

# ER1A THRU ER1J

## SURFACE MOUNT SUPERFAST RECTIFIER

VOLTAGE - 50 to 600 Volts CURRENT - 1.0 Ampere

### FEATURES

- For surface mounted applications
- 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

- Glass passivated junction
- High temperature soldering:  
260 /10 seconds at terminals

### MECHANICAL DATA

Case: JEDEC DO-214AA molded plastic

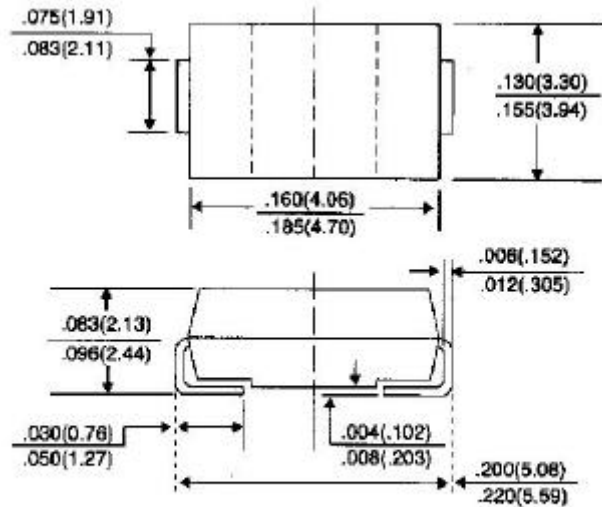
Terminals: Solder plated, solderable per MIL-STD-750,  
Method 2026

Polarity: Indicated by cathode band

Standard packaging: 12mm tape (EIA-481)

Weight: 0.003 ounce, 0.093 gram

### SMB/DO-214AA



Dimensions in inches and (millimeters)

### 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%.

	SYMBOLS	ER1A	ER1B	ER1C	ER1D	ER1E	ER1G	ER1J	UNITS
Maximum Recurrent 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>L</sub> =100	I <sub>(AV)</sub>	1.0							Amps
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load(JEDEC method)	I <sub>FSM</sub>	30.0							Amps
Maximum Instantaneous Forward Voltage at 1.0A	V <sub>F</sub>	0.95				1.25		1.7	Volts
Maximum DC Reverse Current T <sub>A</sub> =25 At Rated DC Blocking Voltage T <sub>A</sub> =100	I <sub>R</sub>	5.0 100							A
Maximum Reverse Recovery Time (Note 1)	T <sub>RR</sub>	35.0							nS
Typical Junction capacitance (Note 2)	C <sub>J</sub>	10.0							pF
Typical Thermal Resistance (Note 3)	R <sub>JL</sub>	34							/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-50 to +150							

### 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 reverse voltage of 4.0 volts

3.  $8.0\text{mm}^2$  (.013mm thick) land areas

## RATING AND CHARACTERISTIC CURVES

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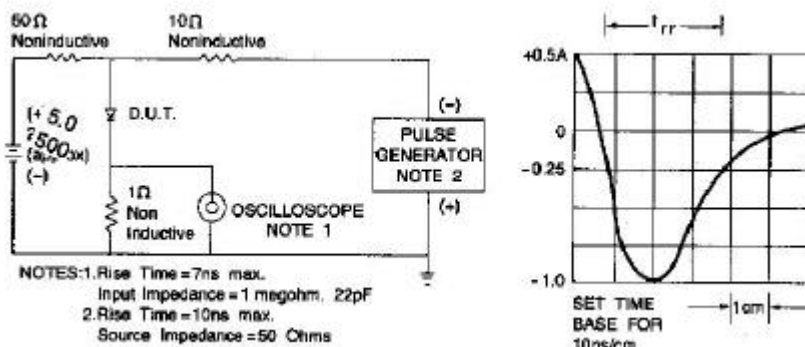


