

ER1A THRU ER1J

SURFACE MOUNT SUPER FAST RECOVERY RECTIFIER

Reverse Voltage - 50 to 600 Volts Forward Current - 1.0 Ampere

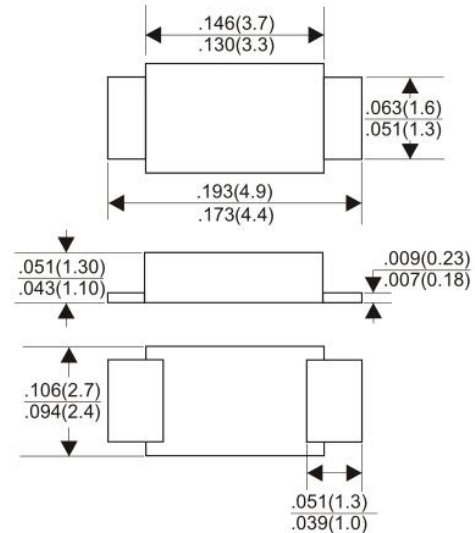
FEATURES

- ◆ Plastic package has underwrites laboratory flammability Classification 94V-0
- ◆ Glass passivated chip junction
- ◆ Built-in strain relief
- ◆ Super Fast switching speed for high efficiency
- ◆ High temperature soldering guaranteed
250°C/10 seconds

Mechanical Data

- ◆ Case: Transfer molded plastic
- ◆ Terminals: Solder plated, solderable per
- ◆ MIL-STD-750, Method 2026
- ◆ Polarity: Color band denotes cathode end
- ◆ Weight: 0.002ounce, 0.064 gram

SMAF



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%

PARAMETER	SYMBOL	ER1A	ER1B	ER1C	ER1D	ER1E	ER1G	ER1J	UNIT	
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	50	100	150	200	300	400	600	VOLTS	
Maximum RMS Voltage	V_{RMS}	35	70	105	140	210	280	420	VOLTS	
Maximum DC Blocking Voltage	V_{DC}	50	100	150	200	300	400	600	VOLTS	
Maximum Average Forward Rectified Current At $T_A = 55^\circ\text{C}$	$I_{(AV)}$	1.0							Amps	
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	30							Amps	
Maximum instantaneous forward voltage per at 1.0A	V_F	0.95			1.25		1.7		VOLTS	
Maximum DC Reverse Current at Rated DC blocking voltage at	I_R	$T_A = 25^\circ\text{C}$	5.0						uA	
		$T_A = 125^\circ\text{C}$	100							
Maximum 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	10				8				pF
Typical Thermal Resistance (Note 1)	$R_{\theta JA}$	88							°C/W	
	$R_{\theta JL}$	28								
Operating Junction Temperature	T_J	-55 to +150							°C	
Storage Temperature Rang	T_{STG}	-55 to +150							°C	

Note: 1. Thermal resistance from Junction to ambient and from junction to lead mounted on P.C.B. with $0.2 \times 0.2''$ ($5.0 \times 5.0\text{mm}$) copper pad areas.

