

SURFACE MOUNT SUPER FAST RECTIFIERS

#### 50V-600V 1.0A

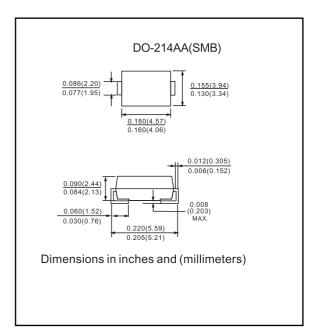
## **FEATURES**

- 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 ¢J/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



# Maximum Ratings and Electrical Characteristics @T<sub>A</sub>=25°C unless otherwise specified

Characteristic		Symbol	ER1A	ER1B	ER1C	ER1D	ER1E	ER1G	ER1J	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage		Vrrm Vrwm Vr	50	100	150	200	300	400	600	V
RMS Reverse Voltage		VR(RMS)	35	70	105	140	210	280	420	V
Average Rectified Output Current	lo	1.0							А	
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)		IFSM	30							А
Forward Voltage	@I <sub>F</sub> = 1.0A	VFM	0.95 1.25 1.7				1.7	V		
Peak Reverse Current At Rated DC Blocking Voltage	@T <sub>A</sub> = 25°C @T <sub>A</sub> = 100°C	Iгм	5.0 500						μA	
Reverse Recovery Time (Note 1)		trr	35							nS
Typical Junction Capacitance (Note 2)		Cj	10							pF
Typical Thermal Resistance (Note 3)		R∉JL	34							K/W
Operating and Storage Temperature Range		Tj, TSTG	-65 to +150							°C

Note: 1. Measured with  $I_{\text{F}}$  = 0.5A,  $I_{\text{R}}$  = 1.0A,  $I_{\text{rr}}$  = 0.25A,

2. Measured at 1.0 MHz and applied reverse voltage of 4.0 V DC.

3. Mounted on P.C. Board with  $8.0 \text{mm}^2$  land area.



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#### 50Ω Noninductive 10Ω Noninductive trr +0.5A D.U.T (+) .25Vdc ·(approx) (-) PULSE GENERATOR NOTE 2 0 1Ω Non Inducti NOTE 1 -0.25 NOTE:1.Rise Time = 7ns max. -1.0 Input Impedance = 1 megohm. 22pF 2.Rise Time = 10ns max. SET TIME BASE FOR Source Impedance = 50 Ohms 50 ns/cm

Fig. 1-REVERSE RECOVERY TIME CHARACTERISTIC AND

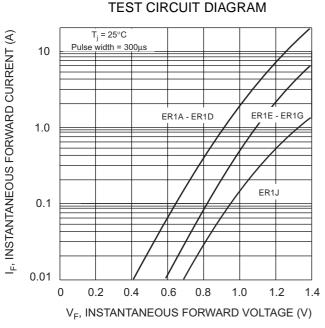
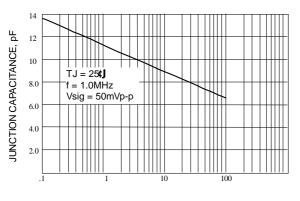


Fig.3 Typical Forward Characteristics



REVERSE VOLTAGE, VOLTS

Fig. 5-TYPICAL JUNCTION CAPACITANCE

2.0 SINGLE PHASE HALF WAVE \_RESISTIVE OR INDUCTIVE P.C.B MOUNTED ON \_0.315x0.315'(8.0x8.0mm) PAD AREAS

AVERAGE FORWARD

50V-600V

25 50 75 100 125 150 175 LEAD TEMPERATURE, ¢J

**ER1A THRU ER1J** 

1.0A



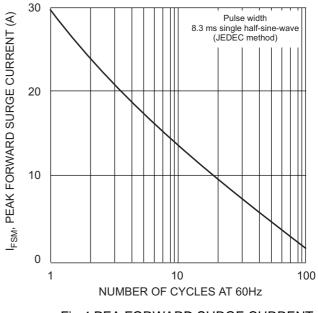


Fig.4 PEA FORWARD SURGE CURRENT