	2.0	6.5
150	10	TO-220F(Center-tap)	FMEN-210B	100	-40 to +150		0.92	5.0	0.1	25	150	4.0	2.1
	20	TO-220F(Center-tap)	FMEN-220B	120	-40 to +150		0.92	10	0.2	50	150	4.0	2.1
	20	TO-3PF(Center-tap)	FMEN-420B*	120	-40 to +150		0.85	10	0.2	100	150	2.0	6.5
	30	TO-220F(Center-tap)	FMEN-230B	150	-40 to +150		0.92	15	0.3	75	150	4.0	2.1

*Under development

Low V_F/Low I_R Balance “J Series”**●Surface-Mount**

V _{RM} (V)	I _F (AV) (A)	Package	Part Number	I _{FSM} (A)	T _J (°C)	T _{stg} (°C)	V _F (V) max	I _F (A)	I _R (mA)	I _R (H) (mA)	T _J (°C)	R _{th(j-l)} R _{th(j-c)} (°C/W)	Mass (g)
				50Hz Single Half Sine Wave					V _R =V _{RM} max	V _R =V _{RM} max			
30	1.0	Surface-Mount (SJP)	SJPJ-D3	30	-40 to +150		0.45	1.0	0.1	35	150	20	0.072
	2.0	Surface-Mount (SJP)	SJPJ-H3*	50	-40 to +150		0.45	2.0	0.2	70	150	20	0.072
	3.0	Surface-Mount (SJP)	SJPJ-L3	60	-40 to +150		0.45	3.0	0.3	150	150	20	0.072

*Under development

●Thru-Hole

V _{RM} (V)	I _F (AV) (A)	Package Axial (Body Diameter/Lead Diameter)	Part Number	I _{FSM} (A)	T _J (°C)	T _{stg} (°C)	V _F (V) max	I _F (A)	I _R (mA)	I _R (H) (mA)	T _J (°C)	R _{th(j-l)} R _{th(j-c)} (°C/W)	Mass (g)
				50Hz Single Half Sine Wave					V _R =V _{RM} max	V _R =V _{RM} max			
30	3.0	Axial(φ6.5/φ1.4)	RJ 43	50	-40 to +150		0.45	3.0	3.0	100	150	8.0	1.2
	10	TO-220F(Center-tap)	FMJ-23L	100	-40 to +150		0.45	5.0	5.0	175	150	4.0	2.1
	30	TO-220F(Center-tap)	FMJ-2303	150	-40 to +150		0.48	15	15	500	150	4.0	2.1

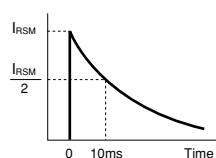
4-5 Power Zener Diodes

P (W)	VZ 1mA (V)	PR (W)	Package	Part Number	VDC (V)	I _{ZSM} (A)	Conditions	T _j T _{stg} (°C)	IR (μA) max	Mass(g)
1	28±3	50 (5ms)	Surface-Mount(SJP)	SJPZ-K28	20	2	5ms rectangular wave	-55 to +150	10	0.07
1	18.8 to 21.2	95 (500 μs)	Surface-Mount(SJP)	SJPZ-E20	15	—	—	-55 to +150	10	0.07
1	31.0 to 35.0		Surface-Mount(SJP)	SJPZ-E33	25	—	—	-55 to +150	10	0.07
2	16.8 to 19.1	500 (500 μs)	Surface-Mount(SJP)	SJPZ-N18	13	—	—	-55 to +150	1	0.07
2	25.1 to 28.9		Surface-Mount(SJP)	SJPZ-N27	20	—	—	-55 to +150	1	0.07
2	31.0 to 35.0		Surface-Mount(SJP)	SJPZ-N33	25	—	—	-55 to +150	1	0.07
2	37.8 to 42.2		Surface-Mount(SJP)	SJPZ-N40*	30	—	—	-55 to +150	1	0.07
5	24 to 30	—	Surface-Mount(SZ-10)	SZ-10N27	22	70	Fig.1	-55 to +175	10	2.55
5	36 to 44	—	Surface-Mount(SZ-10)	SZ-10N40*	22	40	Fig.1	-55 to +175	10	2.55
6	24 to 30	—	Surface-Mount(SZ-10)	SZ-10NN27	22	90	Fig.1	-55 to +175	10	2.55
6	36 to 44	—	Surface-Mount(SZ-10)	SZ-10NN40	22	55	Fig.1	-55 to +175	10	2.55

