



ES6A thru ES6J

SURFACE MOUNT GLASS PASSIVATED JUNCTION ULTRAFAST EFFICIENT RECTIFIER

Reverse Voltage: 50 to 600 Volts

Forward Current: 5.0 Amperes

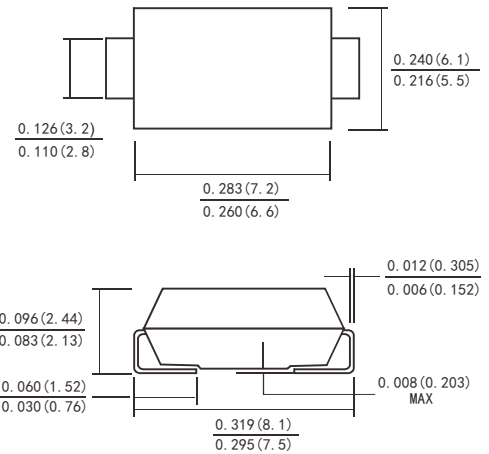
FEATURES

- 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
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC
- High temperature soldering guaranteed: 260°C/10 seconds at terminals

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:** 0.003ounce, 0.093 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	ES6						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)	6.0						Amps
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load		I _{FSM}	160					150	Amps
Maximum Instantaneous Forward Voltage at 6.0 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 ($T_A=25^{\circ}\text{C}$ Unless otherwise noted)

ES A thru ES J

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

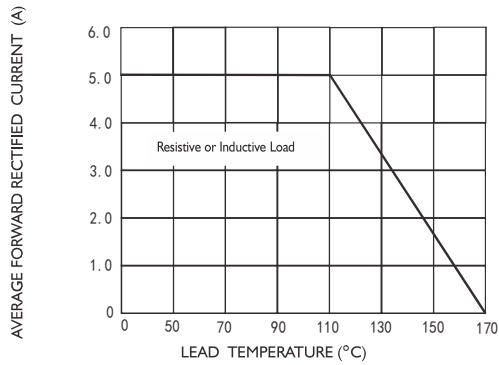


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

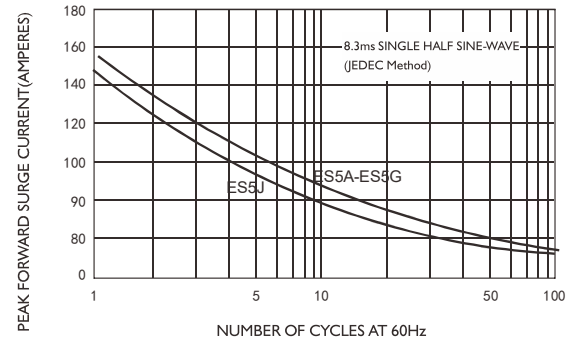


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

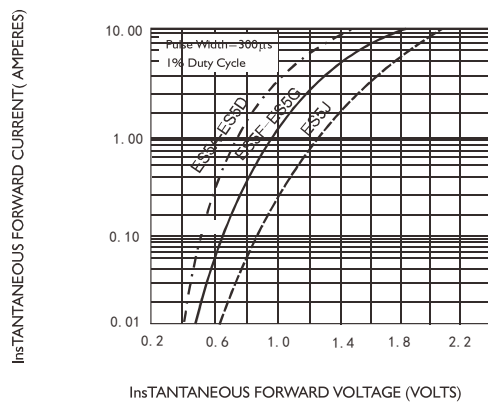


FIG.4-TYPICAL REVERSE CHARACTERISTICS

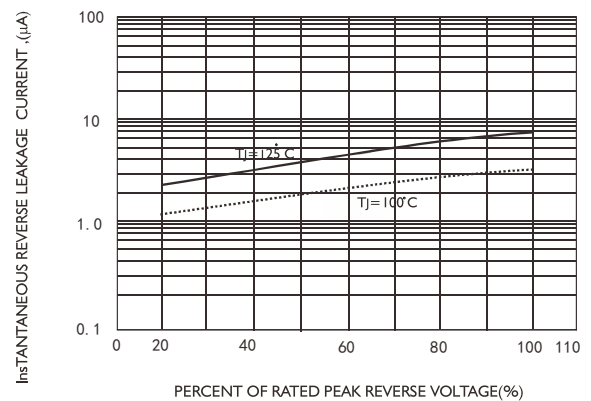


FIG.5-TYPICAL JUNCTION CAPACITANCE

