



US3X SERIES

SURFACE MOUNT HIGH EFFICIENT RECOVERY RECTIFIER

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US3A THRU US3M

SURFACE MOUNT HIGH EFFICIENT RECOVERY RECTIFIER



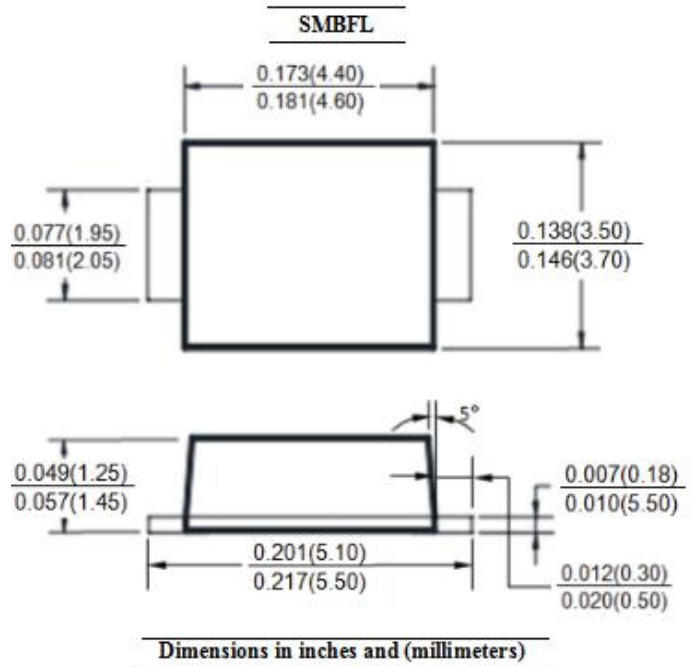
REVERSE VOLTAGE: 50 to 1000 VOLTS
FORWARD CURRENT: 3.0 AMPERE

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-O
- High temperature soldering : 260°C /10 seconds at terminals

MECHANICAL DATA

Case: Molded plastic, SMBFL
Terminals: Pure tin plated, lead free
Polarity: Indicated by cathode band
Packaging: 12mm tape per EIA STD RS-481
Weight: 0.060 gram



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	US3A	US3B	US3D	US3G	US3J	US3K	US3M	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°C	I _(AV)	3.0							Amp
Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method)	I _{FSM}	100							Amp
Maximum Forward Voltage at 3.0A	V _F	1.0		1.3	1.7			Volts	
Maximum Reverse Current at T _A =25°C at Rated DC Blocking Voltage T _A =125°C	I _R	10				300			µAmp
Typical Junction Capacitance (Note 1)	C _J	75			50			pF	
Typical Thermal Resistance (Note 2)	R _{θJA}	25							°C/W
Maximum Reverse Recovery Time (Note 3)	T _{RR}	50			75			nS	
Operating Junction Temperature Range	T _J	-55 to +150							°C
Storage Temperature Range	T _{stg}	-55 to +150							°C

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 0.4 x 0.4" (10.0 x 10.0mm) copper pad areas
- 3- Reverse Recovery Test Conditions: I_F=.5A, I_R=1A, I_{RR}=.25A.

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RATINGS AND CHARACTERISTIC CURVES

