SHENZHEN FAITH TECHNOLOGY CO.,LTD

SURFACE MOUNT HIGH EFFICIENCY RECTIFIER

US1AF THRU US1MF

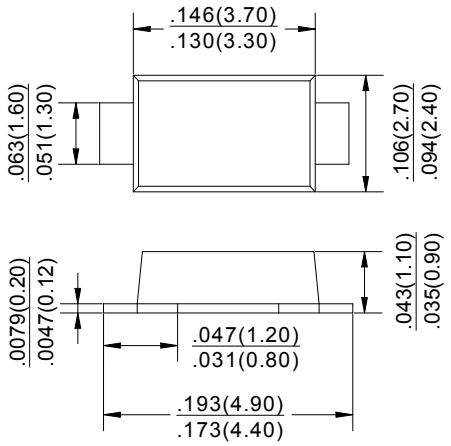
VOLTAGE RANGE 50 to 1000 Volts

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℃/10S at terminals
- Component in accordance to ROHS 2002/95/1 and WEEE 2002/96/EC

SMAF



Dimensions in inches and (millimeters)

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
- Weight: 0.0023ounce, 0.064grams

Maximum Ratings and Electrical Characteristics

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

TYPE NUMBER	SYMBOLS	US 1AF	US 1BF	US 1DF	US 1GF	US 1JF	US 1KF	US 1MF	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=100℃	$I_{(AV)}$	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℃	I_R	5.0							μA
Maximum DC Reverse Current at rated DC Blocking Voltage T_A = 125℃	I_R	100							μA
Typical Reverse Recovery Time Test conditions I_F =0.5A, I_R =1.0A, I_{RR} =0.25A	T_{RR}	50				75			nS
Typical Junction Capacitance (Note 2)	C_J	20				15			pF
Typical Thermal Resistance (Note 1)	$R_{\theta JA}$	180							℃/W
Typical Thermal Resistance (Note 1)	$R_{\theta JL}$	120							℃/W
Operating Junction Temperature	T_J	(-55 to +150)							℃
Storage Temperature Range	T_{STG}	(-55 to +150)							℃

Notes:

1. Thermal resistance from Junction to ambient and from junction to lead mounted on PCB. with 0.2×0.2″(5.0 × 5.0mm) copper pad areas.
2. Measured at 1.0MHz and applied reverse voltage of 4.0V

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Ratings and Characteristic Curves (TA=25℃ unless otherwise noted)

