

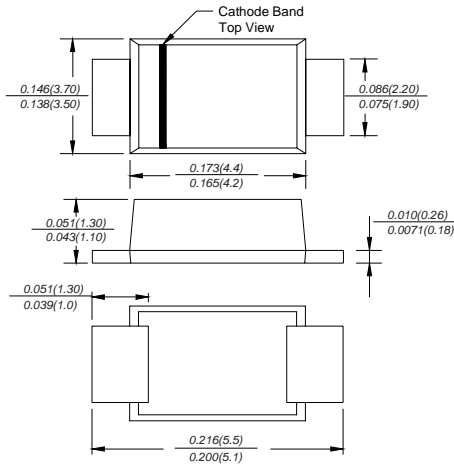


ES5ABF THRU ES5JBF

SURFACE MOUNT SUPERFAST RECOVERY RECTIFIER

Reverse Voltage - 50 to 600 Volts Forward Current - 5.0 Amperes

SMBF



Dimensions in inches and (millimeters)

FEATURES

- ◆ For surface mounted applications
- ◆ Low profile package
- ◆ Glass Passivated Chip Junction
- ◆ Superfast reverse recovery time
- ◆ Lead free in comply with EU RoHS 2011/65/EU directives

MECHANICAL DATA

Case: JEDEC SMBF molded plastic body
Terminals: leads solderable per MIL-STD-750, Method 2026
Mounting Position: Any
Weight: 57mg/0.002oz

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	ES5ABF	ES5BBF	ES5DBF	ES5GBF	ES5JBF	UNITS
Marking code		E5AB	E5BB	E5DB	E5GB	E5JB	
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	VOLTS
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	VOLTS
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	VOLTS
Maximum average forward rectified current at $T_L=100^\circ\text{C}$	$I_{(AV)}$	5.0					Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	150			135		Amps
Maximum instantaneous forward voltage at 5.0A	V_F	1.0			1.25	1.7	Volts
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					pF
Typical thermal resistance (NOTE 3)	$R_{\theta JA}$	45					$^\circ\text{C}/\text{W}$
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150					$^\circ\text{C}$

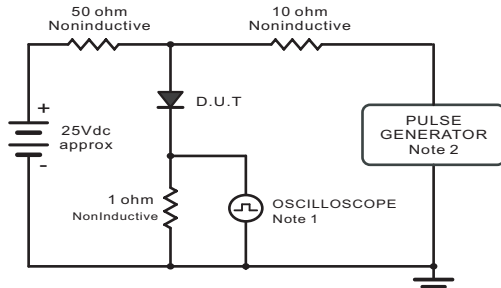
Note: 1. Reverse recovery condition $I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A}$
 2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
 3. P.C.B. mounted with 0.5x0.5" (12.7x12.7mm) copper pad areas



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RATINGS AND CHARACTERISTIC CURVES ES5ABF THRU ES5JBF

Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram



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

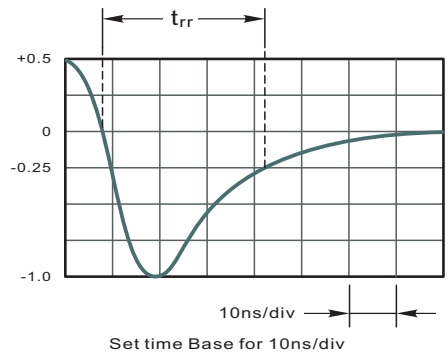


Fig.2 Maximum Average Forward Current Rating

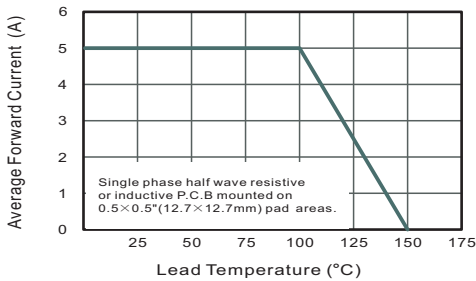


Fig.3 Typical Reverse Characteristics

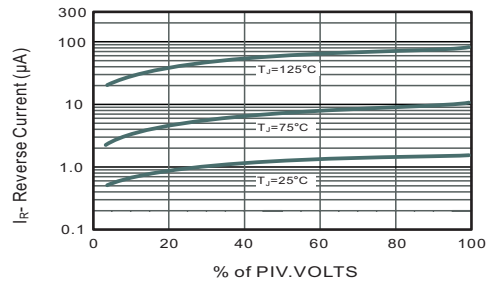


Fig.4 Typical Forward Characteristics

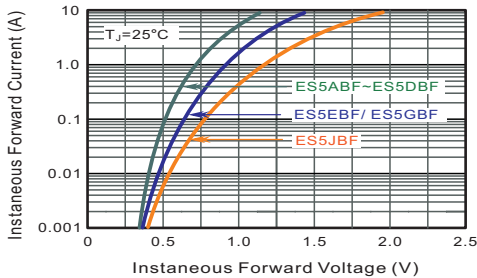


Fig.5 Typical Junction Capacitance

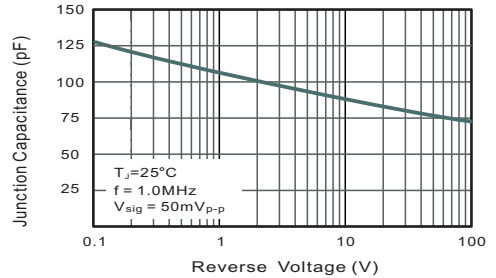
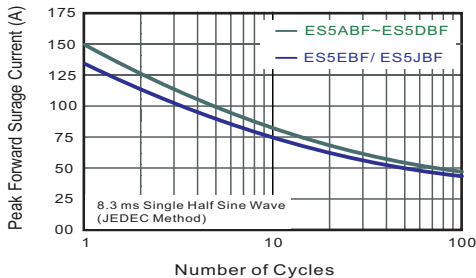


Fig.6 Maximum Non-Repetitive Peak Forward Surge Current



The cruve graph is for reference only, can't be the basis for judgment(曲线图仅供参考!)



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