

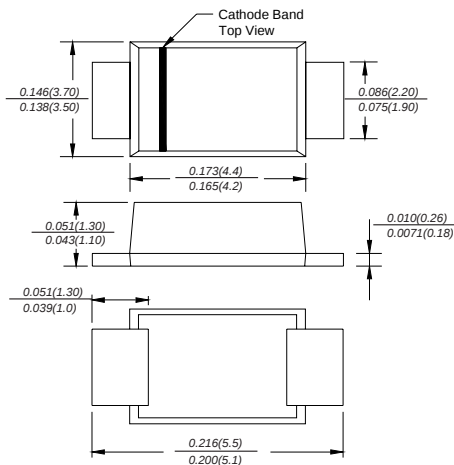


ES5ABF THRU ES5JBF

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%.

TWGMC 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					$^\circ\text{C/W}$
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150					$^\circ\text{C}$

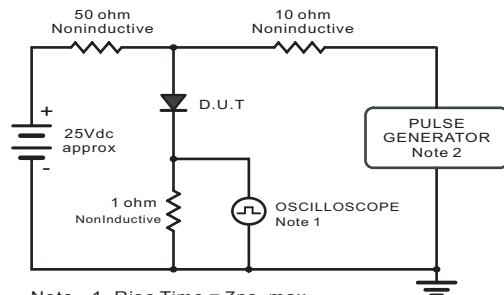
Note: 1. Reverse recovery condition $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{rr}=0.25\text{A}$

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

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. Rise Time = 10ns, max.
Source Impedance = 50 ohms.

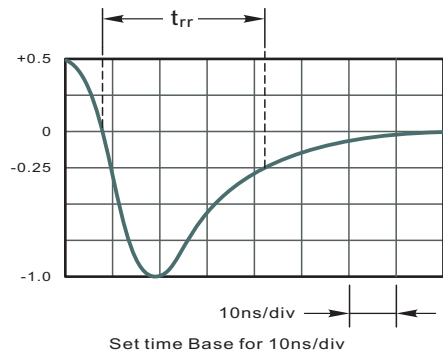


Fig.2 Maximum Average Forward Current Rating

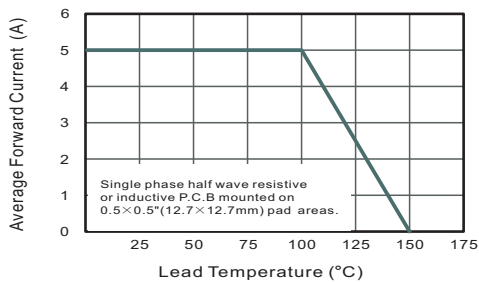


Fig.3 Typical Reverse Characteristics

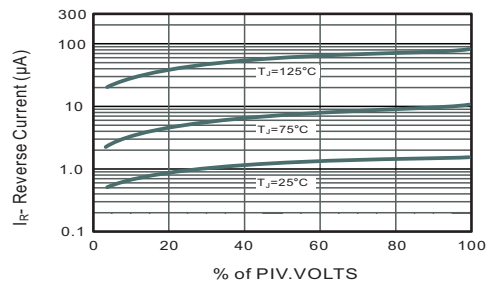


Fig.4 Typical Forward Characteristics

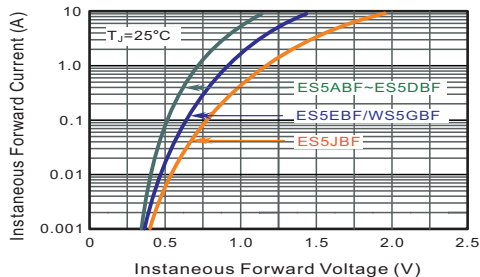


Fig.5 Typical Junction Capacitance

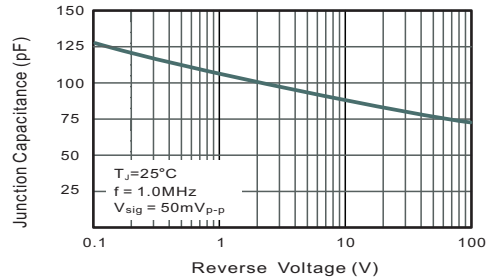


Fig.6 Maximum Non-Repetitive Peak Forward Surge Current

