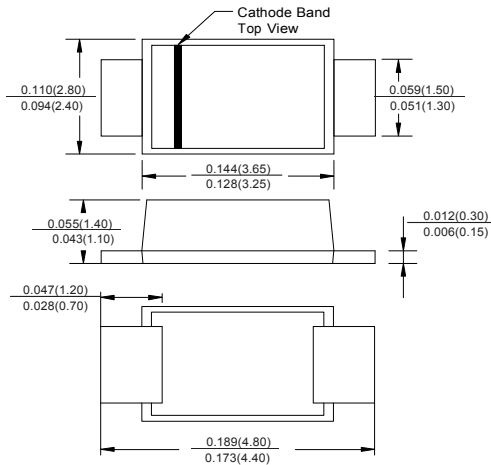


# FR3AF THRU FR3MF

## SURFACE MOUNT FAST RECOVERY RECTIFIER

Reverse Voltage - 50 to 1000 Volts Forward Current -3.0 Ampere

### SMAF



Dimensions in inches and (millimeters)

### FEATURES

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ For surface mounted applications
- ◆ Fast switching for high efficiency
- ◆ Low reverse leakage
- ◆ Built-in strain relief, ideal for automated placement
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed: 260 C/10 seconds at terminals
- ◆ Glass passivated chip junction

### MECHANICAL DATA

**Case:** JEDEC SMAF molded plastic body over passivated chip  
**Terminals:** Solder plated, solderable per MIL-STD-750,

**Polarity:** Color band denotes cathode end

**Mounting Position:** Any

**Weight:** 0.0018 ounce, 0.064 grams

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 C ambient temperature unless otherwise specified.  
 Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

MDD Catalog Number	SYMBOLS	FR3AF	FR3BF	FR3DF	FR3GF	FR3JF	FR3KF	FR3MF	UNITS
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	VOLTS
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	VOLTS
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	VOLTS
Maximum average forward rectified current at $T_L=90$ C	$I_{(AV)}$	3.0							Amp
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	100.0							Amps
Maximum instantaneous forward voltage at 3.0A	$V_F$	1.3							Volts
Maximum DC reverse current $T_A=25$ C at rated DC blocking voltage $T_A=125$ C	$I_R$	5.0 200.0							A
Maximum reverse recovery time (NOTE 1)	$t_{rr}$	150				250	500		ns
Typical junction capacitance (NOTE 2)	$C_J$	60.0							pF
Typical thermal resistance (NOTE 3)	$R_{JA}$	20.0							C/W
Operating junction and storage temperature range	$T_J, T_{STG}$	-50 to +150							C

**Note:** 1. Reverse recovery condition  $I_F=0.5A, I_R=1.0A, I_{rr}=0.25A$   
 2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.  
 3. P.C.B. mounted with 0.2x0.2" (5.0x5.0mm) copper pad areas

# RATINGS AND CHARACTERISTIC CURVES FR3AF THRU FR3MF

Fig.1 Forward Current Derating Curve

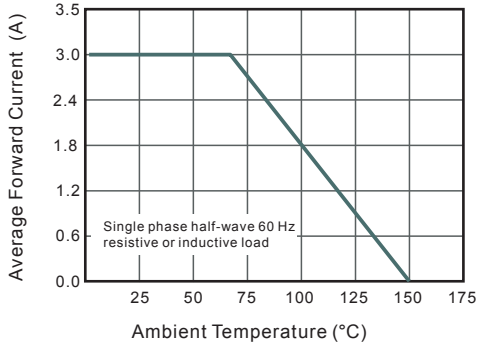


Fig.2 Typical Reverse Characteristics

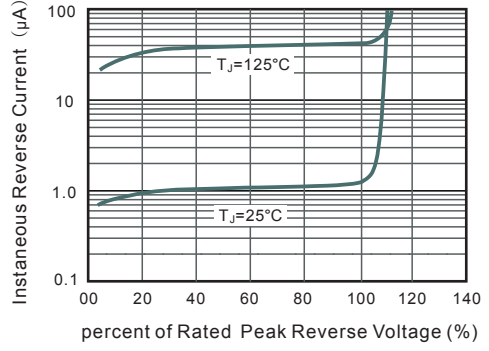


Fig.3 Typical Instantaneous Forward Characteristics

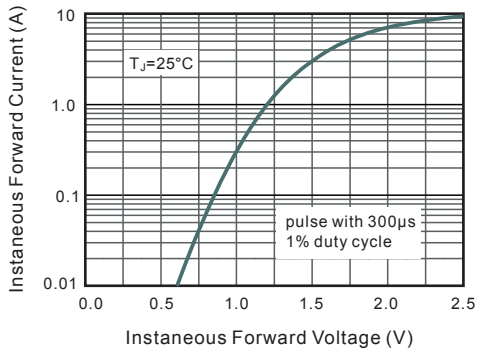


Fig.4 Typical Junction Capacitance

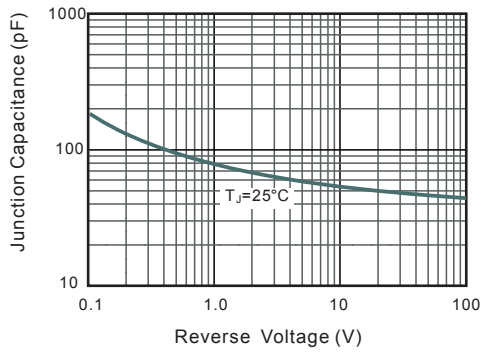


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

