

## Features

- Lead Free Finish/RoHS Compliant (Note1) ("P" Suffix Designates Compliant. See Ordering Information)
- Glass Passivated Chip Junction
- Low Profile Package
- For Surface Mount Applications
- High Forward Surge Capability
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Halogen Free. "Green" Device (Note 2)

## Maximum Ratings

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Typical Thermal Resistance(Note 3): 15°C/W Junction to Case
- Typical Thermal Resistance(Note 3): 20°C/W Junction to Lead
- Typical Thermal Resistance(Note 3): 60°C/W Junction to Ambient

MCC Part Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
FR3GBFL	FR3G	400V	280V	400V
FR3JBFL	FR3J	600V	420V	600V
FR3MBFL	FR3M	1000V	700V	1000V

## Electrical Characteristics @ 25°C Unless Otherwise Specified

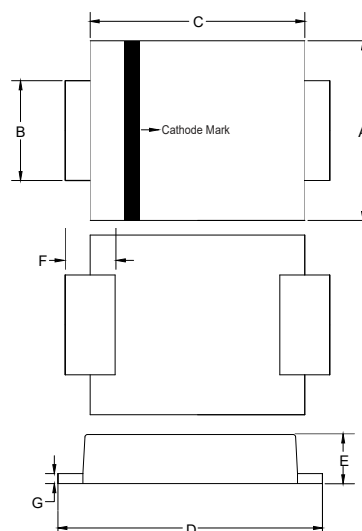
Average Forward Current	$I_{F(AV)}$	3.0A	$T_L=75^\circ\text{C}$
Peak Forward Surge Current	$I_{FSM}$	100A	8.3ms, Half Sine
Maximum Instantaneous Forward Voltage	$V_F$	1.30V	$I_F=3.0\text{A}; T_J=25^\circ\text{C}$
Maximum DC Reverse Current At Rated DC Blocking Voltage	$I_R$	5.0μA 100μA	$T_J=25^\circ\text{C}$ $T_J=125^\circ\text{C}$
Maximum Reverse Recovery Time	$t_{rr}$	150ns 250ns 500ns	$I_F=0.5\text{A}; I_R=1.0\text{A};$ $I_{rr}=0.25\text{A}$
Typical Junction Capacitance	$C_J$	40pF 30pF	Measured at 1.0MHz $V_R=4.0\text{V}$
FR3GBFL FR3JBFL FR3MBFL			

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.
3. Mounted on P.C.B. with 0.3" x 0.3" (8.0 mm x 8.0 mm) copper pad areas.

# 3.0 Amp Fast Recovery Rectifier 400 to 1000 Volts

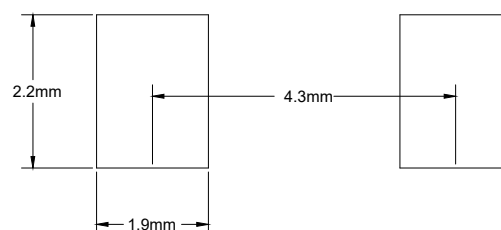
## SMBF



## DIMENSIONS

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.134	0.150	3.40	3.80	
B	0.075	0.083	1.90	2.10	
C	0.163	0.175	4.15	4.45	
D	0.201	0.220	5.10	5.60	
E	0.041	0.061	1.05	1.55	
F	0.028	0.053	0.70	1.35	
G	0.006	0.010	0.15	0.25	

