



**THE DATASHEET OF
FR1J-LTP**



Features

- Easy Pick And Place
- Fast Recovery Times For High Efficiency
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free. "Green" Device (Note 1)
- Moisture Sensitivity Level 1
- Lead Free Finish/RoHS Compliant(Note 2)("P" Suffix Designates Compliant. See Ordering Information)

Maximum Ratings

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Maximum Thermal Resistance: 20°C/W Junction to Lead

MCC Part Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
FR1A-L	FR1A	50V	35V	50V
FR1B-L	FR1B	100V	70V	100V
FR1D-L	FR1D	200V	140V	200V
FR1G-L	FR1G	400V	280V	400V
FR1J-L	FR1J	600V	420V	600V
FR1K-L	FR1K	800V	560V	800V
FR1M-L	FR1M	1000V	700V	1000V

Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Forward Current	$I_{F(AV)}$	1.0A	$T_L=120^\circ\text{C}$
Peak Forward Surge Current	I_{FSM}	30A	8.3ms, Half Sine
Maximum Instantaneous Forward Voltage	V_F	1.30V	$I_{FM}=1.0A$; $T_J=25^\circ\text{C}^*$
Maximum DC Reverse Current At Rated DC Blocking Voltage	I_R	5.0 μA 100 μA	$T_J=25^\circ\text{C}$; $T_J=125^\circ\text{C}$
Maximum Reverse Recovery Time FR1A-L~FR1G-L FR1J-L FR1K-L~FR1M-L	t_{rr}	150ns 250ns 500ns	$I_F=0.5A$; $I_R=1.0A$; $I_{rr}=0.25A$
Typical Junction Capacitance	C_J	15pF	Measured at 1.0MHz $V_R=4.0V$

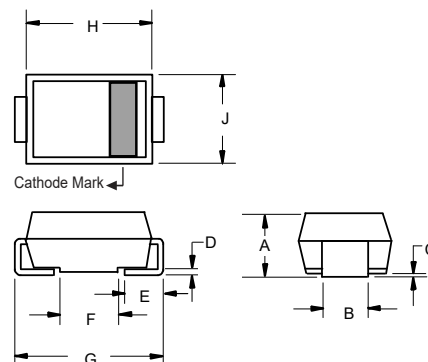
*Pulse Test: Pulse Width 200 μsec , Duty Cycle 2%

Note:

1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. High Temperature Solder Exemptions Applied, See EU Directive Annex 7a.

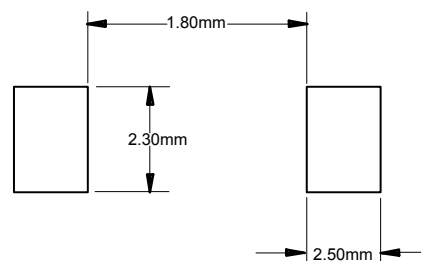
1 Amp Fast Recovery Silicon Rectifier 50 to 1000 Volts

DO-214AA (SMB) (LEAD FRAME)



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	0.079	0.103	2.00	2.62	
B	0.075	0.087	1.91	2.21	
C	0.002	0.008	0.05	0.20	
D	0.006	0.012	0.15	0.31	
E	0.030	0.060	0.76	1.52	
F	0.065	0.091	1.65	2.32	
G	0.200	0.220	5.08	5.59	
H	0.160	0.191	4.06	4.85	
J	0.130	0.155	3.30	3.94	

