

SURFACE MOUNT HIGH EFFICIENT RECOVERY RECTIFIER

VOLTAGE RANGE 50 to 1000 Volts CURRENT 1.0 Ampere

FEATURES

- For surface mounted applications
- Low profile package
- Built-in strain relief
- Easy pick and place
- Ultrafast recovery times for high efficiency
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- High temperature soldering : 260°C /10 seconds at terminals

MECHANICAL DATA

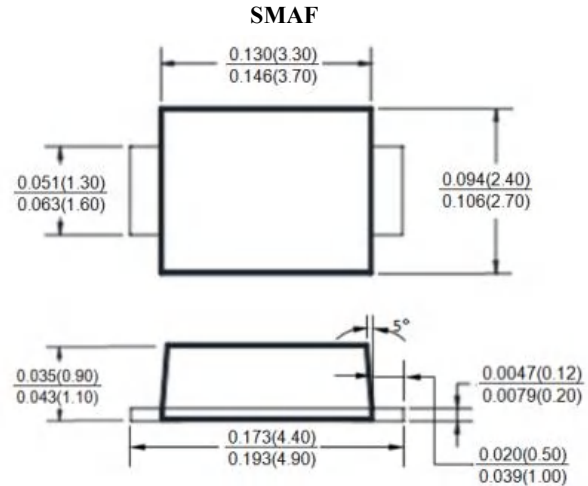
Case: Molded plastic, SMAF

Terminals: Pure tin plated, lead free

Polarity: Indicated by cathode band

Packaging: 12mm tape per EIA STD RS-481

Weight: 0.025 gram



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%.

	Symbols	US1AF	US1BF	US1DF	US1GF	US1JF	US1KF	US1MF	Units
Maximum Recurrent 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 _L =110℃	I _(AV)	1.0							Amp
Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method)	I _{FSM}	30							Amp
Maximum Forward Voltage at 1.0A	V _F	1.0			1.3	1.7			Volts
Maximum Reverse Current at T _A =25℃ at Rated DC Blocking Voltage T _A =100℃	I _R	5.0 150							μAmp
Typical Junction Capacitance (Note 1)	C _J	15				10			pF
Typical Thermal Resistance (Note 2)	R _{θJA} R _{θJL}	75 27							℃/W
Maximum Reverse Recovery Time (Note 3)	T _{RR}	50				75			nS
Operating Junction Temperature Range	T _J	-55 to +150							℃
Storage Temperature Range	T _{stg}	-55 to +150							℃

NOTES: 1- Measured at 1 MHz and applied reverse voltage of 4.0 VDC.

2- Thermal resistance from junction to lead mounted on P.C.B. with 0.2 x 0.2" (5.0 x 5.0mm) copper pad areas

3- Reverse Recovery Test Conditions: I_F=.5A, I_R=1A, I_{RR}=.25A.

RATING AND CHARACTERISTICS CURVES (US1AF THRU US1MF)

