



ES3A-ES3J

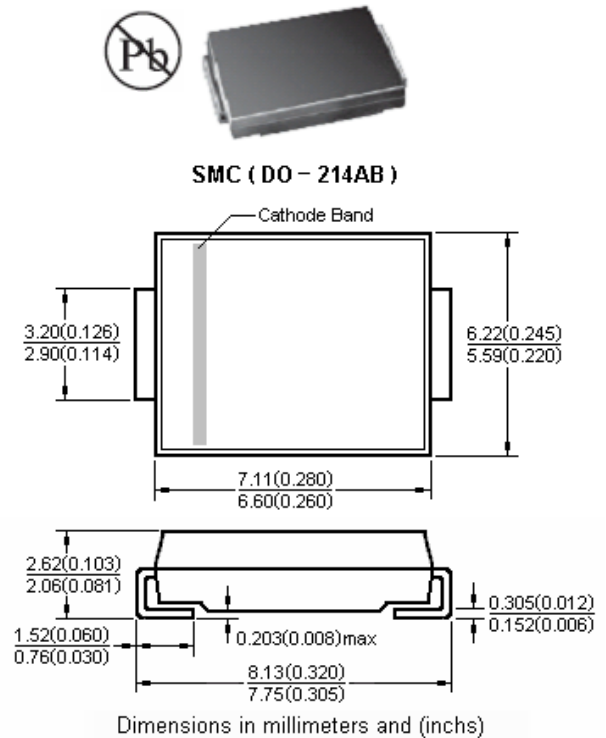
Surface Mount Superfast Rectifiers

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 Data

- **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



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%

Parameter	Symbols	ES3A	ES3B	ES3C	ES3D	ES3E	ES3G	ES3J	Units
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	50	100	150	200	300	400	600	V
Maximum RMS voltage	V _{RMS}	35	70	105	140	210	280	420	V
Maximum DC Blocking Voltage	V _{DC}	50	100	150	200	300	400	600	V
Maximum Average Forward Rectified Current at T _L = 100 °C	I _{F(AV)}	3							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)	I _{FSM}	100							A
Maximum Forward Voltage at 3A	V _F	1.0				1.25		1.65	V
Maximum DC Reverse Current at Rated DC Blocking Voltage Ta = 25 °C Ta =125 °C	I _R	5 100							μA
Typical Junction Capacitance	C _j	35							pF
Maximum Reverse Recovery Time at I _F =0.5A, I _R =1A, I _{rr} =0.25A	t _{rr}	35							ns
Typical Thermal Resistance ²⁾	R _{θJA} R _{θJC}	45 15							°C/W
Operating and Storage Temperature Range	T _j , T _{stg}	-55 ~ +150							°C

1) Measured with $I_F = 0.5\text{A}$, $I_R = 1\text{A}$, $t_{rr} = 0.25\text{A}$

2) P.C.B. mounted with 0.5 X 0.5" (12.7 X 12.7 mm) copper pad areas.





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

Fig.1 Forward Current Derating Curve

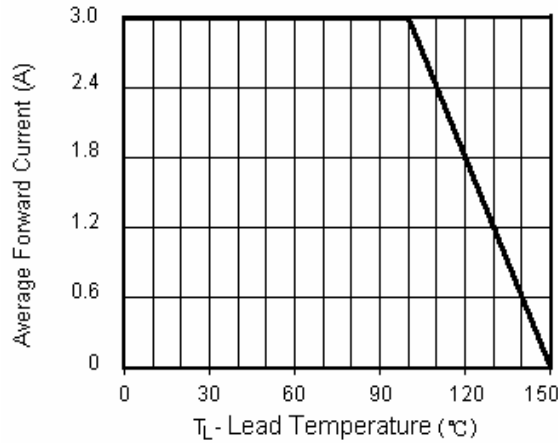


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current

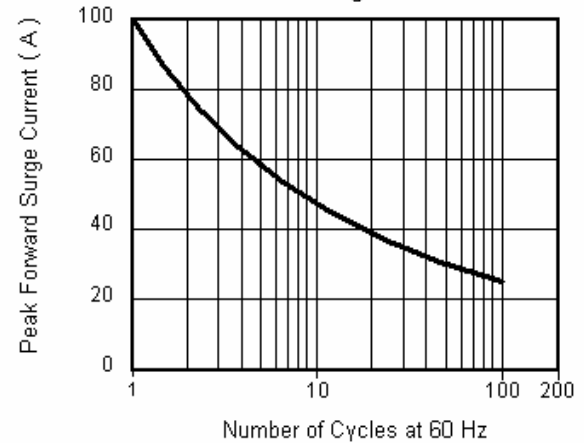


Fig.3 Typical Instantaneous Forward Characteristics

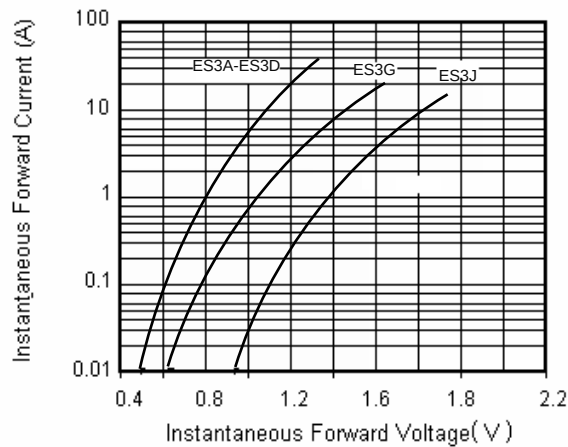


Fig.4 Typical Reverse Leakage Characteristics

