

### Features

- Fast recovery glass passivated chip
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- High temperature soldering: 260°C/10S at terminals
- Component in accordance to ROHS 2002/95/1 and WEEE 2002/96/EC



DO-214AB (SMC)

### Mechanical Data

- Case: JEDED DO-214AB mold plastic Body over glass passivated chip
- Terminals: Solder plated, solderable per J-STD-002B and JESD22-B102D
- Polarity: Laser band denote cathode band
- Weight: 0.007 ounce, 0.21 gram

### Maximum Ratings and Electrical Characteristics

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

TYPE NUMBER	SYMBOLS	ES3A	ES3B	ES3C	ES3D	ES3F	ES3G	ES3J	UNIT	
Maximum Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	50	100	150	200	300	400	600	Volts	
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	105	140	210	280	420	Volts	
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	150	200	300	400	600	Volts	
Maximum Average Forward Rectified Current At T <sub>A</sub> =125°C	I <sub>(AV)</sub>	3.0							Amps	
Peak Forward Surge Current 8.3ms single half sine wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	80							Amps	
Maximum Instantaneous Forward Voltage at 3.0A	V <sub>F</sub>	0.95				1.25		1.70	Volts	
Maximum DC Reverse Current at rated DC blocking voltage at	T <sub>A</sub> = 25°C	5.0							µAmps	
	T <sub>A</sub> = 125°C	100								
Maximum Reverse Recovery Time (NOTE 3)	T <sub>RR</sub>	35								nS
Typical Junction Capacitance (NOTE 2)	C <sub>J</sub>	45				30				pF
Typical Thermal Resistance (NOTE 1)	R <sub>θJA</sub>	13							°C/W	
	R <sub>θJL</sub>	47								
Operating Junction Temperature	T <sub>J</sub>	(-55 to +150)							°C	
Storage Temperature Range	T <sub>STG</sub>	(-55 to +150)							°C	

#### Notes:

1. Thermal Resistance from Junction to Ambient at 0.3×0.3"(8.0 × 8.0mm) copper pad areas
2. Measured at 1.0MHz and applied reverse voltage of 4.0V.
3. Reverse Recovery Test Conditions: I<sub>f</sub>=0.5A, I<sub>r</sub>=1.0A, I<sub>rr</sub>=0.25A.