*Under development

Figure1

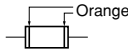
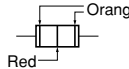
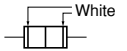
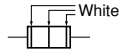
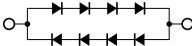
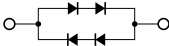
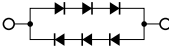
I_{ZSM} Condition



4-6 Silicon Varistors

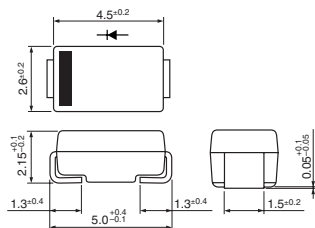
●Symmetrical

V _F (V)	I _F (mA)	Part Number	I _F (μ A) max	V _F (V)	I _{TSM} (A)	T _j (°C)	T _{stg} (°C)	R _{th(j-l)} (°C/W)	Mass (g)	Package
					50Hz Single Half Sine Wave					
1.5max	1000	VR-60SS	20	0.2	15	-40 to +100		20	0.3	Axial(ϕ 2.7/ ϕ 0.6)
2.3 $\pm$ 0.25	1	VR-61SS			7.5	-40 to +100		20	0.3	Axial(ϕ 2.7/ ϕ 0.6)
2.75 $\pm$ 0.25	10									
3.1 $\pm$ 0.25	70									
2.0max	100	SV-3SS	50	0.6		-40 to +100		20	0.3	Axial(ϕ 2.7/ ϕ 0.6)
1.8 $\pm$ 0.2	1	SV-4SS	50	0.9		-40 to +100		20	0.3	Axial(ϕ 2.7/ ϕ 0.6)
2.15 $\pm$ 0.2	10									
2.4 $\pm$ 0.25	30									

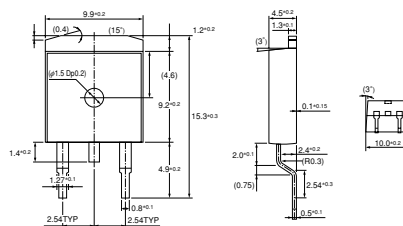
Part Number	VR-60SS	VR-61SS	SV-3SS	SV-4SS
Display Color				
Internal Connection				

Package Type (Dimensions)

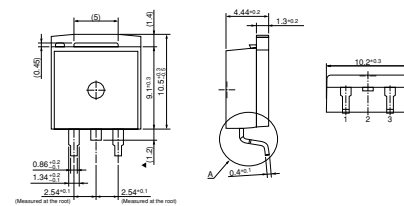
• No. 1 Surface-Mount (SJP)



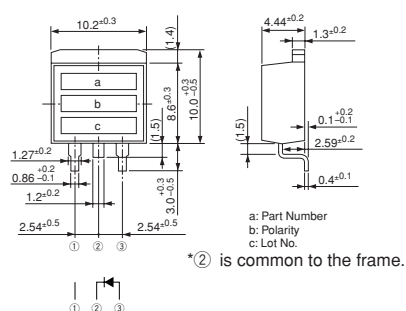
• No. 2 Surface-Mount (TO263)



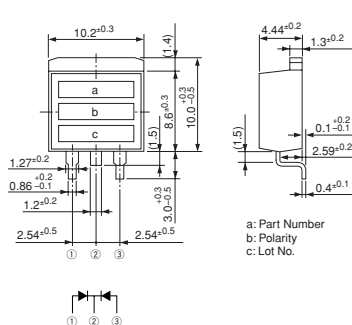
• No. 3 Surface-Mount (TO220S) MPL-102S, MP2-202S, MPL-1036



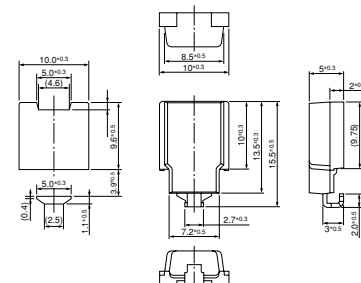
• No. 4 Surface-Mount (TO220S)



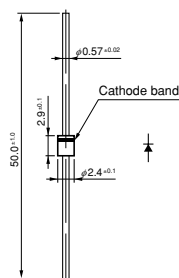
• No. 5 Surface-Mount (TO220S) Center-tap



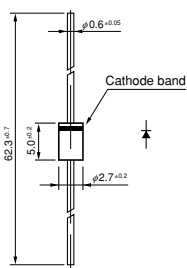
• No. 6 Surface-Mount (SZ-10)



