

III. Fast / Ultra Fast / Super Fast Recovery Rectifier

3.0A Surface Mount Super Fast Recovery Rectifier

ES3AB~ES3JB

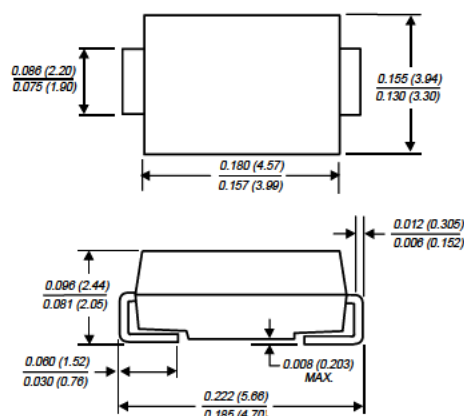
(Package: SMB (DO-214AA))

FEATURES

- For surface mounted applications.
- Glass passivated junction chip.
- Built-in strain relief, ideal for automated placement.
- Plastic material used carries Underwriters Laboratory Flammability Classification 94V-0.
- Super Fast recovery for high efficiency.
- High temperature soldering : 260°C/10 seconds at terminals.

MECHANICAL DATA

- Case : Molded plastic
- Terminals : Solder plated
- Polarity : Indicated by cathode band
- Weight : 0.090 grams



Case: SMB
Dimensions in inches and (millimetres)

Ratings & Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

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

Characteristics	Symbol	ES3AB	ES3BB	ES3CB	ES3DB	ES3EB	ES3GB	ES3JB	Units
Maximum recurrent peak reverse voltage	V_{RRM}	50	100	150	200	300	400	600	Volts
Maximum RMS voltage	V_{RMS}	35	70	105	140	210	280	420	Volts
Maximum DC blocking voltage	V_{DC}	50	100	150	200	300	400	600	Volts
Maximum average forward rectified current See Fig. 1 @ $T_L=110^\circ\text{C}$	I_o	3.0							Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load. (JEDEC Method)	I_{FSM}	100							Amps
Maximum instantaneous forward voltage @ 3.0 A	V_F	0.95			1.30		1.70		Volts
Maximum DC reverse current @ $T_a=25^\circ\text{C}$ at rated DC blocking voltage @ $T_a=100^\circ\text{C}$	I_R				10				μA
					250				
Maximum reverse recovery time (Note 1)	T_{rr}	35							ns
Typical junction capacitance (Note 2)	C_j	45			30				PF
Typical thermal resistance (Note 3)	R_{th-JA}	47							$^\circ\text{C/W}$
	R_{th-JL}	12							
Operating temperature range	T_j	-55 to +150							$^\circ\text{C}$
Storage temperature range	T_{stg}	-55 to +150							$^\circ\text{C}$

Notes:

1. Reverse recovery test conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$
2. Measured at 1.0 MHz and applied $V_R=4.0\text{V}$.
3. Units mounted on P.C.B. with 0.6"x0.6" (16x16mm) copper pad areas.

<http://patron-components.com/>

Ratings and Characteristic Curves of ES3AB~ES3JB

AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE

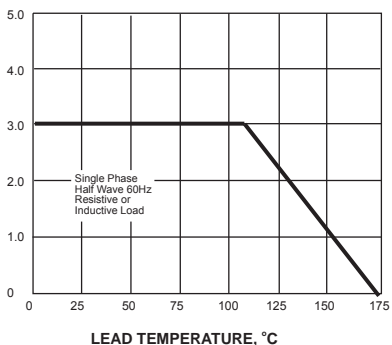


FIG.2 MAXIMUM NON REPETITIVE PEAK FORWARD SURGE CURRENT

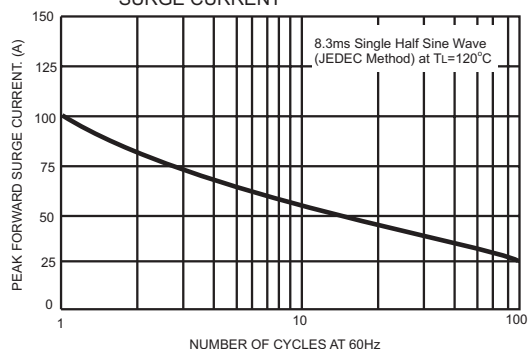


FIG.3 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

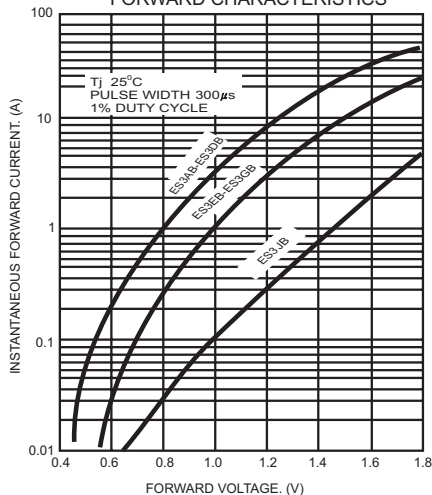


FIG.4 TYPICAL REVERSE CHARACTERISTICS

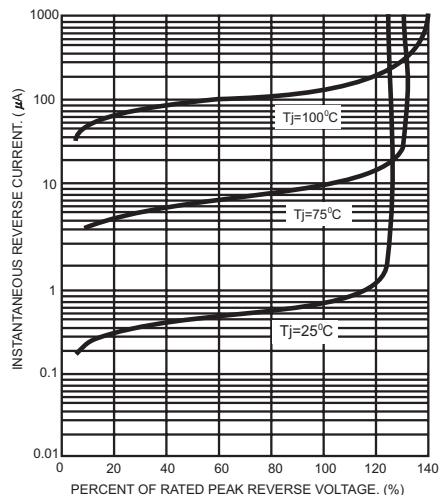


FIG.5 TYPICAL JUNCTION CAPACITANCE

