

# ES3A THRU ES3J

## SURFACE MOUNT SUPER FAST RECTIFIER

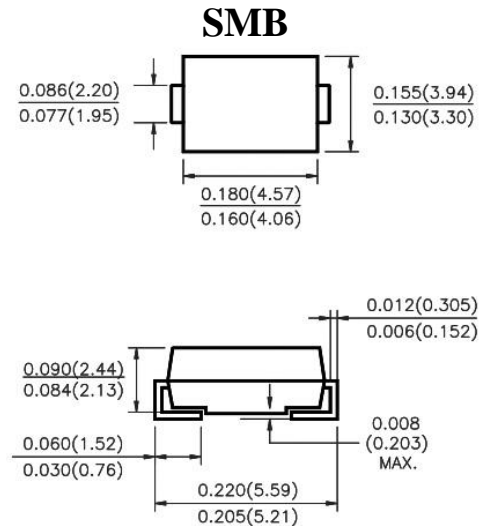
REVERSE VOLTAGE 50 to 600 Volts FORWARD CURRENT 3.0 Ampere

### FEATURES

- ◆ Plastic package has underwrites laboratory Flammability Classification 94V-0
- ◆ Glass passivated chip junction
- ◆ Built-in strain relief
- ◆ Suoer Fast switching speed for high efficiency
- ◆ High temperature soldering guaranteed:  
260°C/10 seconds

### Mechanical Data

- ◆ Case: JEDED DO-214AA transfer molded plastic
- ◆ Terminals: Solder plated, solderable per MIL-STD-750 Method 2026
- ◆ Polarity: Color band denotes cathode end



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%

	SYMBOL	ES3A	ES3B	ES3C	ES3D	ES3E	ES3G	ES3J	UNIT	
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	150	200	300	400	600	Volts	
Maximum RMS Voltage	$V_{RMS}$	35	70	105	140	210	280	42	Volts	
Maximum DC Blocking Voltage	$V_{DC}$	50	100	150	200	300	400	600	Volts	
Maximum Average Forward Rectified Current at $T_L=100^\circ\text{C}$	$I_{(AV)}$	3.0							Amps	
Peak Forward Surge Current 8.3ms single half sine wave superimposed on rated load (JEDEC method)	$I_{FSM}$	100							Amps	
Maximum Instantaneous Forward Voltage at 3.0A	$V_F$	0.95			1.25		1.7		Volts	
Maximum DC Reverse Current at rated $T_A=25^\circ\text{C}$ DC Blocking voltage per element $T_A=125^\circ\text{C}$	$I_R$	5.0			300				$\mu\text{A}$	
Typical Reverse Recovery Time Test conditions $I_F=0.5\text{A}$ , $I_R=1.0\text{A}$ , $I_{RR}=0.25\text{A}$	$t_{rr}$	35								nS
Typical Junction Capacitance (Measured at 1.0MHz and applied reverse voltage of 4.0V)	$C_J$	45			30				pF	
Typical Thermal Resistance (Note 1)	$R_{\theta JA}$	55							$^\circ\text{C/W}$	
	$R_{\theta JL}$	17								
Operating Junction Temperature Range	$T_J$	-55 to +150							$^\circ\text{C}$	
Storage Temperature Range	$T_{STG}$	-55 to +150							$^\circ\text{C}$	

Note: Thermal resistance from Junction to ambient and from junction to lead mounted on P.C.B. with 0.3"×0.3" (8.0mm × 8.0mm) copper pad areas.