Suggested Solder Pad Layout



Curve Characteristics

Fig. 1 - Forward Current Derating Curve

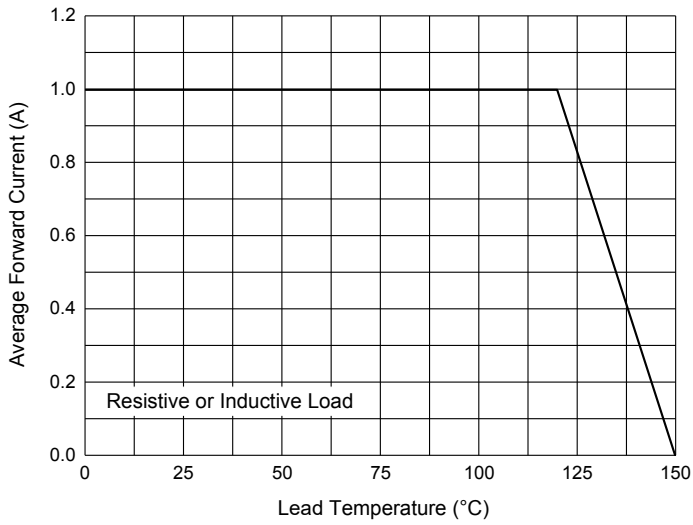


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

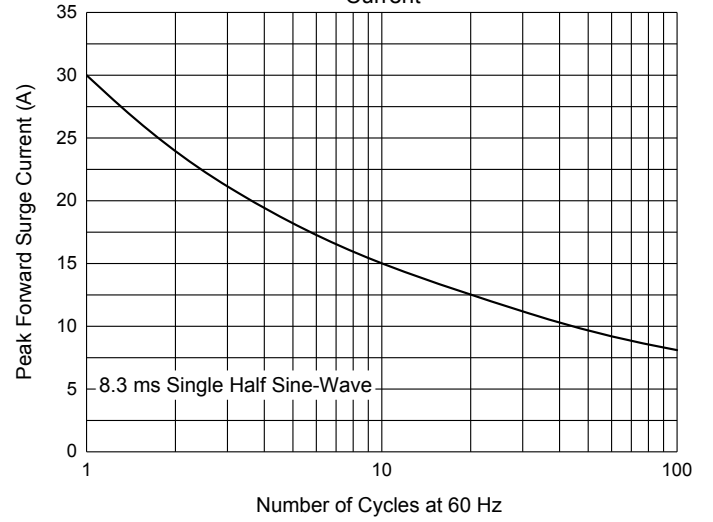


Fig. 3 - Typical Instantaneous Forward Characteristics

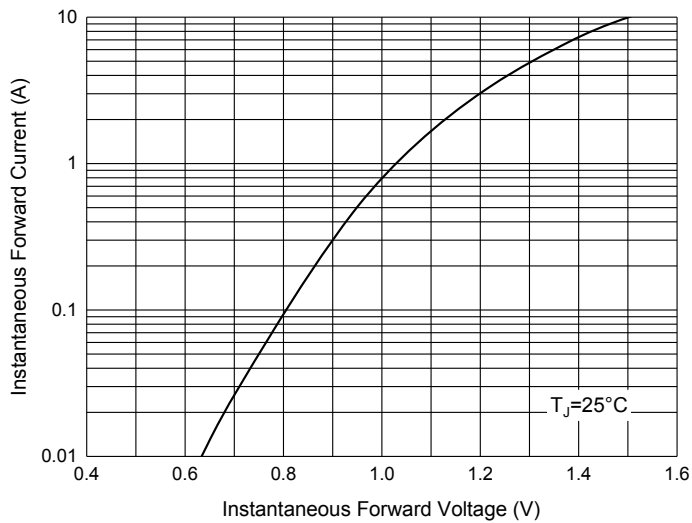
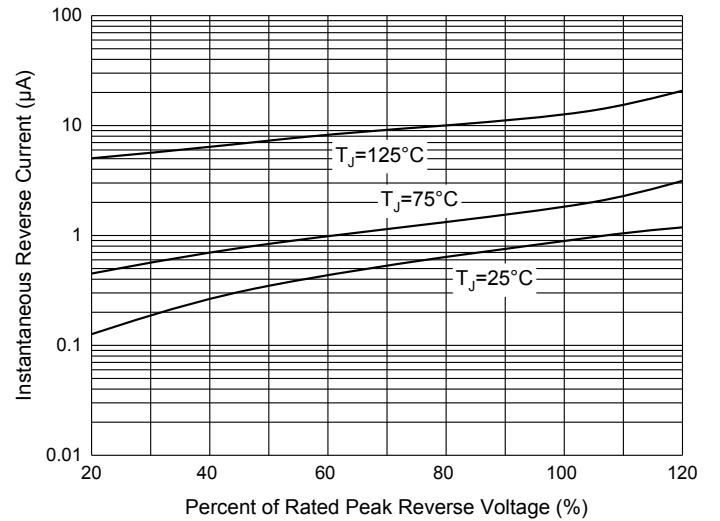


Fig. 4 - Typical Reverse Characteristics



Ordering Information

Device	Packing
FR1A-LTP~FR1M-LTP	Tape&Reel: 3Kpcs/Reel

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