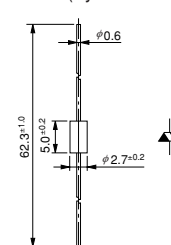
• No. 7 Axial ($\phi 2.4/\phi 0.6$)



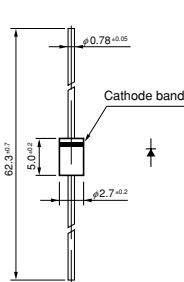
• No. 8 Axial ($\phi 2.7/\phi 0.6$)



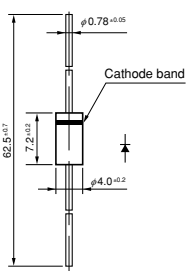
• No. 9 Axial ($\phi 2.7/\phi 0.6$) Silicon Varistors (Symmetrical)



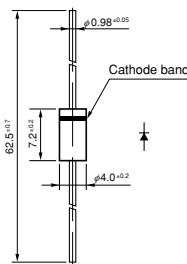
• No. 10 Axial ($\phi 2.7/\phi 0.78$)



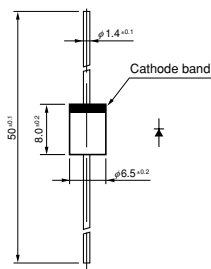
• No. 11 Axial ($\phi 4.0/\phi 0.78$)



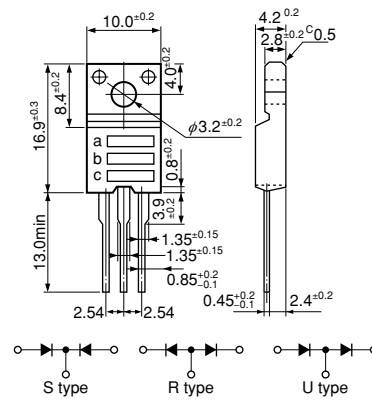
• No. 12 Axial ($\phi 4.0/\phi 0.98$)



• No. 13 Axial ($\phi 6.5/\phi 1.4$)

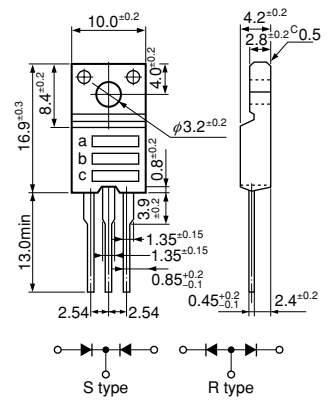


• No. 14 TO-220F (Two Elements)



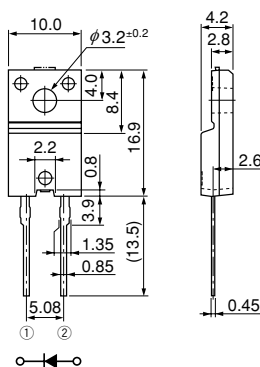
a: Part Number
b: Polarity
c: Lot No.

• No. 15 TO-220F (Center-tap)

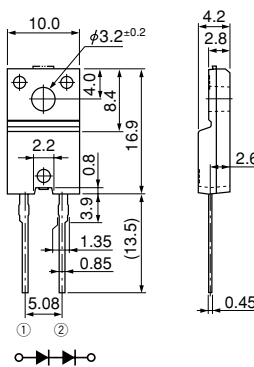


a: Part Number
b: Polarity
c: Lot No.

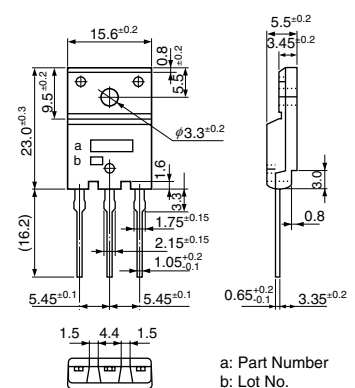
• No. 16 TO-220F2Pin



• No. 17 TO-220F2Pin (Two Elements)

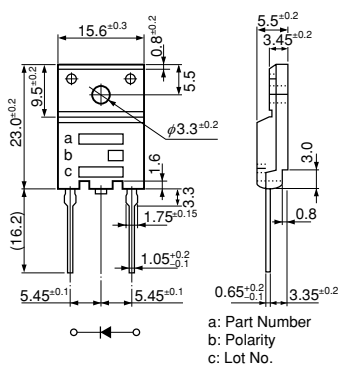


• No. 18 TO-3PF



a: Part Number
b: Lot No.

• No. 19 TO-3PF2Pin



a: Part Number
b: Polarity
c: Lot No.