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

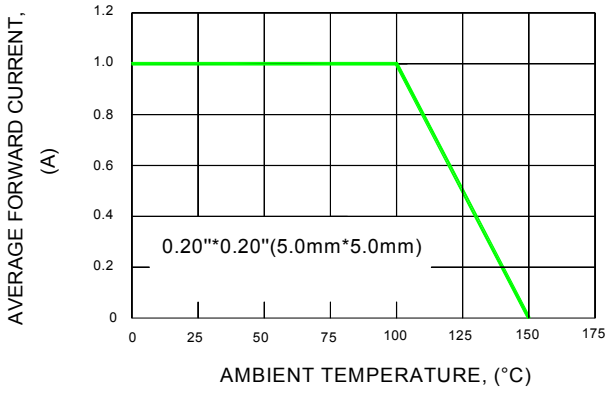


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

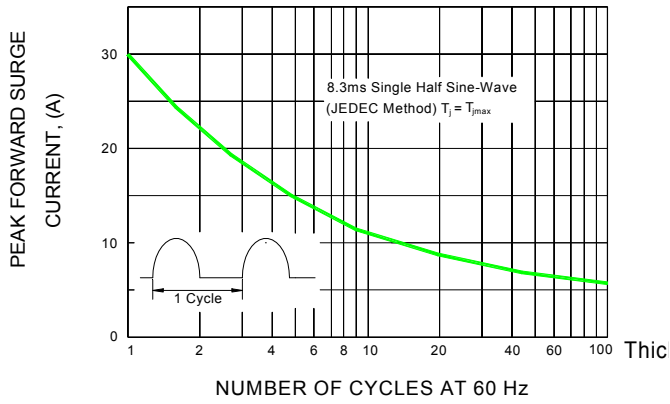


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

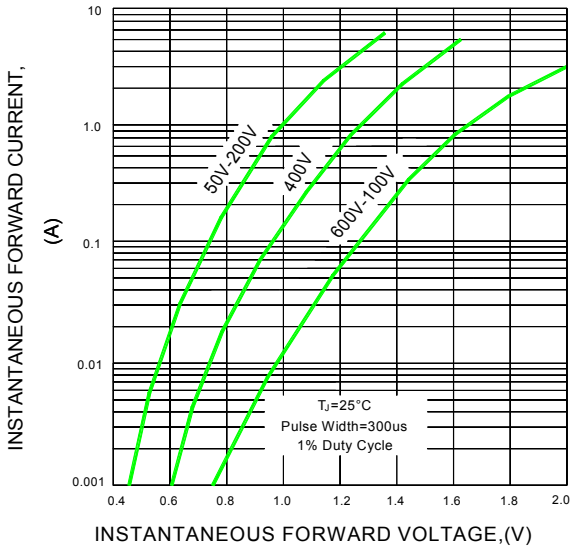


FIG.4-TYPICAL REVERSE CHARACTERISTICS

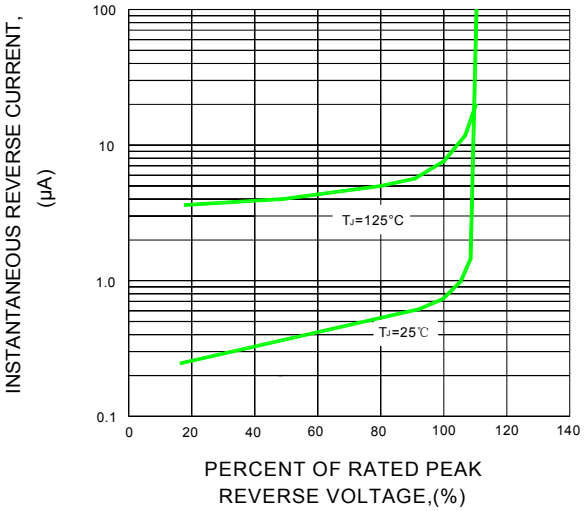
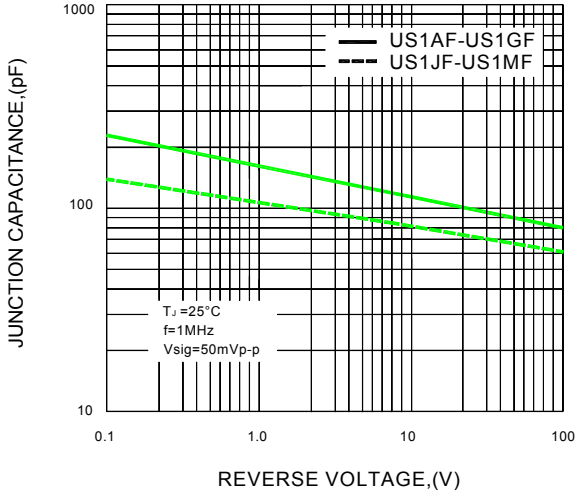
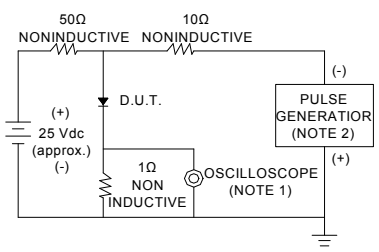
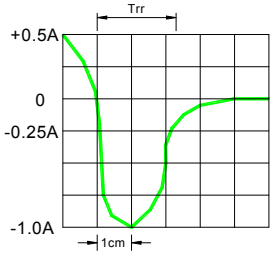


FIG.5-TYPICAL JUNCTION CAPACITANCE



F1G.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC





SET TIME BASE FOR 50/100ns/cm

NOTES : 1.Rise Time=7ns max. Input Impedance= 1 magohm. 22pF

2.Rise time=10ns max. Source Impedance= 50 ohms