



SHENZHEN FAITH TECHNOLOGY CO.,LTD

SURFACE MOUNT SUPER FAST RECOVERY RECTIFIER

E1A THRU E1J

VOLTAGE RANGE

50 to 600 Volts

CURRENT

1.0 Ampere

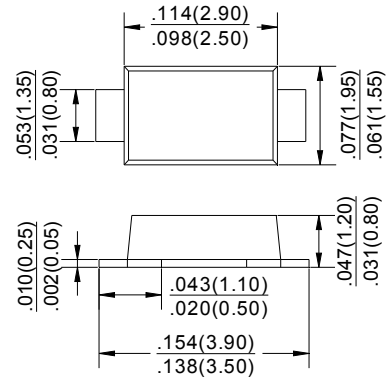
Features

- Fast recovery glass passivated chip
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- High temperature soldering:
260°C/10S at terminals
- Component in accordance to
ROHS 2002/95/1 and WEEE 2002/96/EC

Mechanical Data

- Case: JEDEC SOD-123FL mold plastic
Body over glass passivated chip
- Terminals: Solder plated, solderable per
J-STD-002B and JESD22-B102D
- Polarity: Laser band denote cathode band

SOD-123FL



Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

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

TYPE NUMBER	SYMBOLS	E1A	E1B	E1C	E1D	E1F	E1G	E1J	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 $T_A=55^\circ\text{C}$ (NOTE 1)	$I_{(AV)}$	1.0							Amps	
Peak Forward Surge Current 8.3ms single half sine wave superimposed on rated load (JEDEC Method)	I_{FSM}	25							Amps	
Maximum Instantaneous Forward Voltage at 1.0A	V_F	0.95			1.25		1.70		Volts	
Maximum DC Reverse Current at rated DC blocking voltage at	I_R	$T_A = 25^\circ\text{C}$							μAmps	
		$T_A = 125^\circ\text{C}$								
Maximum Reverse Recovery Time Test conditions $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$ (NOTE 1)	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 2)	$R_{\theta JA}$	85							$^\circ\text{C/W}$	
	$R_{\theta JL}$	28								
Operating Junction Temperature	T_J	(-55 to +150)							$^\circ\text{C}$	
Storage Temperature Range	T_{STG}	(-55 to +150)							$^\circ\text{C}$	

Notes:

1. Reverse Recovery Test Conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$.
2. Polyimide PCB, 0.043"×0.047"(1.10mm×1.20mm). Copper, minimum recommended pad layout per.



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Ratings and Characteristic Curves ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

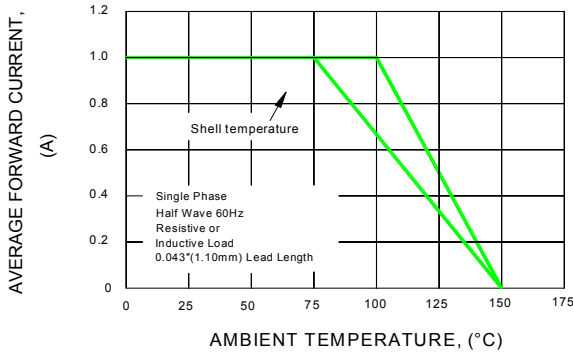


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

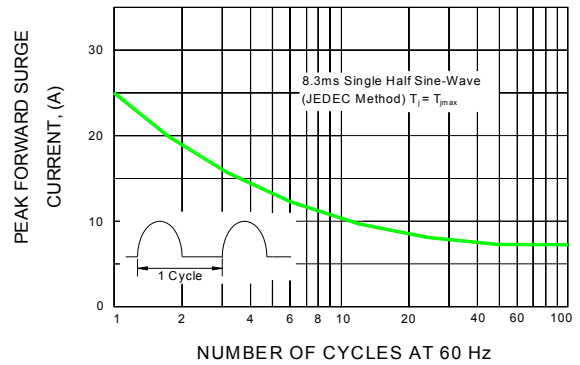


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

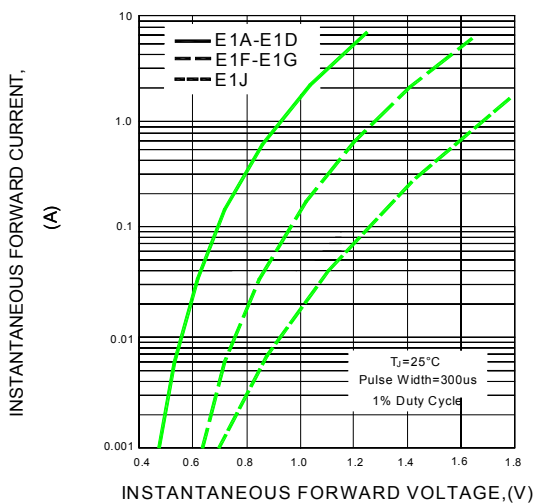


FIG.4-TYPICAL REVERSE CHARACTERISTICS

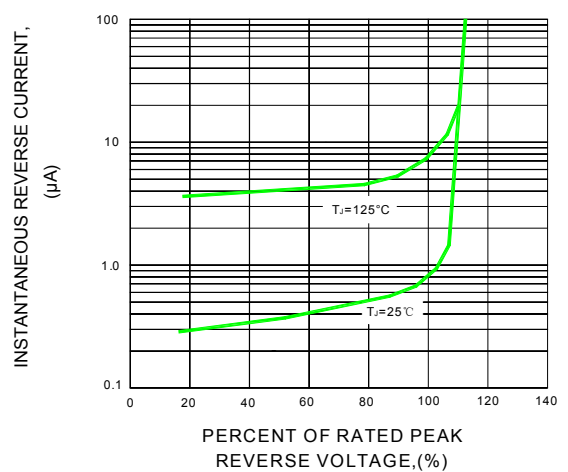


FIG.5-TYPICAL JUNCTION CAPACITANCE

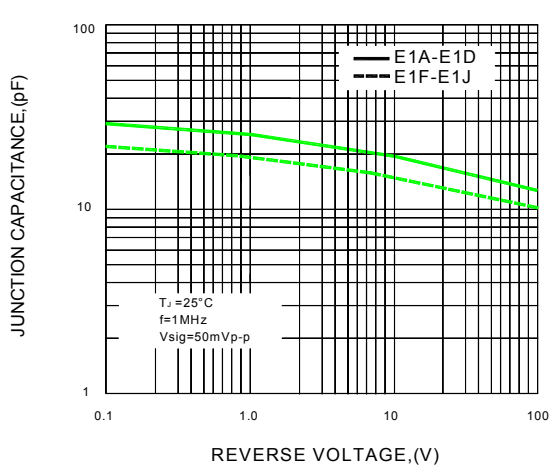
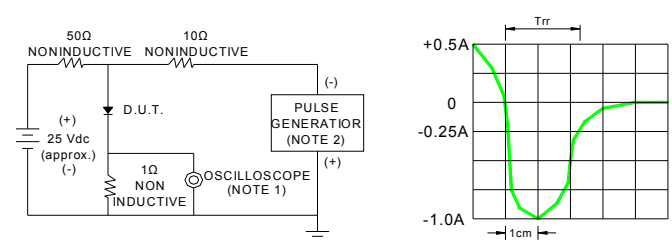


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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