



**DC COMPONENTS CO., LTD.**

RECTIFIER SPECIALISTS

ER1A  
THRU  
ER1G

**TECHNICAL SPECIFICATIONS OF SURFACE MOUNT SUPER FAST RECTIFIER**

VOLTAGE RANGE - 50 to 400 Volts

CURRENT - 1.0 Ampere

**FEATURES**

- \* Ideal for surface mounted applications
- \* Low leakage current
- \* Glass passivated junction

**MECHANICAL DATA**

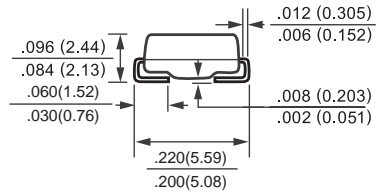
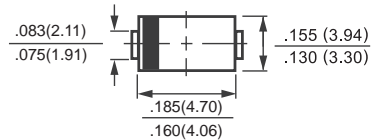
- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- \* Polarity: As marked
- \* Mounting position: Any
- \* Weight: 0.093 gram

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

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



SMB (DO-214AA)



Dimensions in inches and (millimeters)

	SYMBOL	ER1A	ER1B	ER1C	ER1D	ER1E	ER1G	UNITS	
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	150	200	300	400	Volts	
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	105	140	210	280	Volts	
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	150	200	300	400	Volts	
Maximum Average Forward Rectified Current at T <sub>A</sub> = 75 °C	I <sub>O</sub>	1.0						Amps	
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	30						Amps	
Maximum Instantaneous Forward Voltage at 1.0A DC	V <sub>F</sub>	0.95			1.25			Volts	
Maximum DC Reverse Current at Rated DC Blocking Voltage	I <sub>R</sub>	@ T <sub>A</sub> = 25 °C	5.0						uAmps
		@ T <sub>A</sub> = 100 °C	100						
Maximum Reverse Recovery Time (Note 3)	t <sub>rr</sub>	35						nSec	
Typical Thermal Resistance (Note 2)	R <sub>θJL</sub>	20						°C/W	
Typical Junction Capacitance (Note 1)	C <sub>J</sub>	30						pF	
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to + 175						°C	

- NOTES : 1. Measured at 1 MHz and applied reverse voltage of 4.0 volts.  
2. Thermal Resistance (Junction to Ambient), 0.2x0.2in<sup>2</sup> (5X5mm<sup>2</sup>) copper pads to each terminal.  
3. Test Conditions: I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>RR</sub>=0.25A.

# RATING AND CHARACTERISTIC CURVES ( ER1A THRU ER1G )

FIG. 1 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

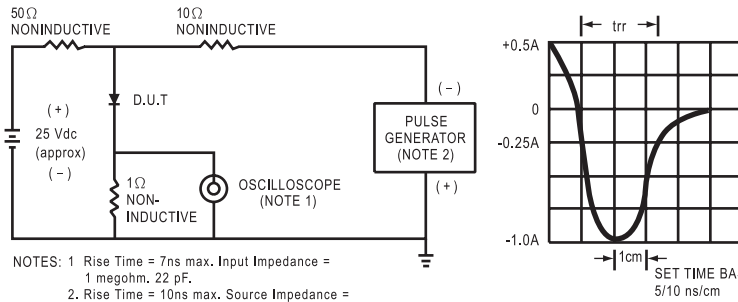


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

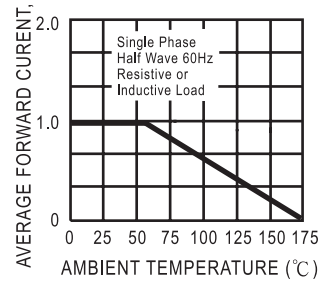


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

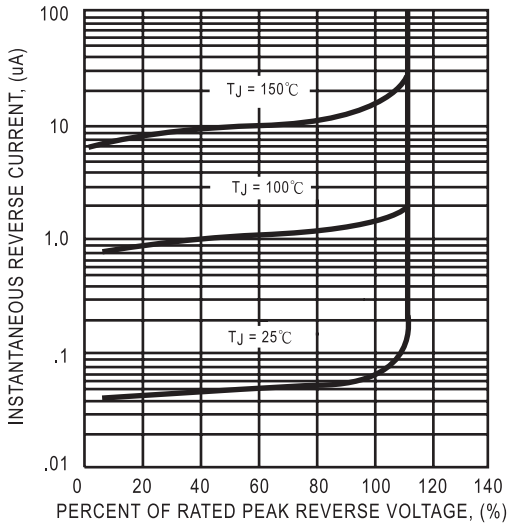


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

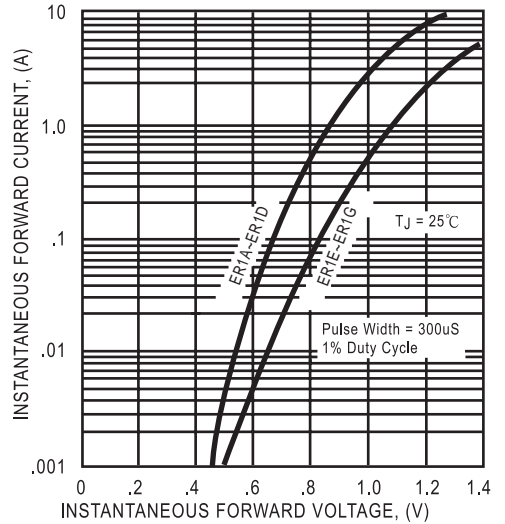


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

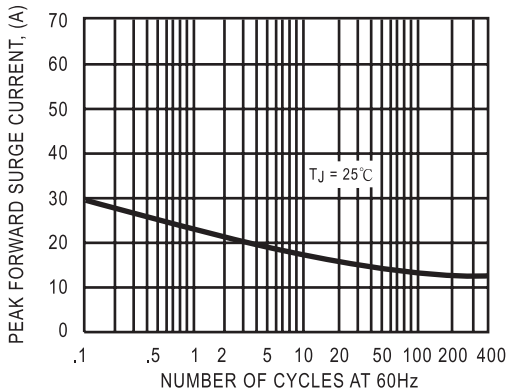
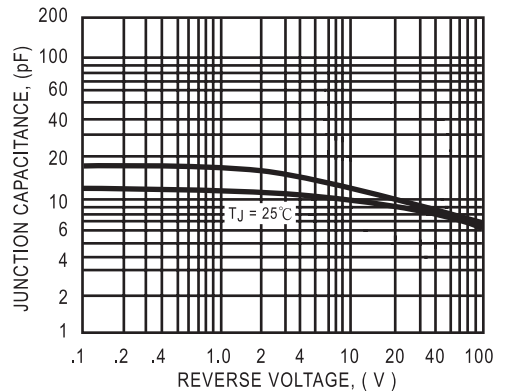


FIG. 6 - TYPICAL JUNCTION CAPACITANCE



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