ES3J-E-K

SURFACE MOUNT FAST ULTRAFAST RECTIFIER

VOLTAGE: 600V **CURRENT: 3.0A**

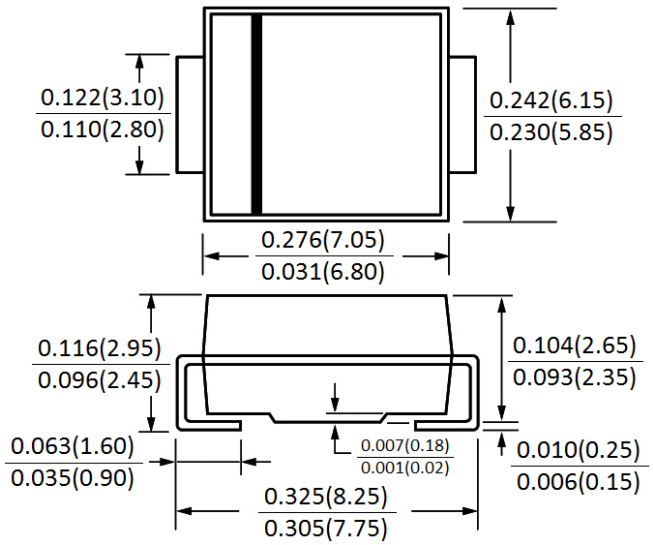
FEATURE

Ideal for surface mount pick and place application
Low profile package
Built-in strain relief
High surge capability
High temperature soldering guaranteed
260℃/10sec/at terminals
Glass passivated chip
Ultrafast recovery time for high efficiency
Halogen Free

MECHANICAL DATA

Terminal: Solder plated, solderable per J-STD-002
Case: JEDEC DO-214AB molded plastic body over passivated chip
Polarity: color band denotes cathode

SMC-1



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

(single-phase, half-wave, 60HZ, resistive or inductive load rating at 25℃, unless otherwise stated)

	Symbol	ES3J-E-K	units
Maximum Recurrent Peak Reverse Voltage	Vrrm	600	V
Maximum RMS Voltage	Vrms	420	V
Maximum DC blocking Voltage	Vdc	600	V
Maximum Average Forward Rectified at T_L =100℃	If(av)	3.0	A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load	Ifsm	100.0	A
Maximum Instantaneous Forward Voltage at rated forward current	Vf	1.7	V
Maximum DC Reverse Current Ta =25℃ at rated DC blocking voltage Ta =100℃	Ir	10.0 500.0	μA
Maximum Reverse Recovery Time (Note1)	Trr	35	nS
Typical Junction Capacitance (Note 2)	Cj	45.0	pF
Typical Thermal Resistance (Note 3)	Rth(jl)	12.0	℃/W
Storage and Operating Junction Temperature	Tstg, Tj	-55 to +150	℃

Note:
1. Reverse Recovery Condition If =0.5A, Ir =1.0A, Irr =0.25A
2. Measured at 1.0 MHz and applied reverse voltage of 4.0Vdc
3. Thermal Resistance from Junction to terminal mounted on 8×8mm copper pad area