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### RATING AND CHARACTERISTIC CURVES ES3A THRU ES3J

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

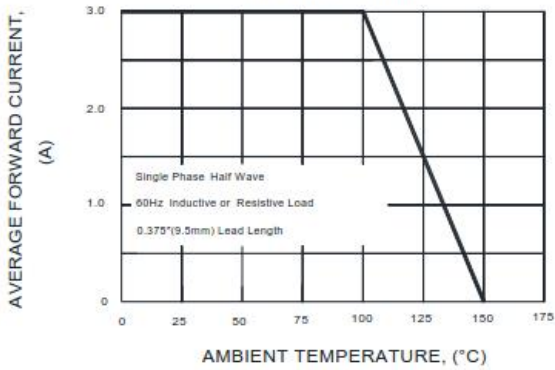


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

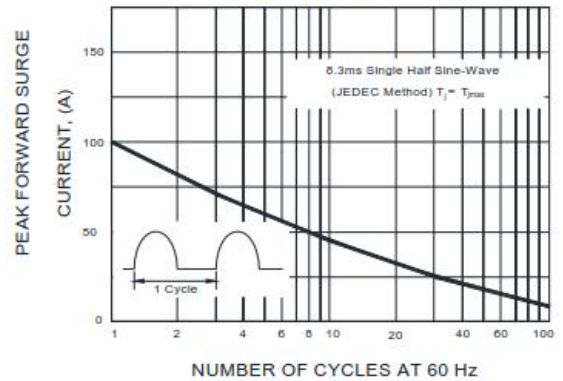


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

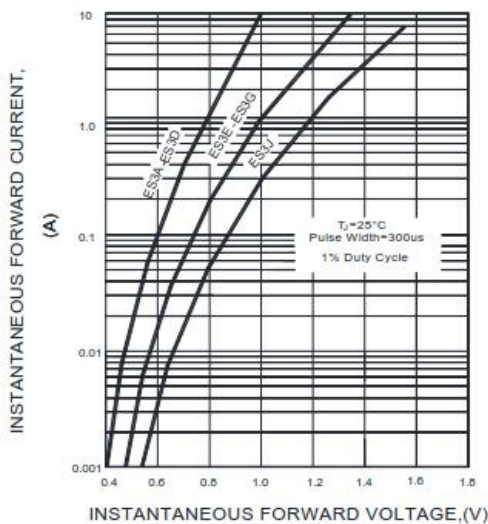


FIG.4-TYPICAL REVERSE CHARACTERISTICS

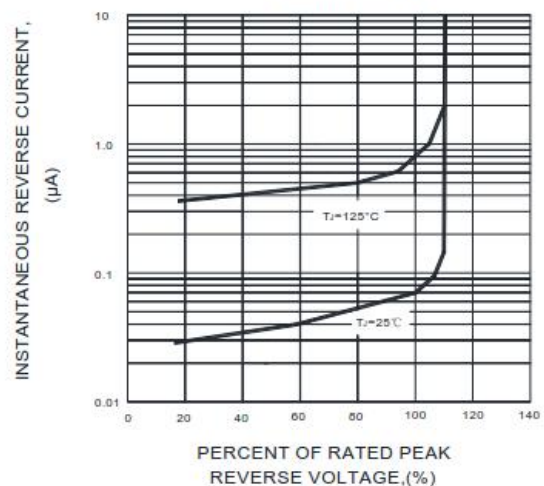


FIG.5-TYPICAL JUNCTION CAPACITANCE

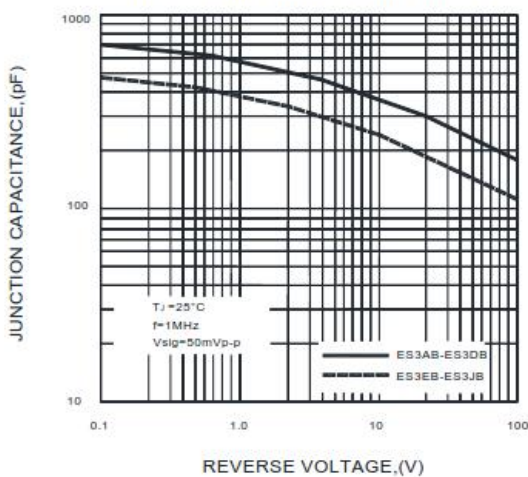
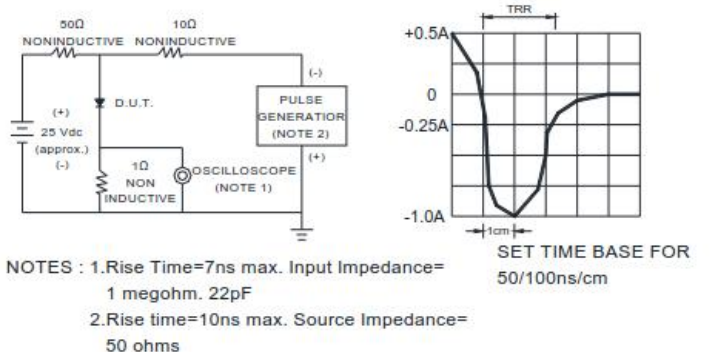


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



Note: Specifications are subject to change without notice. For more detail and update, please visit our website.