

# ES3A THUR ES3J

## ES3A THUR ES3J Super-Fast Surface Mount Rectifiers

### General description

Super Fast Surface Mount Rectifiers

Reverse Voltage : 50 to 600V

Forward Current:3.0A

SMC/DO214AB package

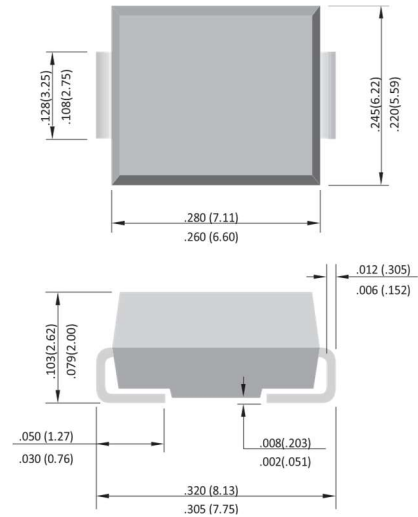
### FEATURES

- Low profile package
- Built-in strain relief
- Easy pick and place
- Superfast recovery times for high efficiency.
- Plastic package has Underwriters Laboratory
- Flammability Classification 94V-O

### MECHANICAL DATA

- Case: JEDEC DO-214AB molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750 ,Method 2026
- Polarity: Indicated by cathode band.
- Weight: 0.007 ounce, 0.25 gram

### SMC/DO-214AB



Unit: inch (mm)

### Maximum Ratings & Thermal Characteristics (Ratings at 25°C ambient temperature unless otherwise specified.)

Characteristic	Symbol	ES3A	ES3B	ES3C	ES3D	ES3E	ES3G	ES3J	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>								
Working Peak Reverse Voltage	V <sub>RWM</sub>	50	100	150	200	300	400	600	V
DC Blocking Voltage	V <sub>R</sub>								
RMS Reverse Voltage	V <sub>R(RMS)</sub>	35	70	105	140	210	280	420	V
Average Rectified Output Current @T <sub>L</sub> = 75°C	I <sub>o</sub>	3.0							A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	100							A
Forward Voltage @I <sub>F</sub> = 3.0A	V <sub>FM</sub>	0.95				1.25		1.7	V
Peak Reverse Current @T <sub>A</sub> = 25°C	I <sub>RM</sub>	5.0							μA
At Rated DC Blocking Voltage @T <sub>A</sub> = 100°C		500							
Reverse Recovery Time (Note 1)	t <sub>rr</sub>	35							nS
Typical Junction Capacitance (Note 2)	C <sub>j</sub>	45							pF
Typical Thermal Resistance (Note 3)	R <sub>JL</sub>	47							°C/W
Operating and Storage Temperature Range	T <sub>j</sub> , T <sub>STG</sub>	-55 to +150							°C

Note:1.Reverse recovery condition IF=0.5A,IR=1.0A,Irr=0.25A

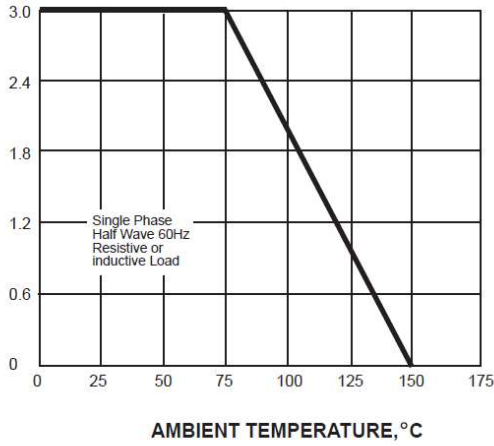
2.Measured at 1MHz and applied reverse voltage of 4.0V D.C.