Fig. 1 – Maximum Forward Current Derating Curve

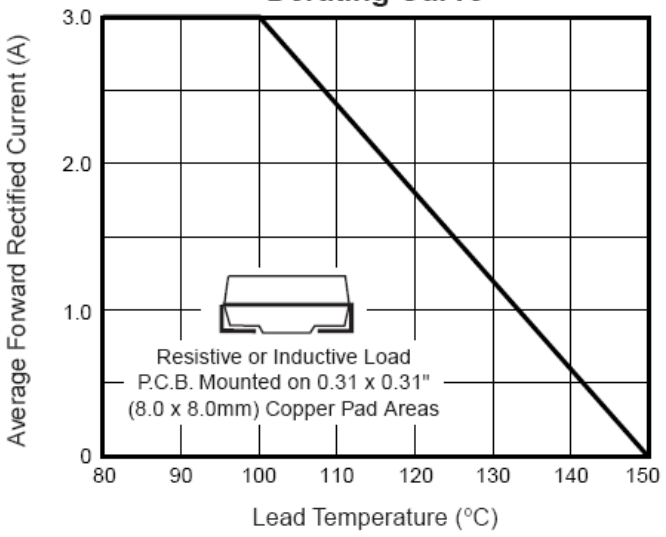


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

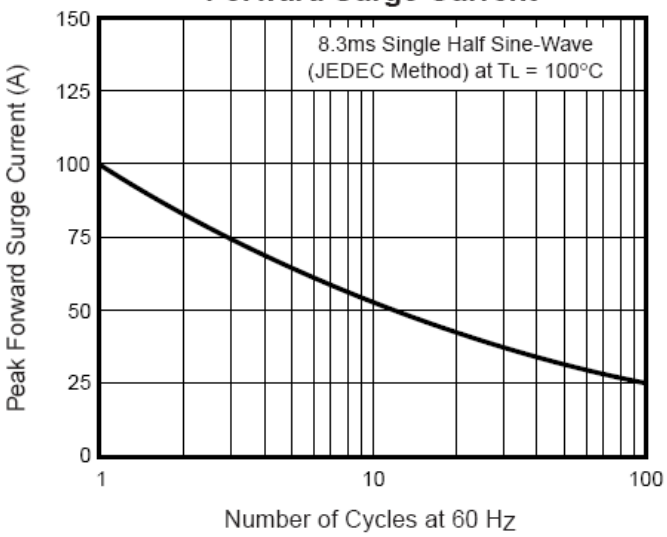


Fig. 3 – Typical Instantaneous Forward Characteristics

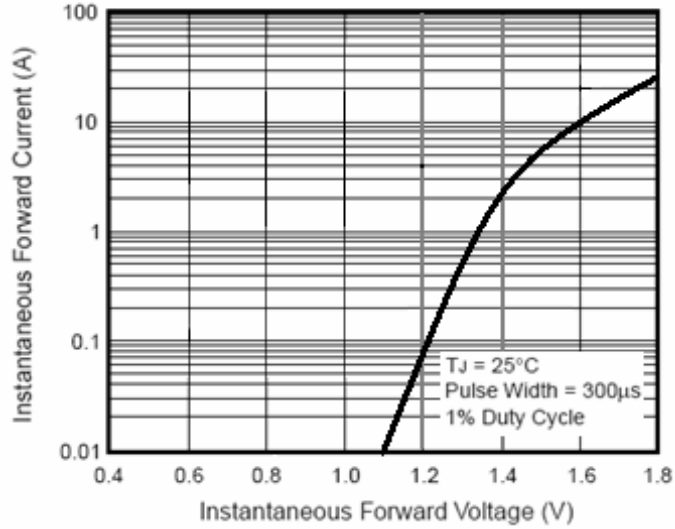


Fig. 4 – Typical Reverse Leakage Characteristics

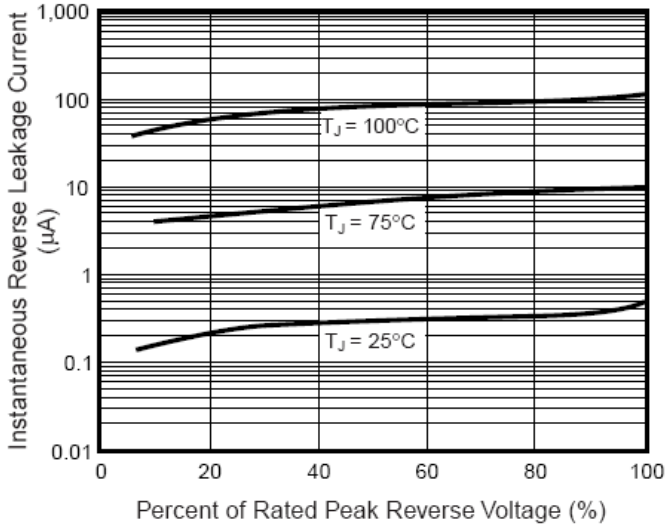


Fig. 5 – Typical Junction Capacitance