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RATING AND CHARACTERISTIC CURVES ER1A THRU ER1J

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

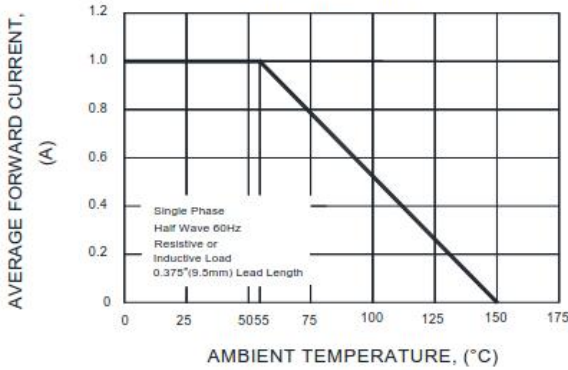


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

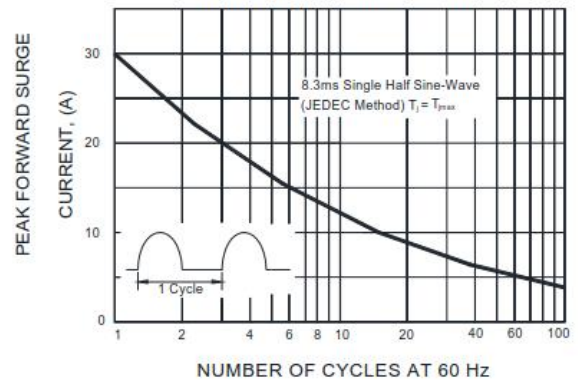


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

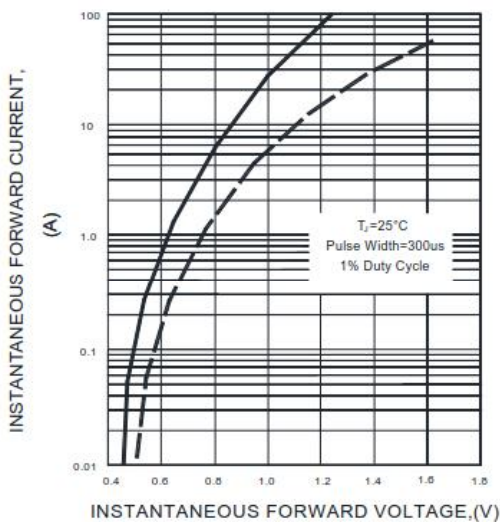


FIG.4-TYPICAL REVERSE CHARACTERISTICS

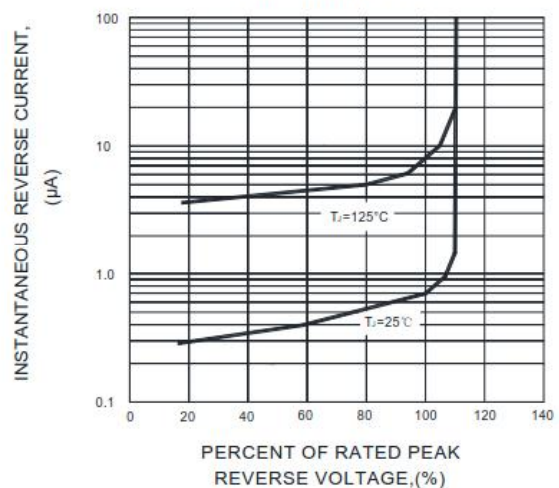


FIG.5-TYPICAL JUNCTION CAPACITANCE

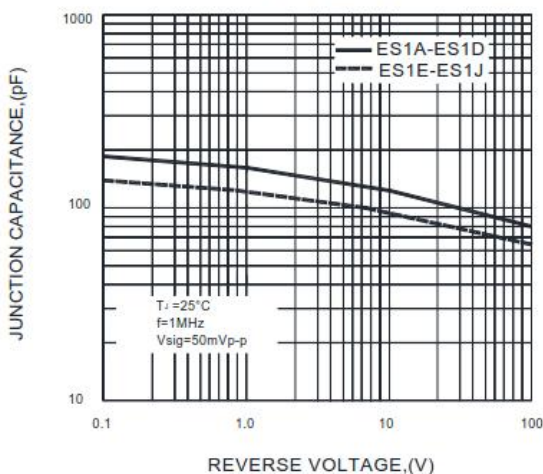
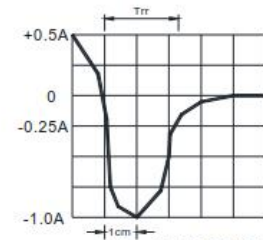
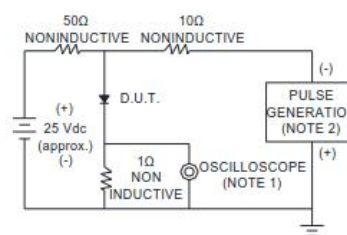


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



- NOTES : 1. Rise Time=7ns max. Input Impedance= 1 magohm. 22pF
2. Rise time=10ns max. Source Impedance= 50 ohms

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