# FR4AF THRU FR4MF
4.0AMP Surface Mount Fast Recovery Rectifiers

Features

- Deally Suited for Automatic Assembly
- Low Power Loss,High Efficiency
- For Use in Low Voltage Application
- Plastic Case Material has UL Flammability
  Classication Rating 94V-0

Mechanical Data

- Case: Molded plastic SMBF
- Terminals: Plated leads solderable per
  MIL-STD-750,Method 2026 guaranteed
- Polarity:Cathode Band or Cathode Notch
- Mounting Position: Any
- Making: Type Number

Case: SMBF
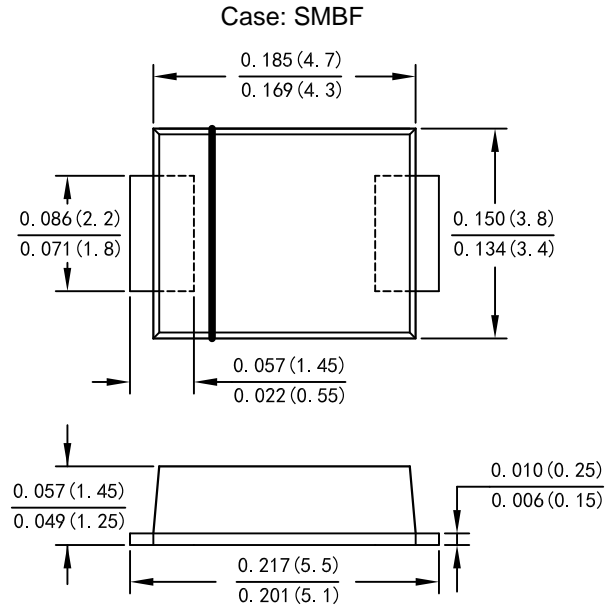
Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

Rating at 25℃ ambient temperature unless otherwise specified

Single phase,half wave,60Hz,resistive or inductive load

For capacitive load derate current by 20%

Type Number	SYMBOL	FR4AF	FR4BF	FR4DF	FR4GF	FR4JF	FR4KF	FR4MF	Unit
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	V
Average Rectified Output Current @T_L =100 ℃	$I_{F(AV)}$	4.0							A
Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	120							A
Forward Voltage @IF=4.0A	V_{FM}	1.3							V
Peak Reverse Current @T_A =25 ℃	I_R	5.0							uA
At Rated DC Blocking Voltage @T_A =125 ℃		100							
I^2t Rating for Fusing (t < 8.3ms)	I^2t	59.76							A^2s
Maximum Reverse Recovery Time(Note 1)	Trr	150				250	500		ns
Typical Junction Capacitance (Note 2)	C_J	60				25			pF
Typical Thermal Resistance Junction to Ambient	$R_{θJA}$	100							℃/W
Operating Temperature Range	T_J	-55 to+150							℃
Storage Temperature Range	T_{STG}	-55 to +150							℃

Note:
  1.Reverse Recovery Test Conditions:IF=0.5A,IR=1.0A,IRR=0.25A.

  2. Measured at 1.0 MHz and Applied reverse Voltage of 4.0V D.C

Fig. 1 Forward Current Derating Curve

Average Forward Current (A)

SINGLEPHASE, HALF-WAVE,60Hz RESISTIVE
OR INDUCTIVELOAD P.C.B MOUNTED
NO 0.315x0.315"(8.0 x 8.0mm)
COPPER PAD AREAS

T_L Lead Temperature(°C)
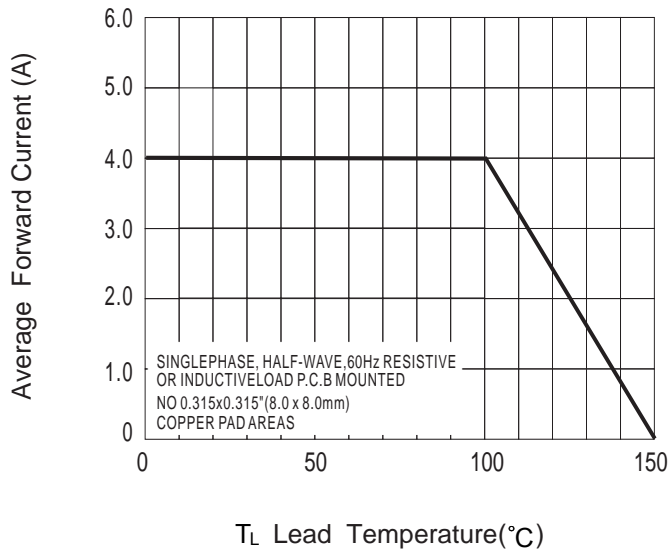
Fig. 2 Typ. Forward Characteristics

Instantaneous Forward Current (A)

