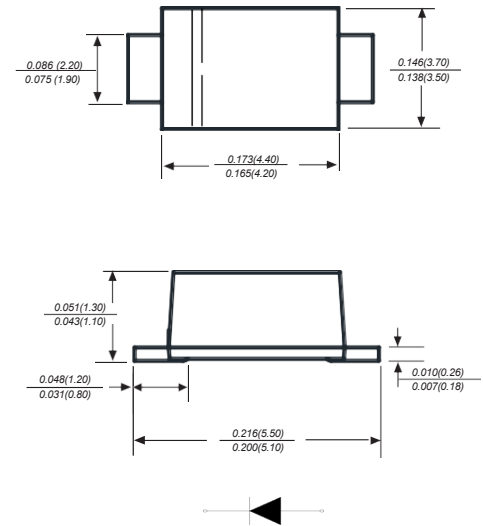


SURFACE MOUNT SUPER FAST RECOVERY RECTIFIER

Features

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ For surface mounted applications
- ◆ Low reverse leakage
- ◆ Built-in strain relief, ideal for automated placement
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed: 250°C/10 seconds at terminals
- ◆ Glass passivated chip junction

SMBF



Dimensions in inches and (millimeters)

Maximum Ratings And Electrical Characteristics

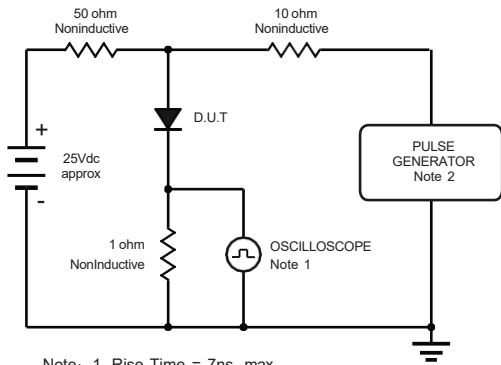
Ratings at 25°C ambient temperature unless otherwise specified.

Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

Parameter	SYMBOLS	ES5ABF	ES5BBF	ES5DBF	ES5GBF	ES5JBF	UNITS
Marking Code		E5AB	E5BB	E5DB	E5GB	E5JB	
Maximum repetitive peak reverse voltage	V_{RMM}	50	100	200	400	600	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	V
Maximum average forward rectified current at $T_L=55^\circ\text{C}$	$I_{(AV)}$	5.0					A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	150					A
Maximum instantaneous forward voltage at 5.0A	V_F	1			1.25	1.70	V
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=125^\circ\text{C}$	I_R	10.0 100.0					μA
Maximum reverse recovery time (NOTE 1)	t_{rr}	35					ns
Typical junction capacitance (NOTE 2)	C_J	95.0					pF
Typical thermal resistance (NOTE 3)	$R_{\theta JA}$	45.0					$^\circ\text{C/W}$
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150					$^\circ\text{C}$

Note: 1. Reverse recovery condition $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $t_{rr}=0.25\text{A}$
 2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
 3. P.C.B. mounted with 0.5x0.5"(12.7x12.7mm) copper pad areas

Ratings And Characteristic Curves



Note: 1. Rise Time = 7ns, max.
Input Impedance = 1megohm, 22pF.
2. Rise Time = 10ns, max.
Source Impedance = 50 ohms.

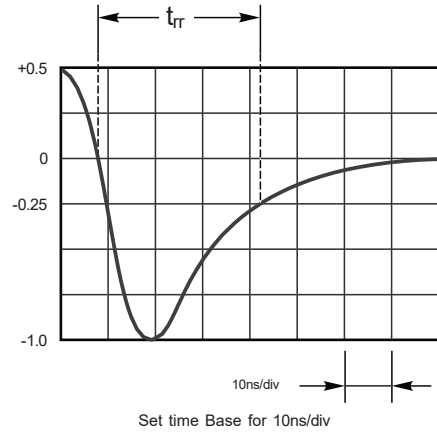


Fig.2 Maximum Average Forward Current Rating

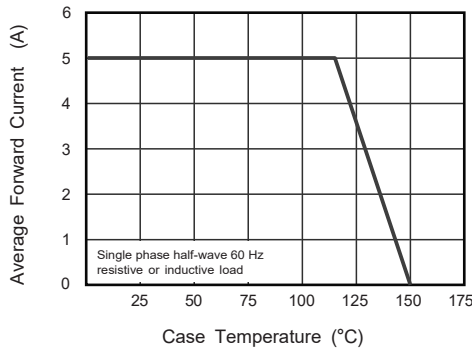


Fig.3 Typical Reverse Characteristics

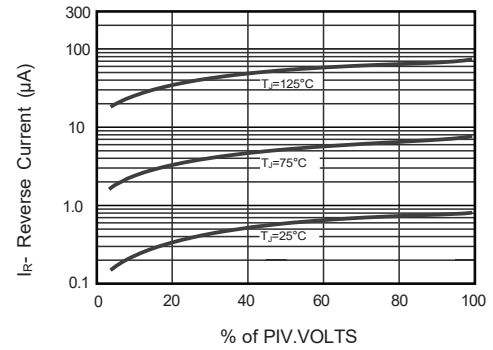


Fig.4 Typical Forward Characteristics

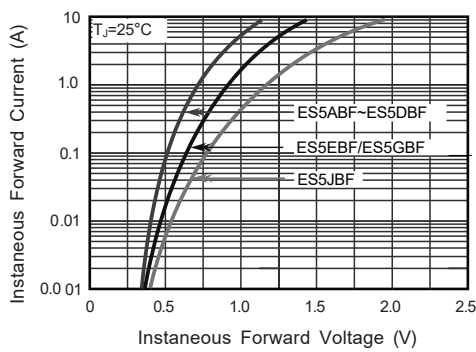


Fig.5 Typical Junction Capacitance

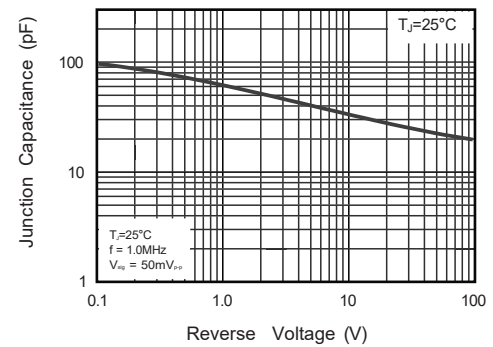
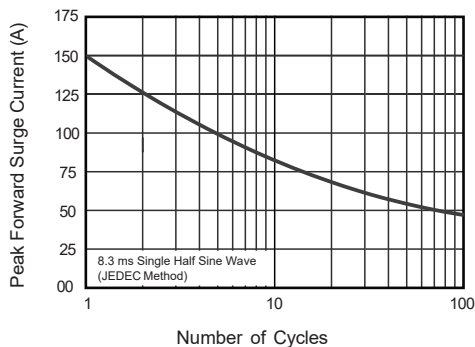


Fig.6 Maximum Non-Repetitive Peak Forward Surge Current



The curve above is for reference only.