



US3A THRU US3M

3.0 Amps. Surface Mount Glass Passivated Ultra Fast Rectifiers

Features

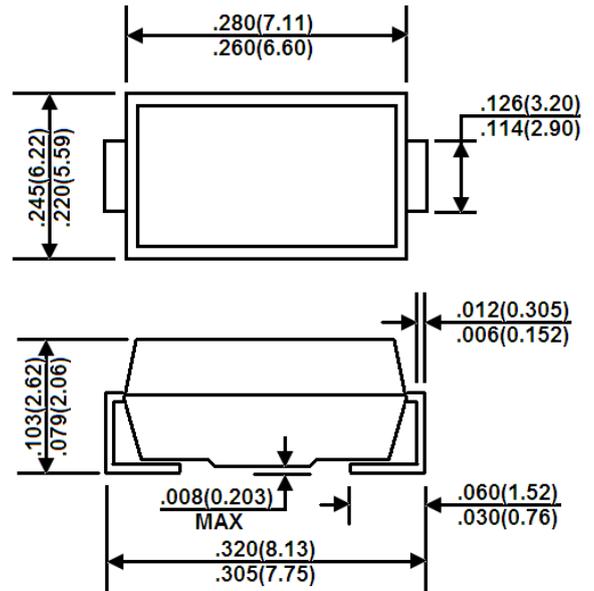
- * For surface mounted application
- * Extremely Low Thermal Resistance
- * Easy Pick and Place
- * High Temp Soldering: 250°C For 10seconds at Terminals
- * Superfast Recovery Times For High Efficiency



RoHS
COMPLIANT

Package Outline Dimensions in inches (millimeters)

SMC:



Mechanical Data

- * Case: Molded plastic
- * Terminals: Solder plated
- * Polarity: Indicated by cathode band
- * Standard packaging:
12mm tape(ELA STD RS-481)

Maximum Ratings and Electrical Characteristics

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

Type Number	Symbols	US3A	US3B	US3D	US3G	US3J	US3K	US3M	Unit
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum D.C Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current $T_L=90^\circ\text{C}$	$I_{F(AV)}$	3							A
Peak Forward Surge Current, 8.3ms single half sine-wave	I_{FSM}	100							A
Maximum Instantaneous Forward Voltage at 3A(Note1)	V_F	1.0		1.30		1.70		V	
Maximum D.C Reverse Current @ $T_A=25^\circ\text{C}$ at Rated D.C Blocking Voltage @ $T_A=125^\circ\text{C}$	I_R	5 250							μA
Maximum Reverse Recovery Time(Note2)	T_{rr}	50				75			nS
Typical Junction Capacitance(Note3)	C_J	75							pF
Typical Thermal Resistance(Note4)	$R_{\theta JL}$	15							$^\circ\text{C/W}$
Operating and Storage Temperature Range	T_J/T_{STG}	-50 to +150							$^\circ\text{C}$

NOTE: 1、 Pulse test: $t_p=300\mu\text{s}$, 1% duty cycle 2、 Reverse Recovery Test Conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$.

3. Measured at 1MHz and applied reverse voltage of 4.0V D.C. 4. Thermal resistance from junction to lead and from junction to ambient with P.C.B mounted on 0.3 x 0.3" (8.0 x 8.0 mm) Copper pad area