T_A= 25°C

V_F, Instantaneous Forward Voltage (V)
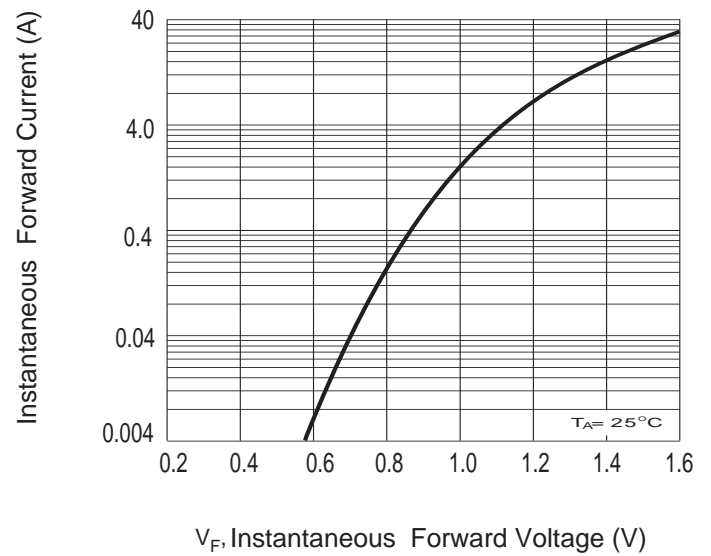
Fig. 3 Max Non-Repetitive Peak Fwd Surge Current

I_{FSM}, Peak Forward Surge Current (A)

8.3ms Single Half Sine-Wave
JEDEC Method

Number Of Cycles At 60 Hz

Fig.4 Typical Reverse Chracteristics

Instantaneous Reverse Current (uA)

T_J = 150°C

T_J = 25°C

Percent Of Rated Peak Reverse Voltage (%)
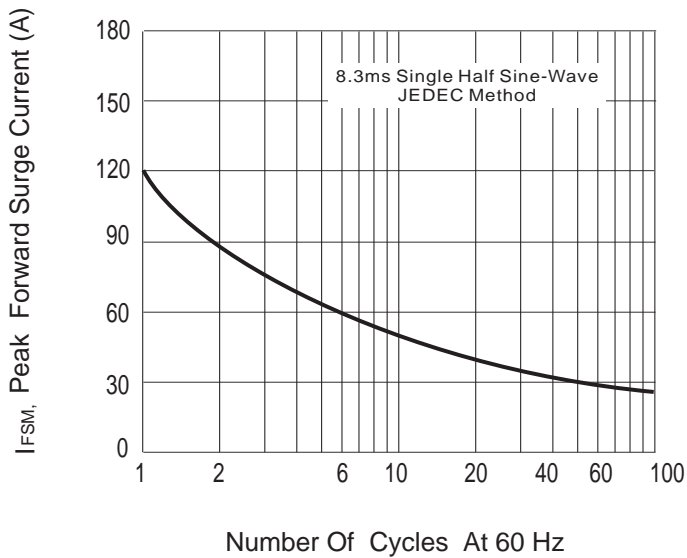
Fig.5 Mounting PAD Layout

0.256
(6.5)

0.110
(2.8)

0.073
(1.85)

(0.087)
(2.2)
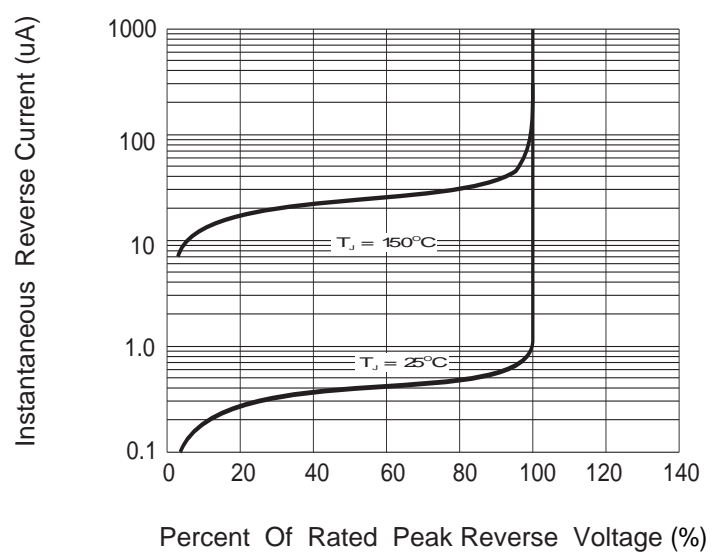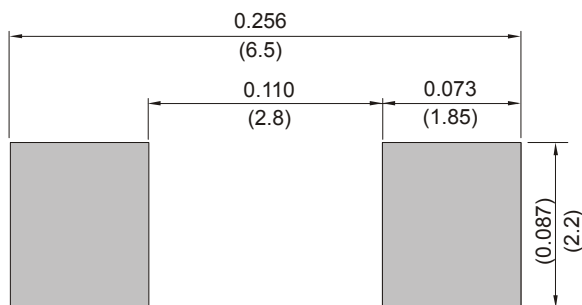
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