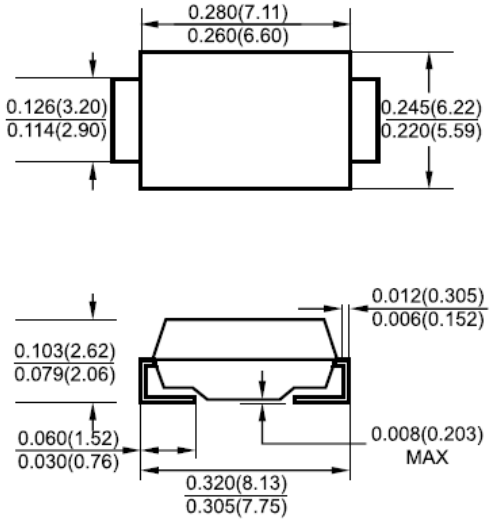
SMD HIGH EFFICIENT RECTIFIER
US3A thru US3M
3.0 Amps

RoHS

FEATURES

- Voltage Range 50 to 1000 Volts
- Glass passivated chip junction
- Very Fast Recovery
- Low forward voltage drop
- High surge current capability
- High temperature soldering:
  260°C/10 seconds at terminals



SMC (DO-214AB)

MECHANICAL DATA

- Molded plastic body (UL 94 V-0 Rated)
- Solder plated terminals
- Polarity: Indicated by cathode band
- Packaging: 16mm tape EIA STD RS-481
- Weight: 0.21 gram

MAXIMUM RATINGS & ELECTRICAL CHARACTERISTICS

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

Parameter	Symbol	US3A	US3B	US3D	US3G	US3J	US3K	US3M	Unit
Maximum Repetitive 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 DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current @ T_L = 110°C	$I_{F(AV)}$	3.0							µA
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	100							µA
Maximum Instantaneous Forward Voltage @1.0A	V_F	1.0				1.7			V
Maximum DC Reverse Current @ TA = 25°C At rated DC blocking voltage @ TA = 125°C	I_R	10.0 500							µA
Reverse Recovery Time (Note 1.)	trr	50				75			Ns
Junction Thermal Resistance (Note 2.)	$R_{\theta JA}$ $R_{\theta JL}$	25							℃ / W
Operating Temperature Range	T_J	-55 to +150							℃
Storage Temperature Range	T_{STG}	-55 to +150							℃

NOTE: 1. Reverse Recovery Test conditions: I_F = 0.5A, I_R = 1.0A, I_{RR} = 0.25A.
2. Measured on P.C. Board with 0.2x0.2"(5.0x5.0mm) Copper Pad Areas.

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RATING & CHARACTERISTIC CURVES

FIG. 1 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

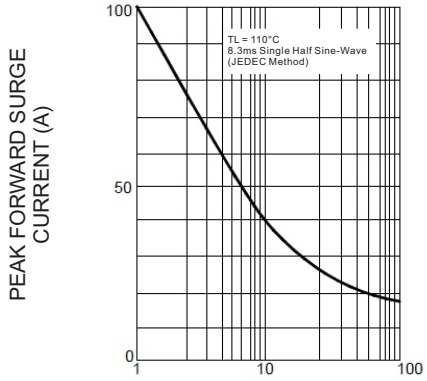

FIG. 2 - MAXIMUM CURRENT DERATING CURVE

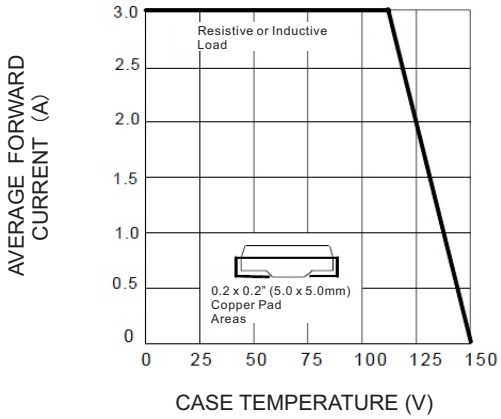

FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

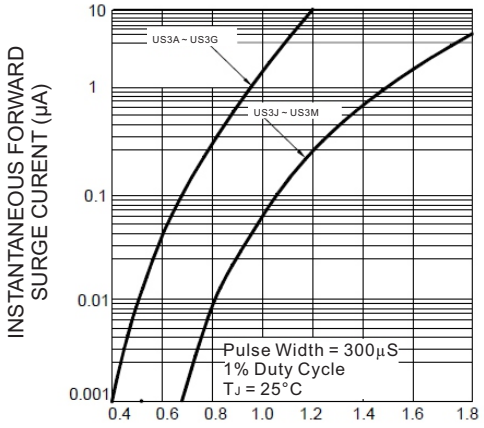

FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

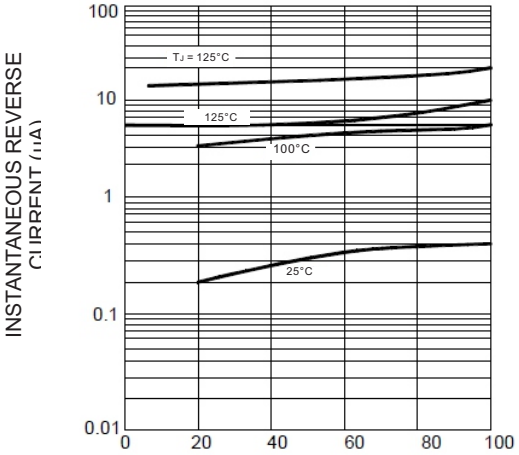

FIG. 5 - TYPICAL JUNCTION CAPACITANCE

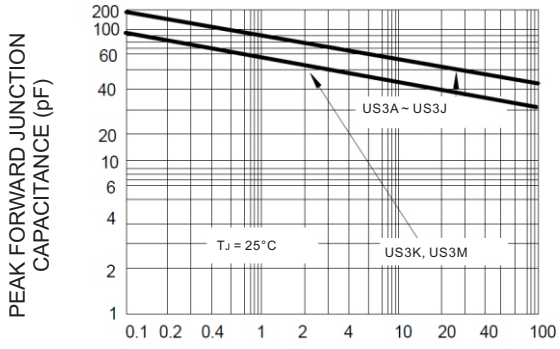

FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE

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