Fig. 1-REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM ER1A THRU ER1J

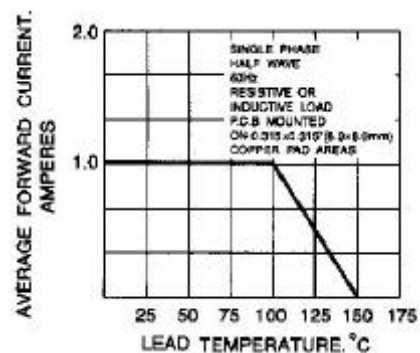


Fig. 2-MAXIMUM AVERAGE FORWARD CURRENT RATING

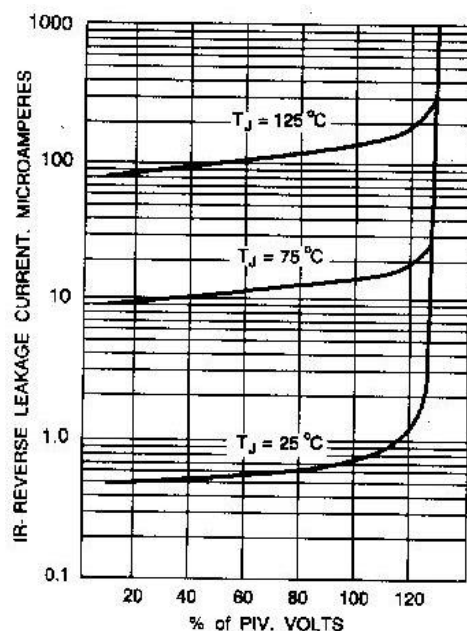


Fig. 3-TYPICAL REVERSE CHARACTERISTICS

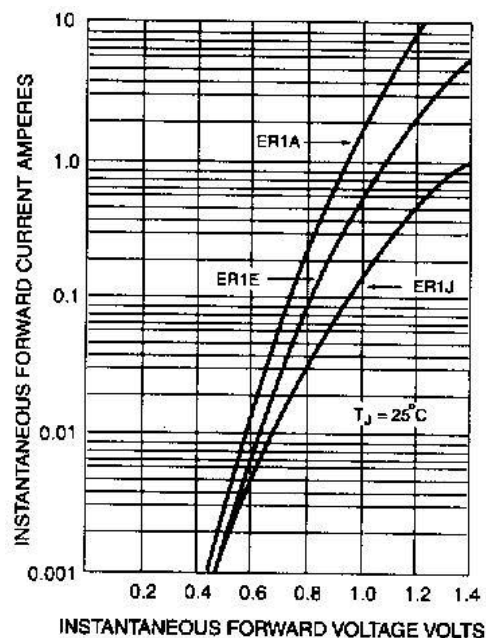


Fig. 4-TYPICAL FORWARD CHARACTERISTICS

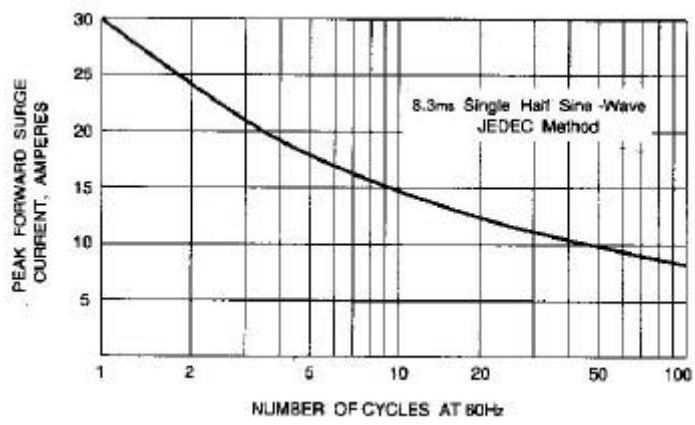


Fig. 5-MAXIMUM NON-REPETITIVE SURGE  
CURRENT

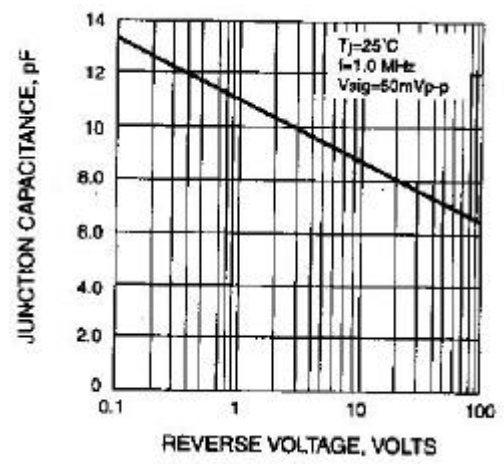


Fig. 6-TYPICAL JUNCTION CAPACITANCE