



ES8D-ES8J

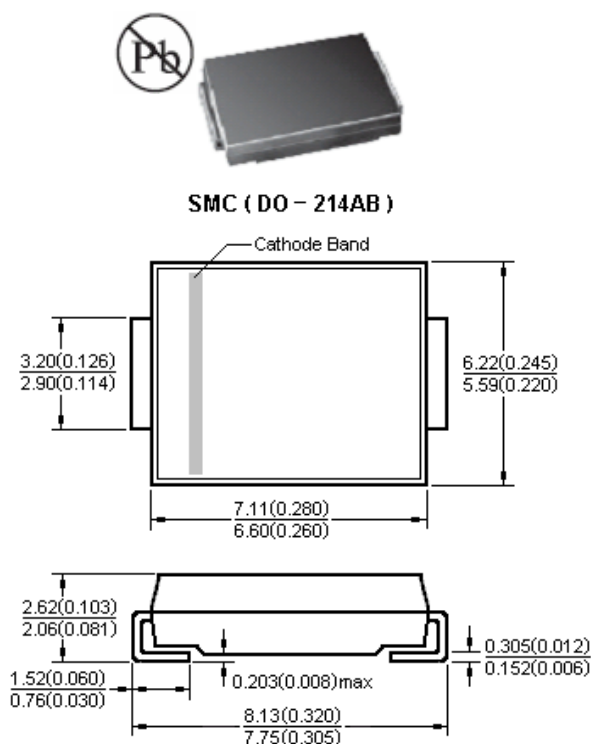
Surface Mount Superfast Rectifiers

Features

- Glass passivated chip junctions
- Ideal for automated placement
- Ultrafast reverse recovery time for high efficiency
- Low profile package
- High forward surge capability
- High temperature soldering: 260°C/10 seconds at terminals
- Component in accordance to RoHS 2002/95/1 and WEEE 2002/96/EC

Mechanical Date

- **Case:** JEDEC DO-214AB molded plastic body over passivated chip
- **Terminals:** Solder plated, solderable per J-STD-002B and JESD22-B102D
- **Polarity:** Laser band denotes cathode end



Dimensions in millimeters and (inches)

Maximum Ratings and Electrical Characteristics Rating at 25 °C

ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%

Type Number	Symbol	ES8D	ES8G	ES8J	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	200	400	600	V
Maximum RMS Voltage	V_{RMS}	140	280	420	V
Maximum DC Blocking Voltage	V_{DC}	200	400	600	V
Maximum Average Forward Rectified Current See Fig. 1	$I_{(AV)}$	8.0			A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	125			A
Maximum Instantaneous Forward Voltage @ 8.0A	V_F	0.98	1.3	1.7	V
Maximum DC Reverse Current @ $T_A = 25^{\circ}C$ at Rated DC Blocking Voltage @ $T_A = 100^{\circ}C$	I_R	10 350			μA μA
Maximum Reverse Recovery Time (Note 1)	T_{rr}	35			nS
Typical Junction Capacitance (Note 2)	C_j	45	30		pF
Maximum Thermal Resistance (Note 3)	$R_{\theta JA}$ $R_{\theta JL}$	75 20			$^{\circ}C/W$
Operating Temperature Range	T_J	-55 to +150			$^{\circ}C$
Storage Temperature Range	T_{STG}	-55 to +150			$^{\circ}C$

Notes: 1. Reverse Recovery Test Conditions: $I_F = 0.5A$, $I_R = 1.0A$, $I_{RR} = 0.25A$
2. Measured at 1 MHz and Applied $V_R = 4.0$ Volts
3. Units Mounted on P.C.B. 0.4" x 0.4" (10mm x 10mm) Pad Areas



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Characteristic Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

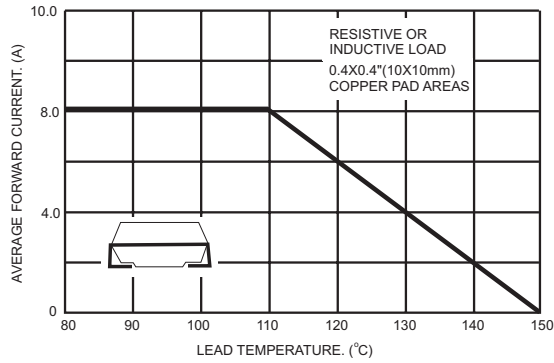


FIG.3- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

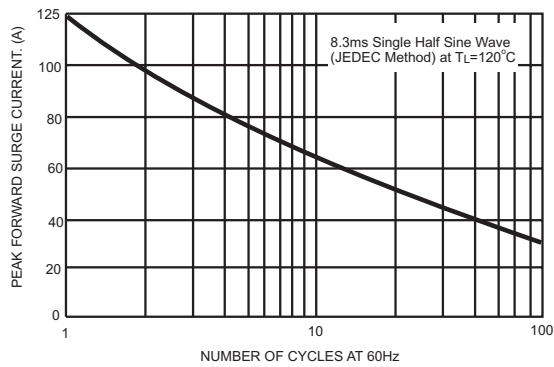


FIG.4- TYPICAL JUNCTION CAPACITANCE

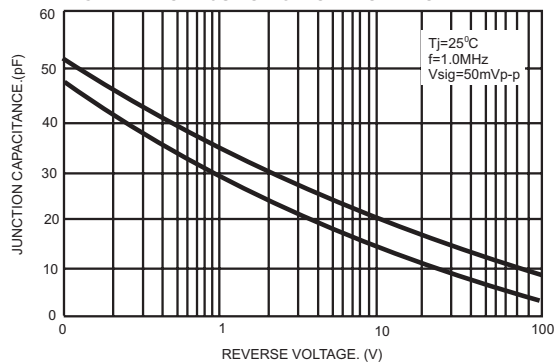


FIG.2- TYPICAL REVERSE CHARACTERISTICS

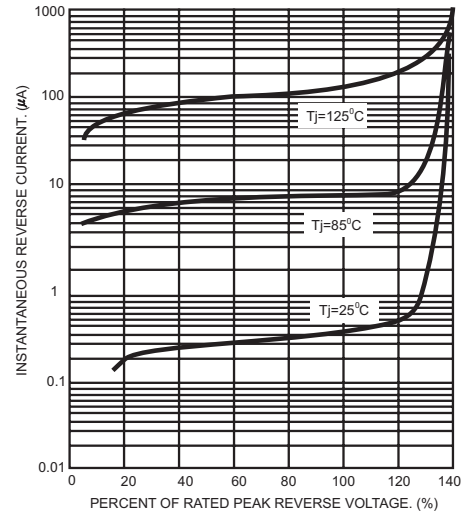


FIG.5- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

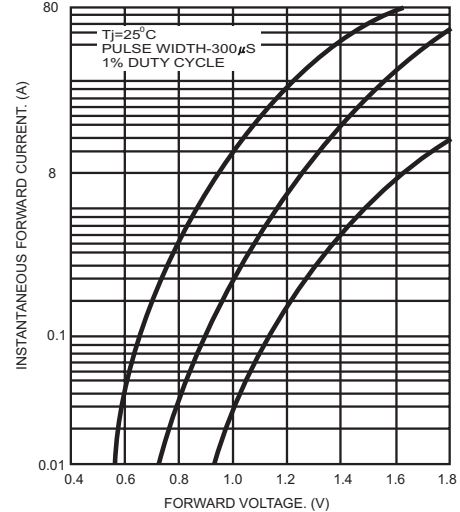


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

