

ES1A THRU ES1J

SURFACE MOUNT SUPER FAST RECOVERY RECTIFIER

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

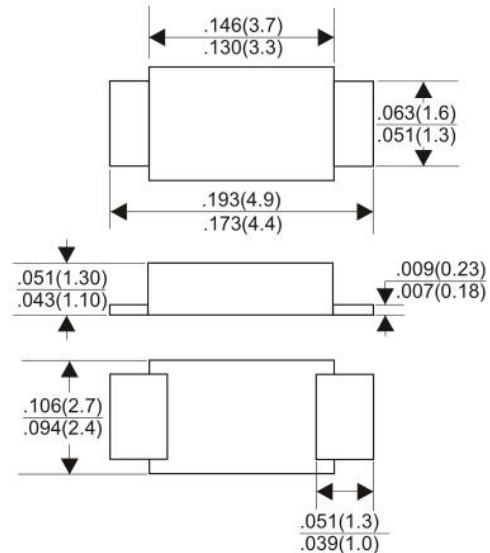
FEATURES

- ◆ 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



Dimensions in inches and (millimeters)

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	ES1A	ES1B	ES1C	ES1D	ES1E	ES1G	ES1J	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	$T_A=25^\circ\text{C}$							uA
		5.0							
		$T_A=125^\circ\text{C}$							
		100							
Maximum Reverse Recovery Time Test conditions $I_F=0.5A$, $I_R=1.0A$, $I_{RR}=0.25A$	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.

ES1A THRU ES1J

SURFACE MOUNT SUPER FAST RECOVERY RECTIFIER
 Reverse Voltage - 50 to 600 Volts Forward Current - 1.0 Ampere

RATING AND CHARACTERISTIC CURVES ES1A THRU ES1J

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

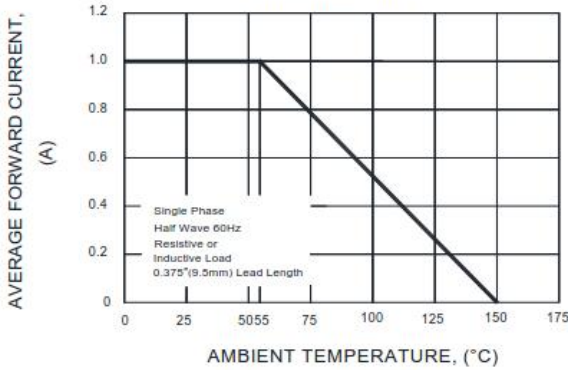


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

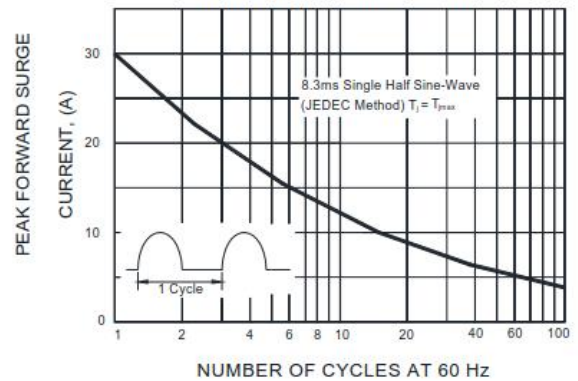


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

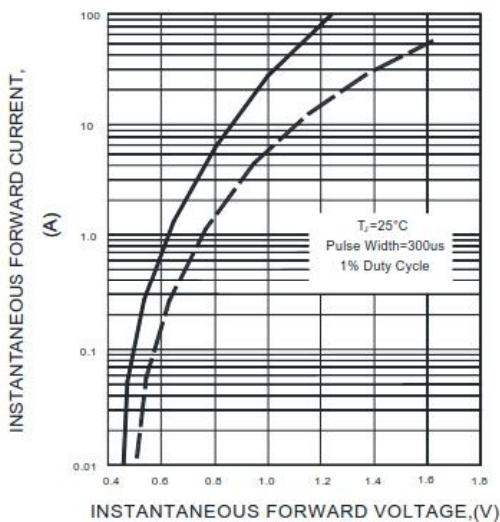


FIG.4-TYPICAL REVERSE CHARACTERISTICS

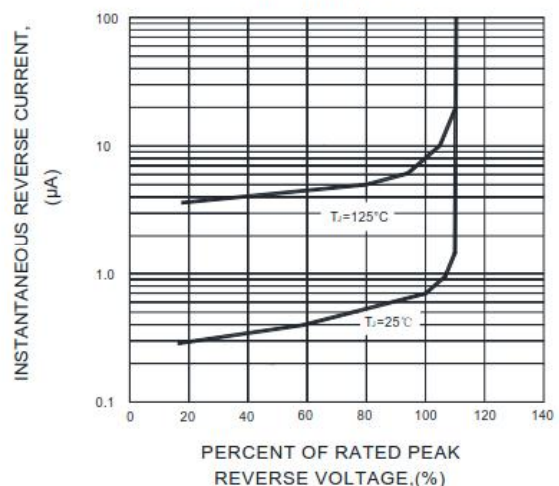


FIG.5-TYPICAL JUNCTION CAPACITANCE

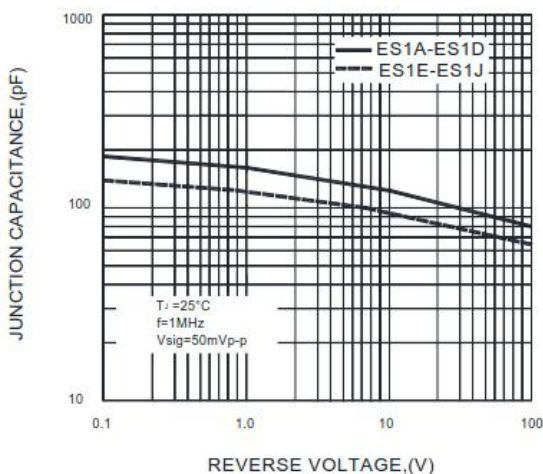
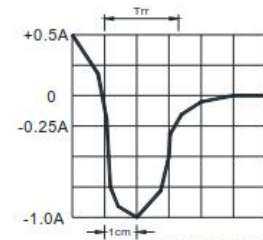
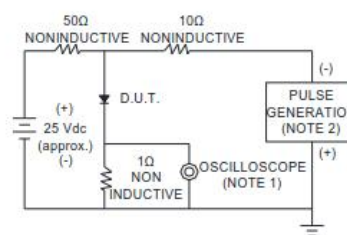


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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

SET TIME BASE FOR 50/100ns/cm

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