## Suggested Solder Pad Layout



## Curve Characteristics

Fig. 1 - Forward Current Derating Curve

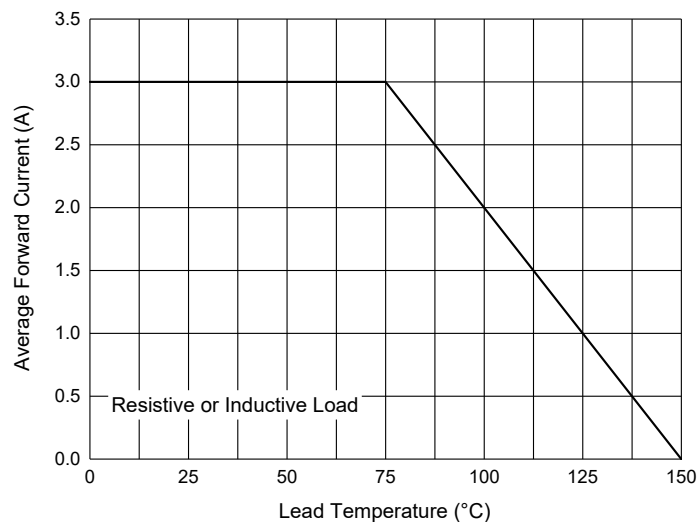


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

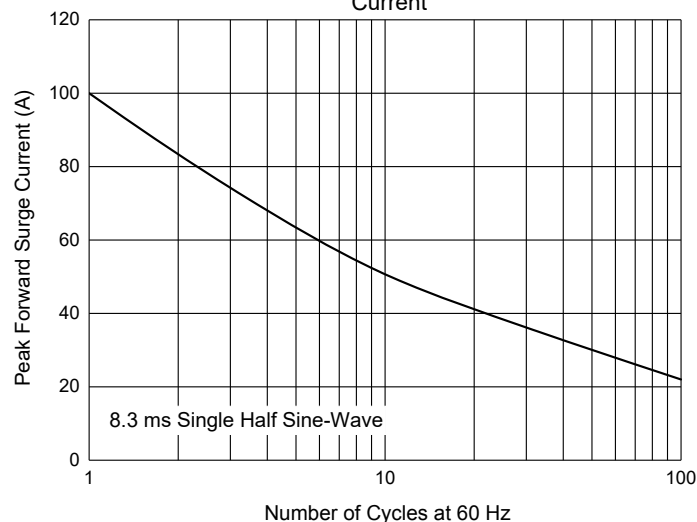


Fig. 3 - Typical Instantaneous Forward Characteristics

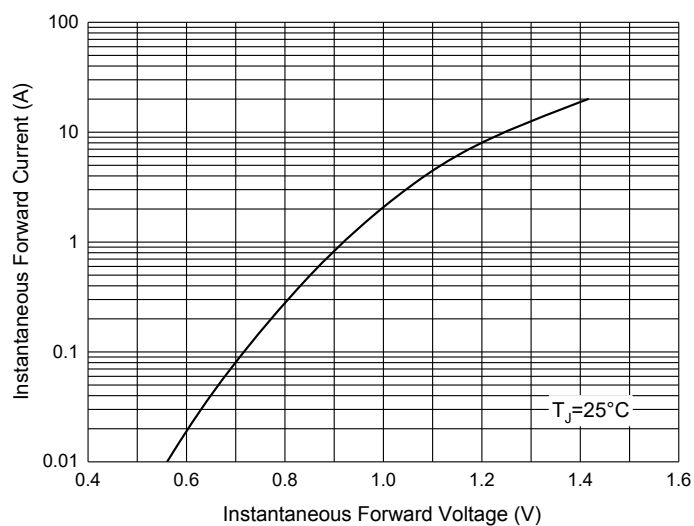
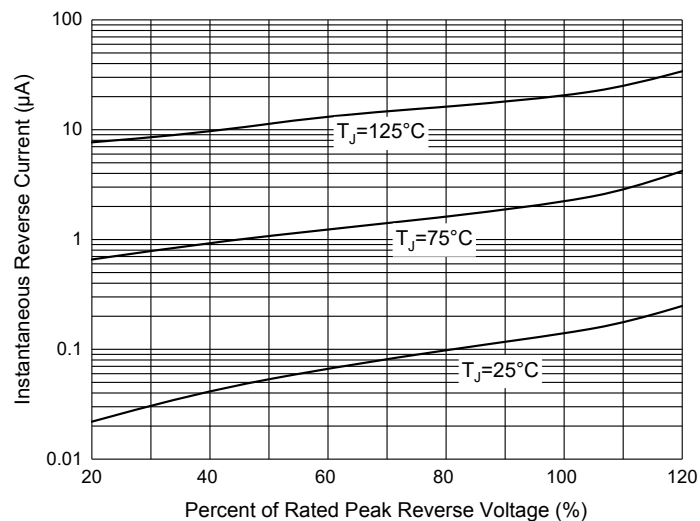


Fig. 4 - Typical Reverse Characteristics



## Ordering Information

Device	Packing
FR3GBFL-TP ~ FR3MBFL-TP	Tape&Reel: 5Kpcs/Reel

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