

U1A THRU U1M

VOLTAGE RANGE 50 to 1000 Volts

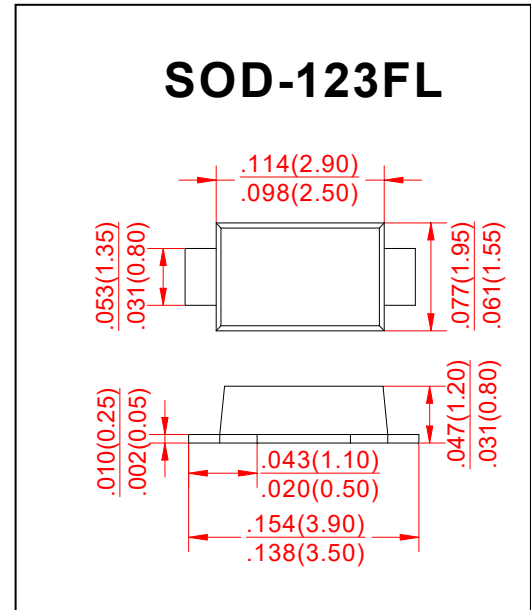
CURRENT 1.0 Ampere

FEATURES

- Fast recovery glass passivated chip:46mil
- 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



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	U1A	U1B	U1D	U1G	U1J	U1K	U1M	UNIT
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	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	1.0			1.30	1.70			Volts
Maximum DC Reverse Current at rated DC Blocking Voltage	$T_A = 25^\circ\text{C}$	5.0							μA
	$T_A = 125^\circ\text{C}$	100							
Typical 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}	50				75			nS
Typical Junction Capacitance (Measured at 1.0MHz and applied reverse voltage of 4.0V)	C_J	20				15			pF
Typical Thermal Resistance (Note 1)	$R_{\theta JA}$	88							$^\circ\text{C/W}$
	$R_{\theta JL}$	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.Measured at 1.0MHz and applied reverse voltage of 4.0 Volts.
- 3.Thermal Resistance from Junction to Ambient at. $5.0 \times 5.0\text{mm}^2$ copper pad areas.

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

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FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

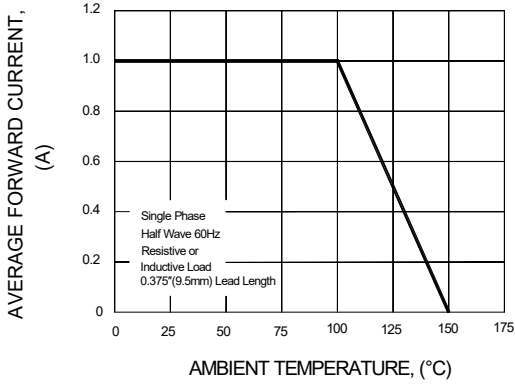


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

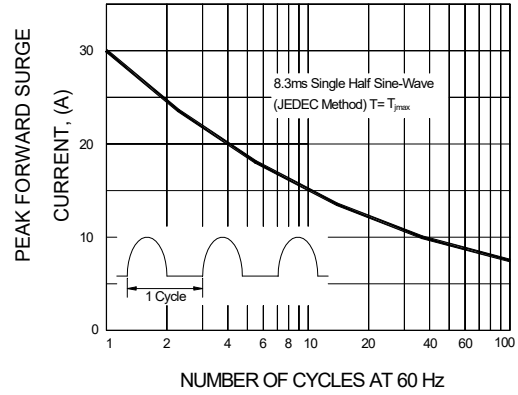


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

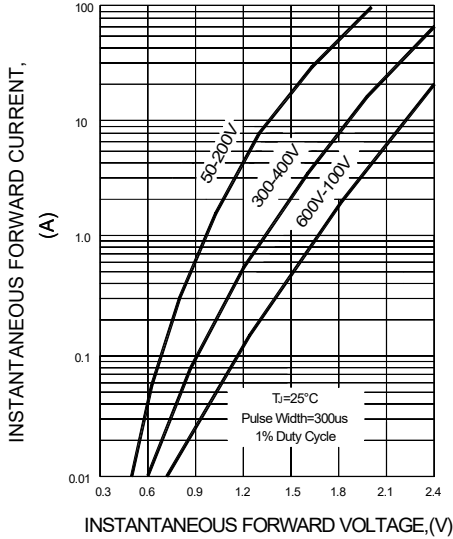


FIG.4-TYPICAL REVERSE CHARACTERISTICS

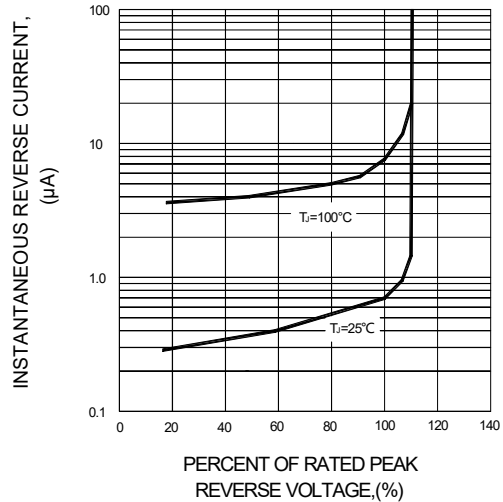


FIG.5-TYPICAL JUNCTION CAPACITANCE

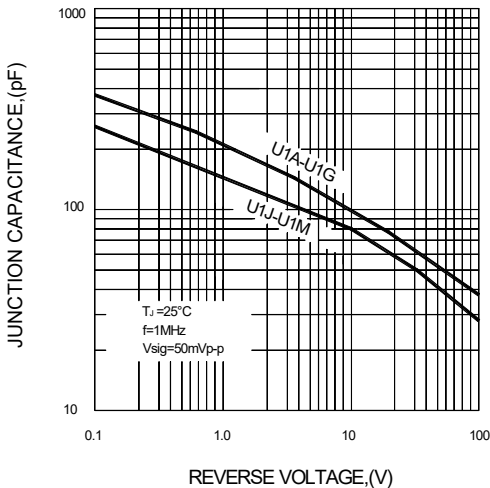
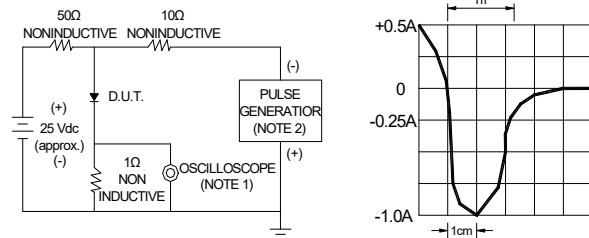


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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

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