

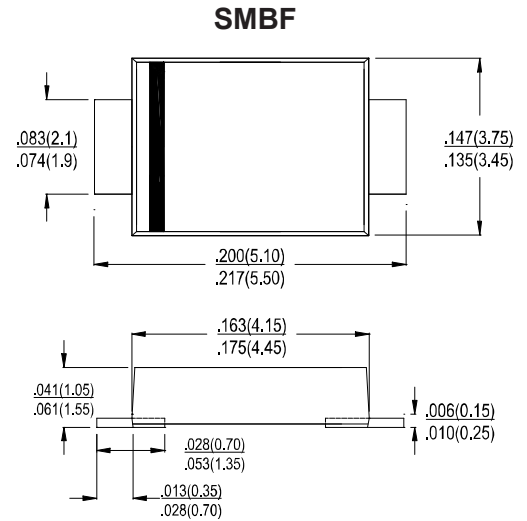
Surface Mount Super Fast Recovery Rectifier Diode

Feature

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Idea for printed circuit board
- Glass passivated junction chip
- Super fast recovery time for high efficiency
- High forward surge current capability
- AEC-Q101 qualified
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C

Mechanical Data

- Package: SMBF
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Polarity symbol marking on body
- Mounting Position: Any



Dimensions in inches and (millimeters)

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%.

Parameter	Symbol	ES5A BFQ	ES5B BFQ	ES5C BFQ	ES5D BFQ	ES5F BFQ	ES5G BFQ	ES5J BFQ	Unit
Maximum repetitive peak reverse voltage	V _{RRM}	50	100	150	200	300	400	600	V
Maximum RMS voltage	V _{RMS}	35	70	105	140	210	280	420	V
Maximum DC blocking voltage	V _{DC}	50	100	150	200	300	400	600	V
Maximum average forward rectified current at T _L =100°C	I _(AV)	5.0							A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	I _{FSM}	150							A
Maximum instantaneous forward voltage at 5.0A	V _F	1.0				1.3		1.7	V
Maximum DC reverse current T _A =25°C at rated DC blocking voltage T _A =125°C	I _R	2.0 200							uA
Maxinum reverse recovery time(Note 1)	T _{rr}	35							ns
Typical junction capacitance (Note2)	C _J	76.0							pF
Typical thermal resistance	R _{QA}	78.0							°C/W
Operating junction and storage temperature range	T _J ,T _{STG}	-55 to +150							°C

Notes:

1. Reverse recovery time test 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.

Ratings and Characteristic Curves

FIG. 1- DERATING CURVE OUTPUT RECTIFIED CURRENT

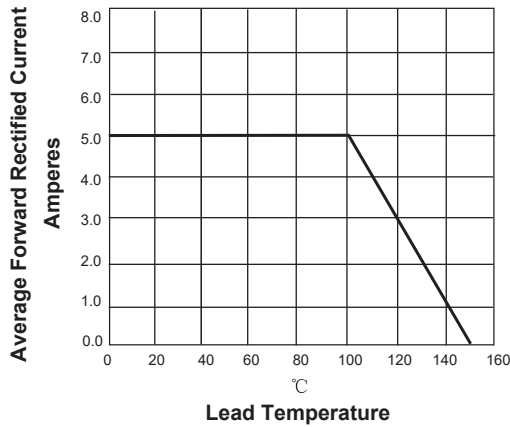


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

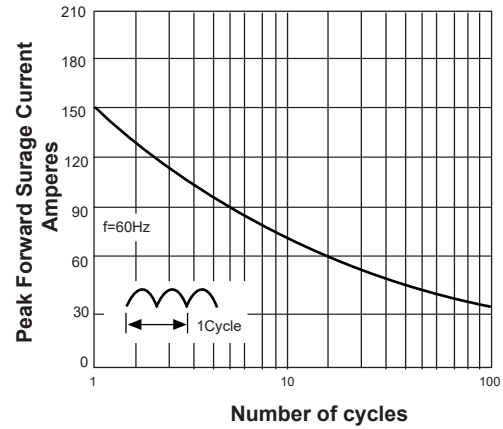


FIG. 3-TYPICAL FORWARD VOLTAGE CHARACTERISTICS

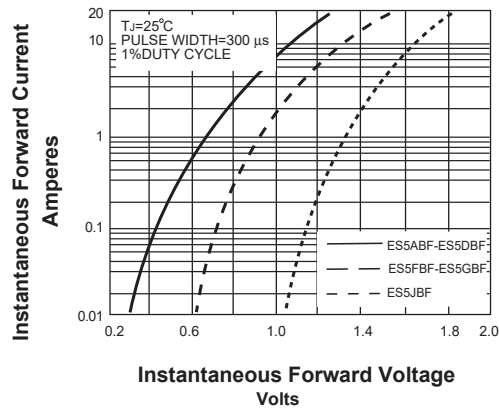
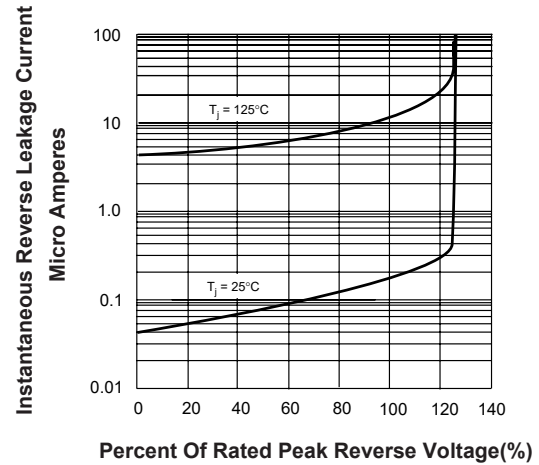
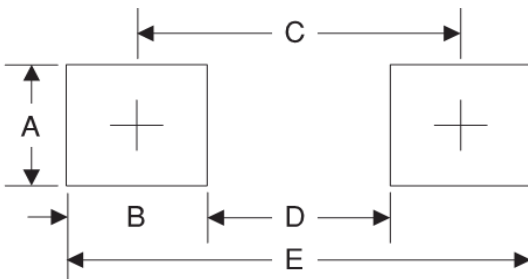


FIG. 4-TYPICAL REVERSE LEAKAGE CHARACTERISTICS



Suggested Pad Layout



Symbol	Unit (mm)	Unit (inch)
A	2.30	0.091
B	2.00	0.078
C	4.10	0.161
D	2.10	0.083
E	6.10	0.240