FIG.1 – FORWARD CURRENT DERATING CURVE

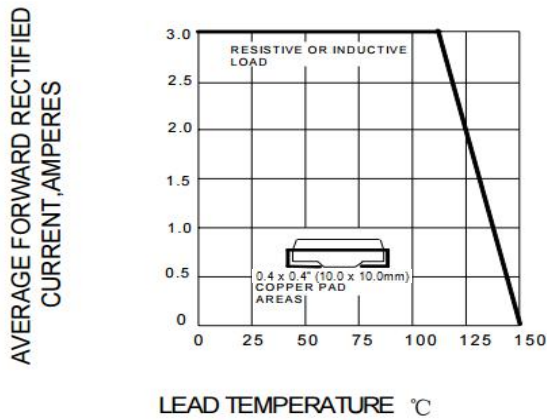


FIG.2 – MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

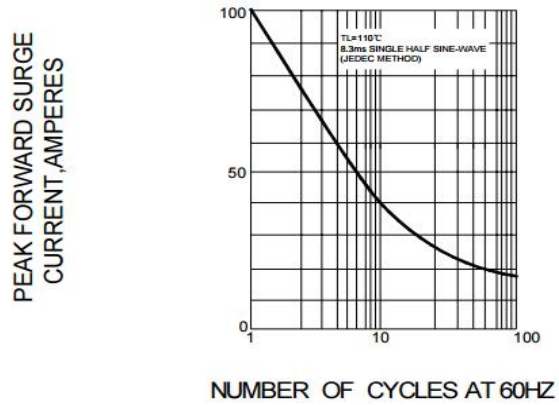


FIG.3 – TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

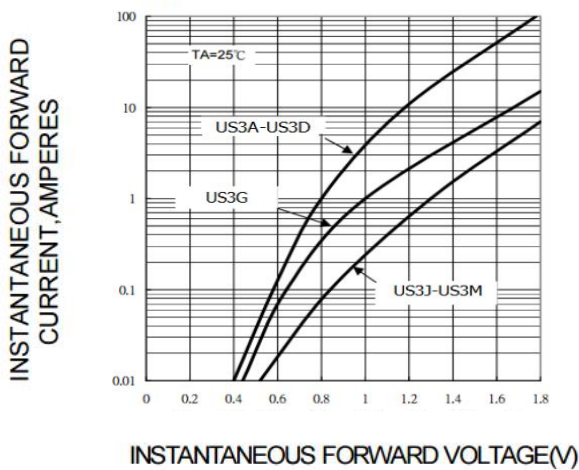


FIG.4 – TYPICAL REVERSE CHARACTERISTICS

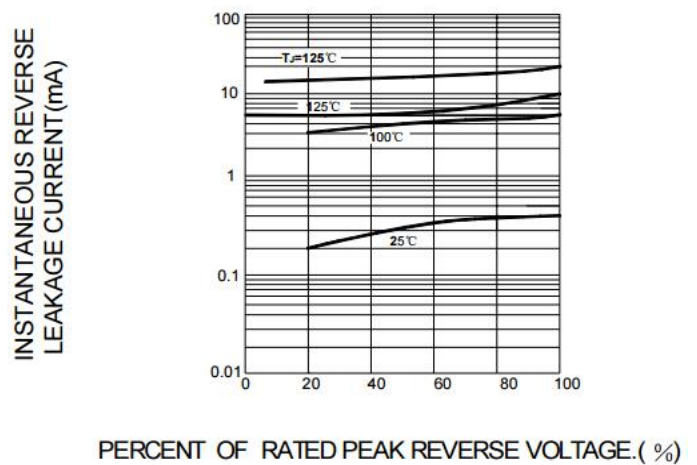


FIG.5 – TYPICAL JUNCTION CAPACITANCE

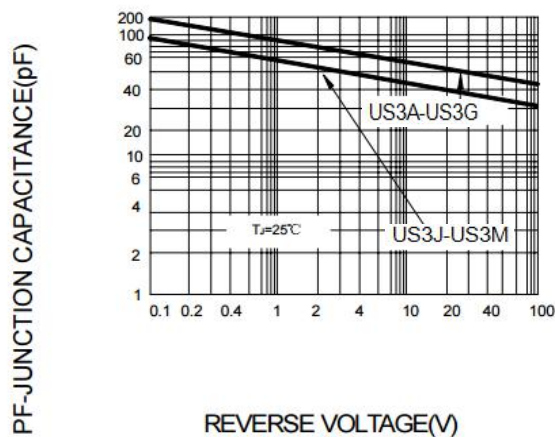


FIG.6 – TYPICAL TRANSIENT THERMAL IMPEDANCE

