



**DC COMPONENTS CO., LTD.**

**RECTIFIER SPECIALISTS**

**ER3A  
THRU  
ER3G**

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

**VOLTAGE RANGE - 50 to 400 Volts**

**CURRENT - 3.0 Amperes**

**FEATURES**

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

**MECHANICAL DATA**

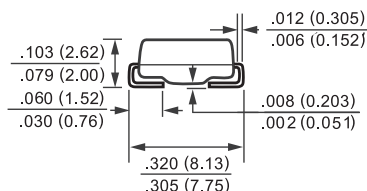
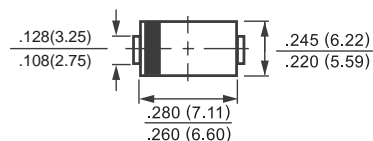
- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Terminals: Solder plated, solderable per  
MIL-STD-750, Method 2026
- \* Polarity: As marked
- \* Mounting position: Any
- \* Weight: 0.24 gram

**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%.



**SMC ( DO-214AB)**



Dimensions in inches and (millimeters)

		SYMBOL	ER3A	ER3B	ER3C	ER3D	ER3E	ER3G	UNITS
Maximum Recurrent Peak Reverse Voltage		VRRM	50	100	150	200	300	400	Volts
Maximum RMS Voltage		VRMS	35	70	105	140	210	280	Volts
Maximum DC Blocking Voltage		VDC	50	100	150	200	300	400	Volts
Maximum Average Forward Rectified Current TA = 75°C		Io	3.0						Amps
Peak Forward Surge Current IFM(surge): 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)		IFSM	100						Amps
Maximum Forward Voltage at 3.0A DC		VF	0.95			1.25			Volts
Maximum DC Reverse Current at	@ TA = 25°C	IR	5.0						uAmps
Rated DC Blocking Voltage	@ TA = 105°C		200						
Maximum Reverse Recovery Time (Note 3)		trr	35						nSec
Typical Thermal Resistance (Note 2)		RθJL	10						°C/W
Typical Junction Capacitance (Note 1)		Cj	60						pF
Operating and Storage Temperature Range		TJ, TSTG	-65 to + 175						°C

NOTES : 1. Measured at 1.0 MHz and applied reverse voltage of 4.0VDC

2. Thermal Resistance (Junction to Ambient), 0.4x0.4in<sup>2</sup>(10.0X10.0mm<sup>2</sup>) copper pads to each terminal.

3. Test Conditions: IF=0.5A, IR=1.0A, IRR=0.25A.

## RATING AND CHARACTERISTIC CURVES ( ER3A THRU ER3G )

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

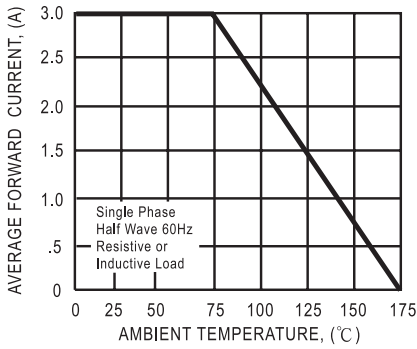


FIG. 2 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

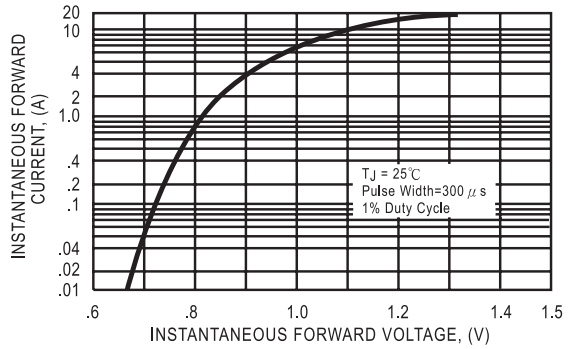


FIG. 3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

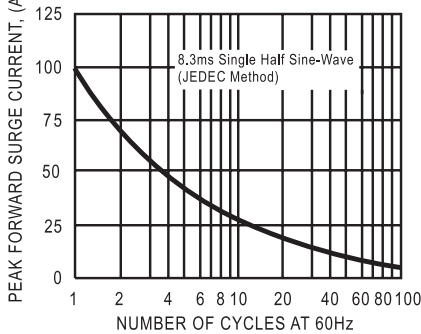


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

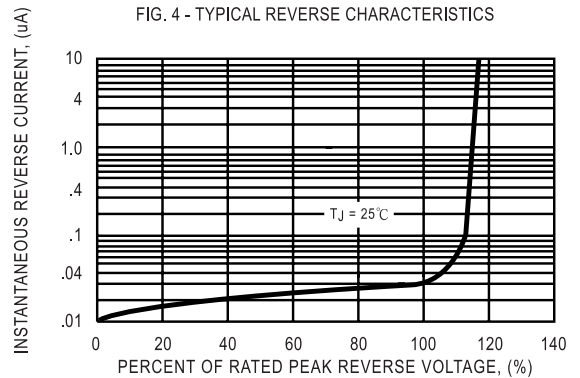
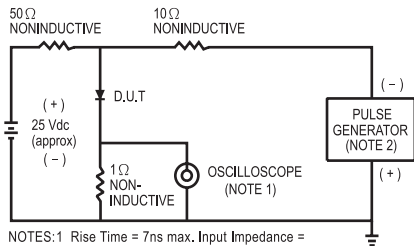


FIG. 5 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



NOTES: 1 Rise Time = 7ns max. Input Impedance = 1 megohm, 22 pF.  
2. Rise Time = 10ns max. Source Impedance = 50 ohms.

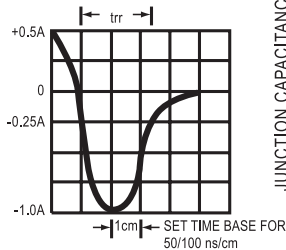
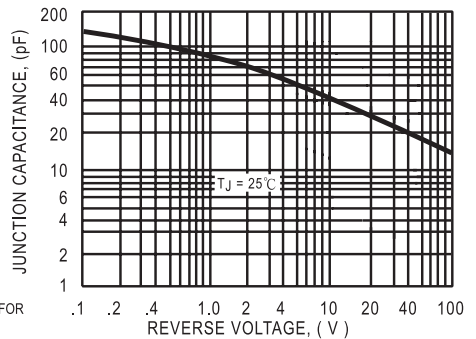


FIG. 6 - TYPICAL JUNCTION CAPACITANCE



DC COMPONENTS CO., LTD.