FIG. 1 MAXIMUM FORWARD CURRENT DERATING CURVE

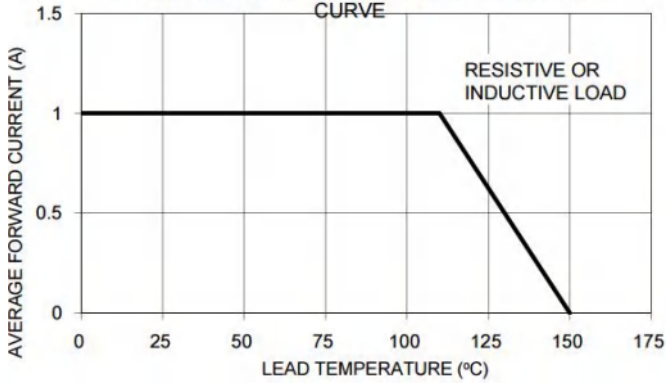


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

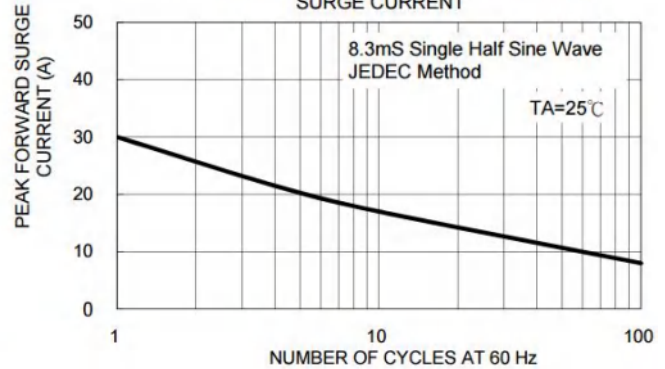


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

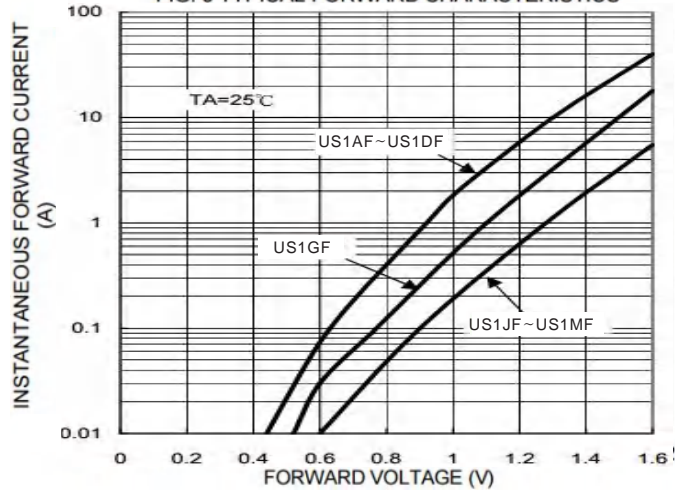


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

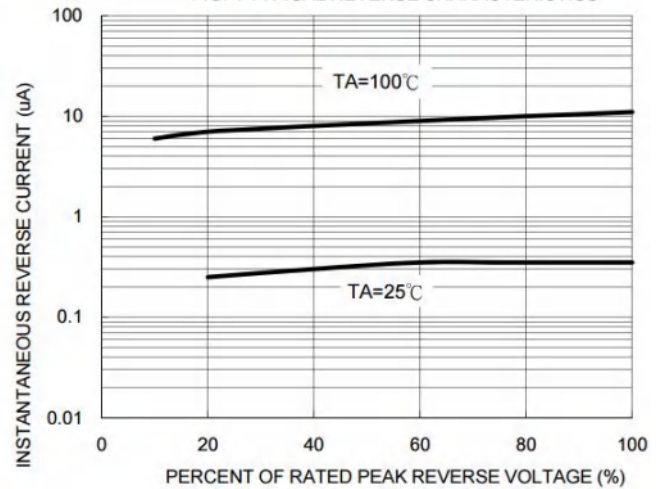


FIG. 5 TYPICAL JUNCTION CAPACITANCE

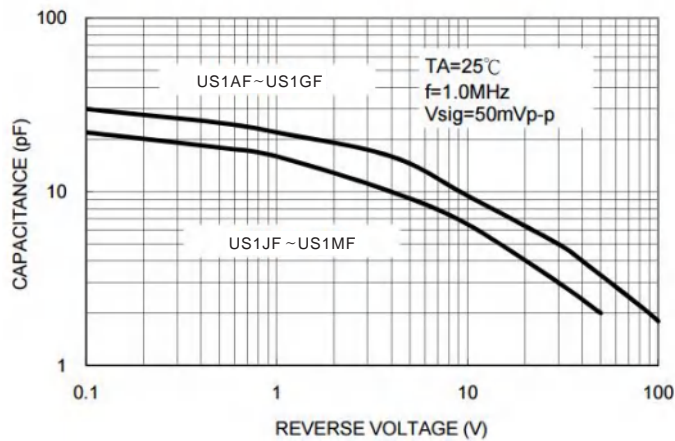


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE

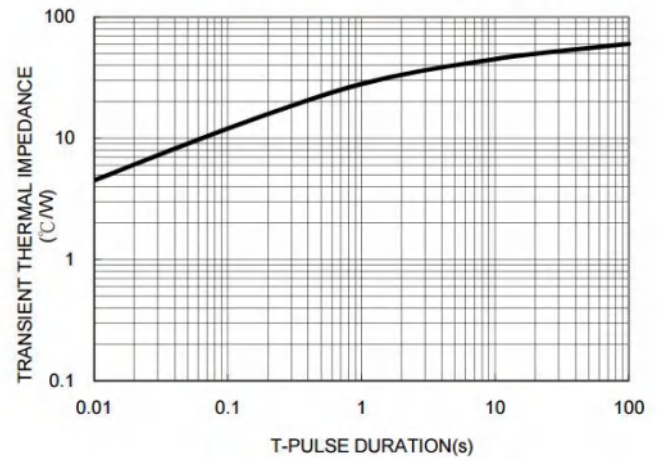
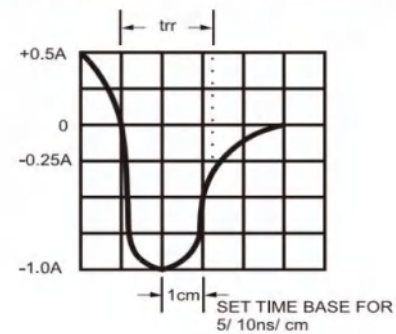
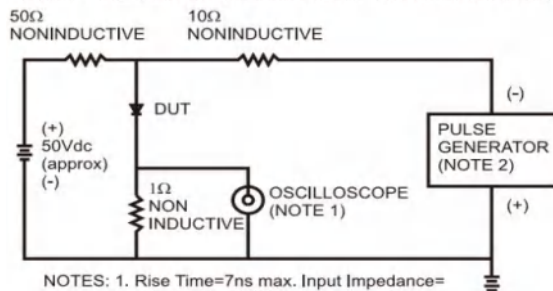


FIG. 7- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



PACKAGING OF DIODE AND BRIDGE RECTIFIERS

REEL PACK

PACKAGE	PACKING CODE	EA PER REEL	EA PER INNER BOX	COMPONENT SPACE (mm)	TAPE SPACE (mm)	REEL DIA (mm)	CARTON SIZE (mm)	EA PER CARTON	GROSS WEIGHT(Kg)
SMAF	-T	3,000	12,000	---	---	178	390*205*310	96,000	---

Marking

Type number	Marking code
US1AF	US1A
US1BF	US1B
US1DF	US1D
US1GF	US1G
US1JF	US1J
US1KF	US1K
US1MF	US1M

DISCLAIMER NOTICE

Rectron Inc reserves the right to make changes without notice to any product specification herein, to make corrections, modifications, enhancements or other changes. Rectron Inc or anyone on its behalf assumes no responsibility or liability for any errors or inaccuracies. Data sheet specifications and its information contained are intended to provide a product description only. "Typical" parameters which may be included on RECTRON data sheets and/ or specifications can and do vary in different applications and actual performance may vary over time. Rectron Inc does not assume any liability arising out of the application or use of any product or circuit.

Rectron products are not designed, intended or authorized for use in medical, life-saving implant or other applications intended for life-sustaining or other related applications where a failure or malfunction of component or circuitry may directly or indirectly cause injury or threaten a life without expressed written approval of Rectron Inc. Customers using or selling Rectron components for use in such applications do so at their own risk and shall agree to fully indemnify Rectron Inc and its subsidiaries harmless against all claims, damages and expenditures.