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

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

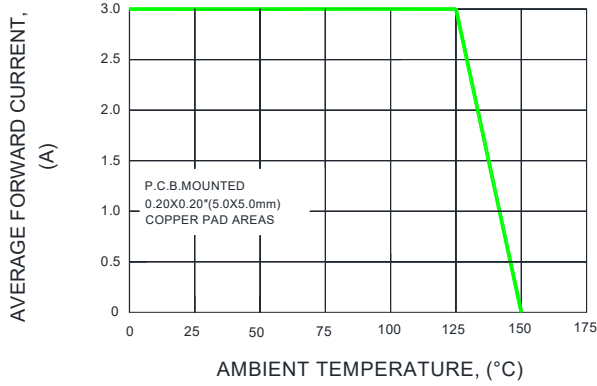


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

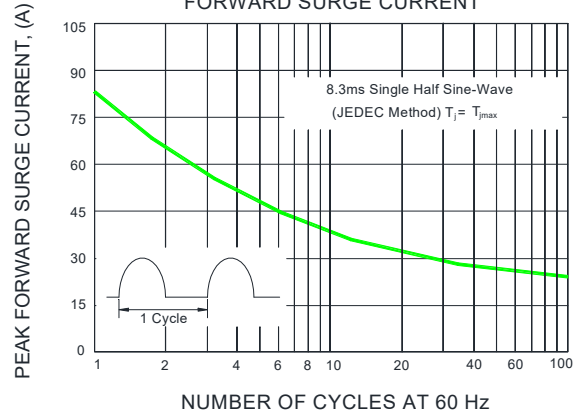


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

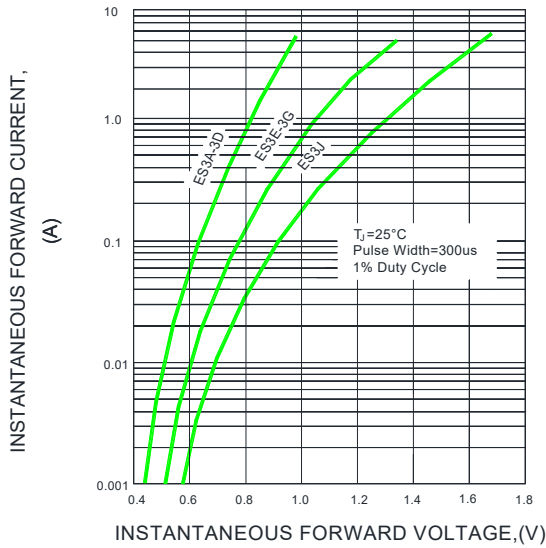


FIG.4-TYPICAL REVERSE CHARACTERISTICS

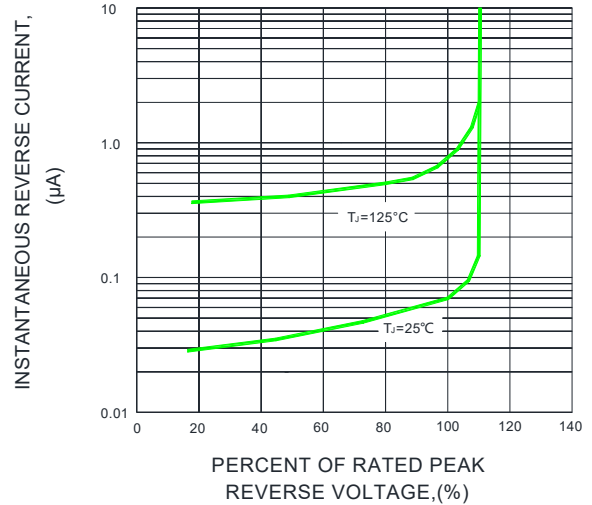


FIG.5-TYPICAL JUNCTION CAPACITANCE

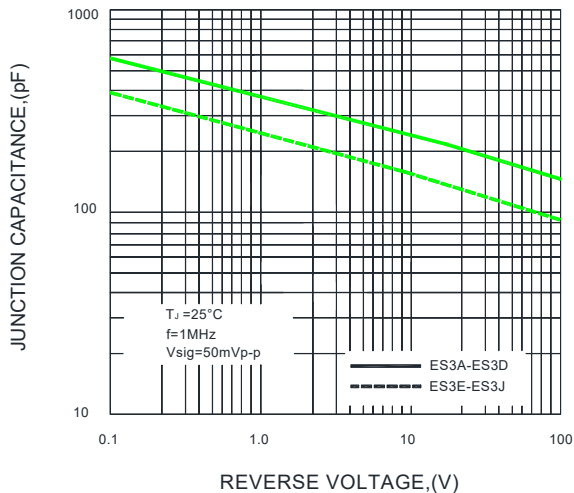
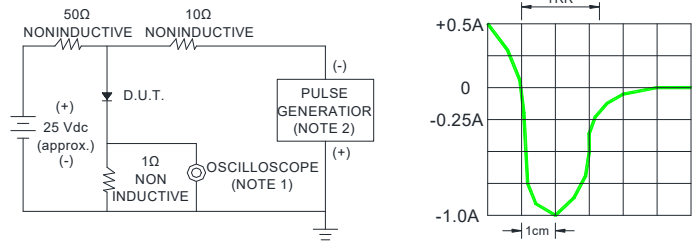


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



- NOTES : 1. Rise Time=7ns max. Input Impedance= 1 megohm. 22pF  
2. Rise time=10ns max. Source Impedance= 50 ohms
- SET TIME BASE FOR 50/100ns/cm

### Package Outline Dimensions in inches (millimeters)