Ratings and Characteristic Curves

Fig. 1 – Maximum Forward Current Derating Curve

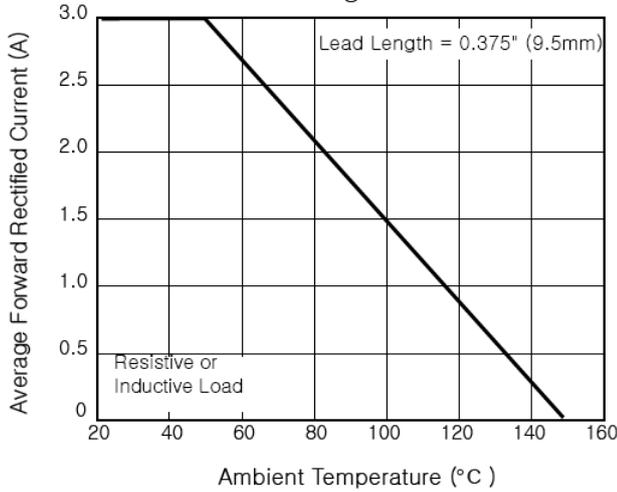


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

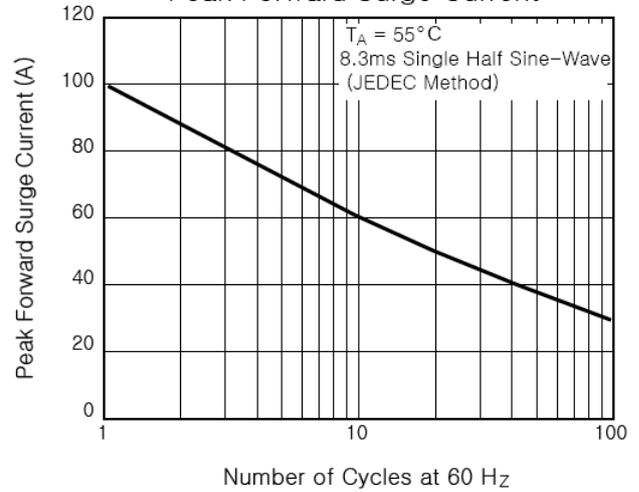


Fig. 3 – Typical Instantaneous Forward Characteristics

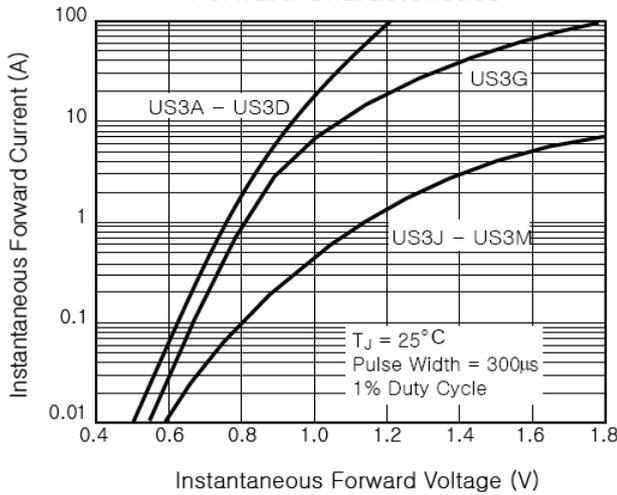


Fig. 4 – Typical Reverse Leakage Characteristics

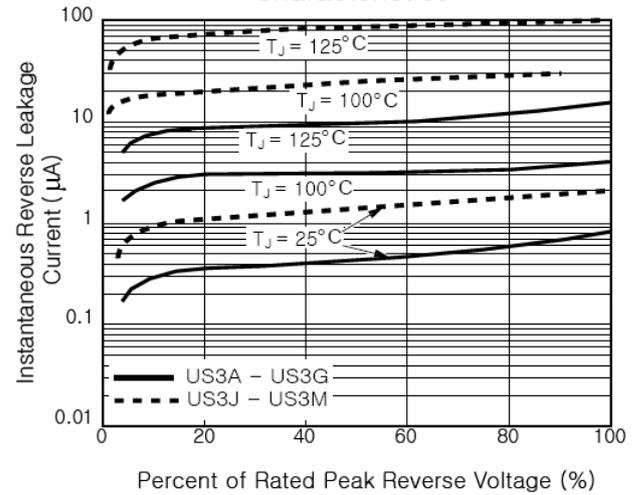
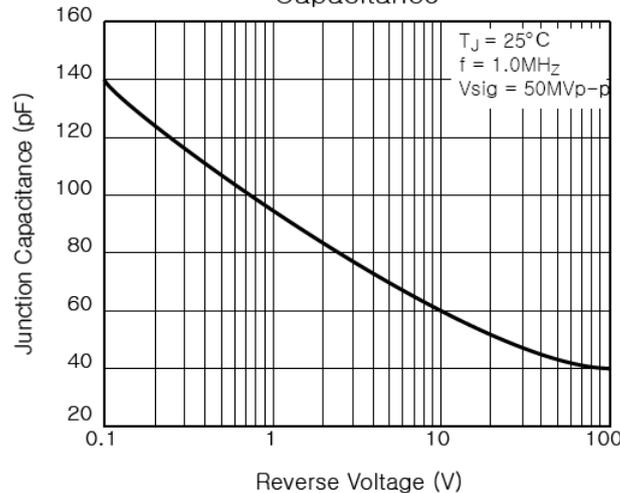


Fig. 5 – Typical Junction Capacitance





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Ordering Information

Part No.	Package	Packing
US3A~US3M	SMC	3K/Reel