3.P.C.B. mounted with 0.2x0.2"(5.0x5.0mm) copper pad areas

## RATING AND CHARACTERISTIC CURVES

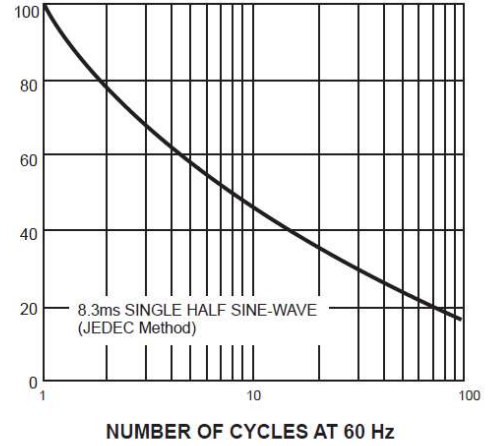
AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



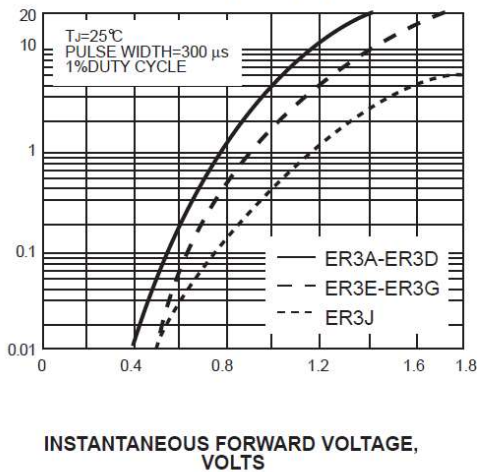
PEAK FORWARD SURGE CURRENT, AMPERES

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



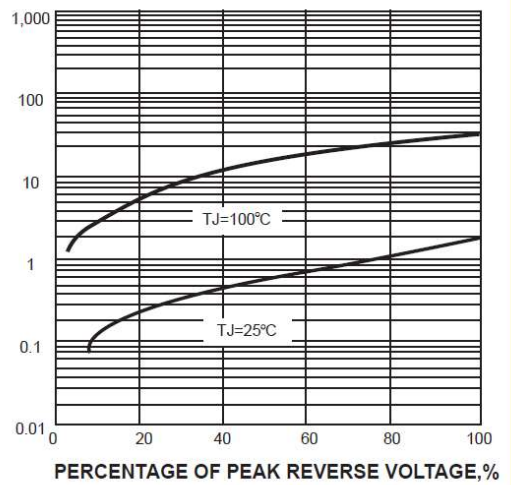
INSTANTANEOUS FORWARD CURRENT, AMPERES

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



INSTANTANEOUS REVERSE CURRENT, MICROAMPERES

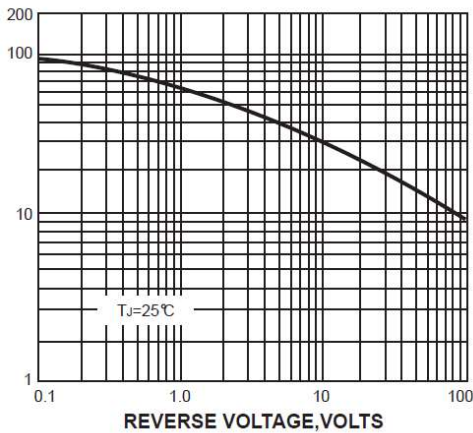
FIG. 4-TYPICAL REVERSE CHARACTERISTICS



INSTANTANEOUS FORWARD CURRENT

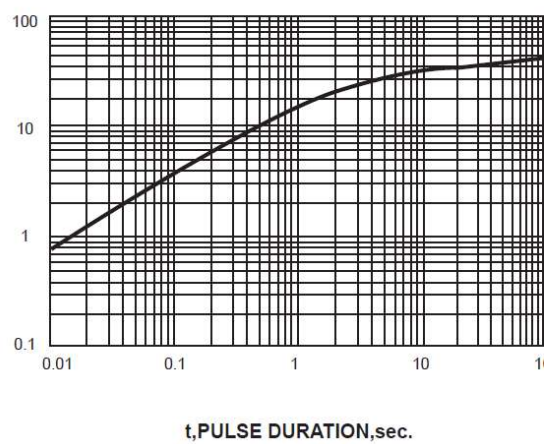
JUNCTION CAPACITANCE, pF

FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE, °C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



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