



ES3A THRU ES3J

SURFACE MOUNT GLASS PASSIVATED JUNCTION ULTRAFAST EFFICIENT RECTIFIER

Reverse Voltage: 50 to 600 Volts
Forward Current: 3.0 Amperes

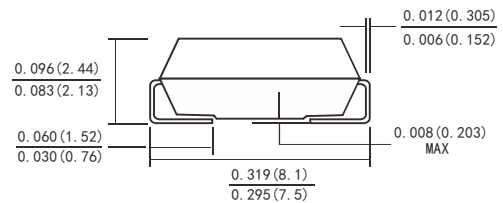
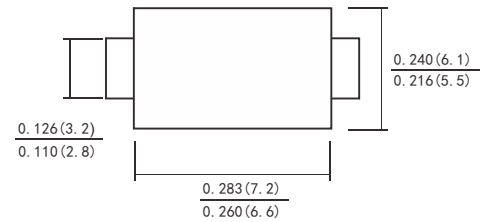
FEATURES

- Glass passivated cavity-free junction
- Ideal for surface mount automotive applications
- Ultrafast recovery time for high efficiency
- Built-in strain relief
- Easy pick and place
- Plastic package has Underwriters Laboratory Flammability
- Classification 94V-0
- Lead (Pb)-free component
- High temperature soldering guaranteed: 260°C/10 seconds at terminals
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

MECHANICAL DATA

- **Case:** JEDEC SMC(DO-214AB) molded plastic body
- **TerMINals:** solder plated, solderable per MIL-STD-750, method 2026
- **Polarity:** color band denotes cathode end
- **Mounting Position:** Any
- **Weight:** 0.007 ounce, 0.2 gram

SMC(DO-214AB)



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

(Rating at 25°C ambient temperature unless otherwise specified, Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.)

		Symbols	ES3						Units	
			A	B	D	F	G	J		
Maximum Repetitive Peak Reverse Voltage		V _{RRM}	50	100	200	300	400	600		Volts
Maximum RMS Voltage		V _{RMS}	35	70	140	210	280	420		Volts
Maximum DC Blocking Voltage		V _{DC}	50	100	200	300	400	600		Volts
Maximum Average Forward Rectified Current At T _L = 110°C		I _(AV)	3.0							Amps
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load		I _{FSM}	115					105		Amps
Maximum Instantaneous Forward Voltage at 3.0 A		V _F	0.95			1.25		1.7		Volts
Maximum DC Reverse Current At Rated DC Blocking Voltage	T _A = 25°C	I _R	5.0							µA
	T _A = 125°C		120							
Maximum Reverse Recovery Time(Note1)		T _{rr}	35							ns
Typical Junction Capacitance(Note2)		C _j	45							pF
Typical Thermal Resistance (NOTE3)		R θ JA	16							°C/W
Operating Junction and Storage Temperature Range		T _J , T _{STG}	-55 to +150							°C

Note: 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 1MHz and applied reverse voltage of 4.0 Volts.

3. Thermal Resistance From Junction To Ambient P.C.B. Mounted On 0.2x0.2" (5.0x5.0mm) Copper Pad Areas.

Rating and Characteristic Curves (TA = 25°C Unless otherwise noted)

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FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

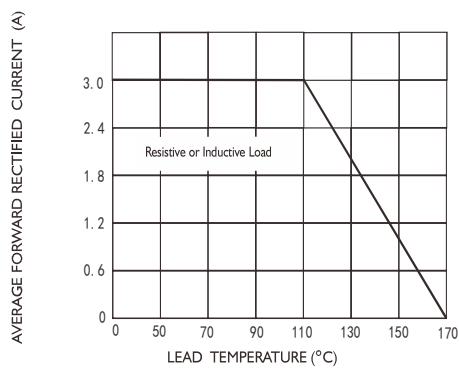


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

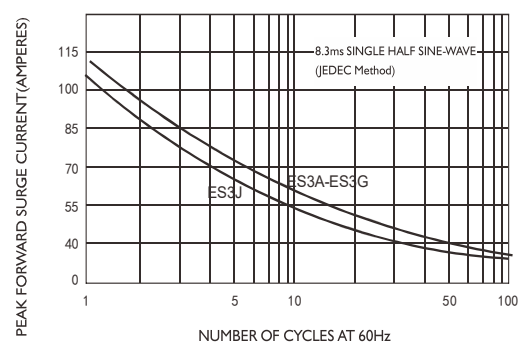


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

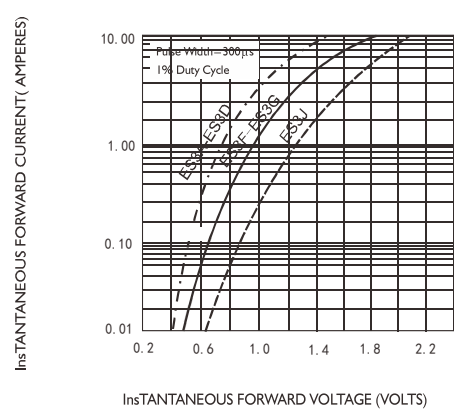


FIG.4-TYPICAL REVERSE CHARACTERISTICS

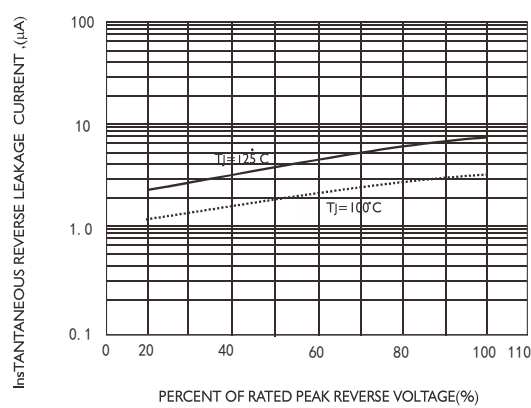


FIG.5-TYPICAL JUNCTION CAPACITANCE

