US3A THRU US3M

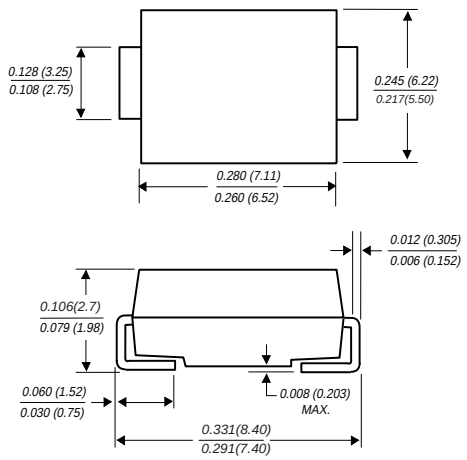
SURFACE MOUNT ULTRA FAST RECTIFIER

Reverse Voltage - 50 to 1000 Volts Forward Current - 3.0 Amperes

FEATURES

- Ideal for surface mount pick and place application
- Low profile package
- Built-in strain relief
- High surge capability
- Glass passivated chip
- Ultra fast recovery for high efficiency
- High temperature soldering guaranteed: 260°C/10sec/at terminal

DO-214AB



Dimensions in inches and (millimeters)

MECHANICAL DATA

- Terminal: Plated leads solderable per MIL-STD 202E, method 208C
- Case: Molded with UL-94 Class V-O recognized flame retardant epoxy
- Polarity: Color band denotes cathode

Weight:0.22 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

(Single-phase, half-wave, 60Hz, resistive or inductive load rating at 25°C, unless otherwise stated, for capacitive load, derate current by 20%)

RATINGS	SYMBOL	US 3A	US 3B	US 3D	US 3G	US 3J	US 3K	US 3M	UNITS
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=75°C)	$I_{F(AV)}$	3.0							A
Peak Forward Surge Current (8.3ms single half sine-wave superimposed on rated load)	I_{FSM}	150							A
Maximum Instantaneous Forward Voltage (at rated forward current)	V_F	1.0			1.3	1.7			V
Maximum DC Reverse Current T_a=25°C (at rated DC blocking voltage) T_a=100°C	I_R	10.0 250							μA
Maximum Reverse Recovery Time (Note 1)	trr	50				75			nS
Typical Junction Capacitance (Note 2)	C_J	45							pF
Typical Thermal Resistance (Note 3)	R_θ(ja)	25							°C/W
Storage and Operation Junction Temperature	T_{STG},T_J	-50 to +150							°C

Note:

1.Reverse recovery condition I_F=0.5A, I_R=1.0A,Irr=0.25A.

2.Measured at 1.0 MHz and applied voltage of 4.0V_{dc}

3.Thermal resistance from junction to terminal mounted on 0.6"x0.6" (16 x 16 mm) copper pad area

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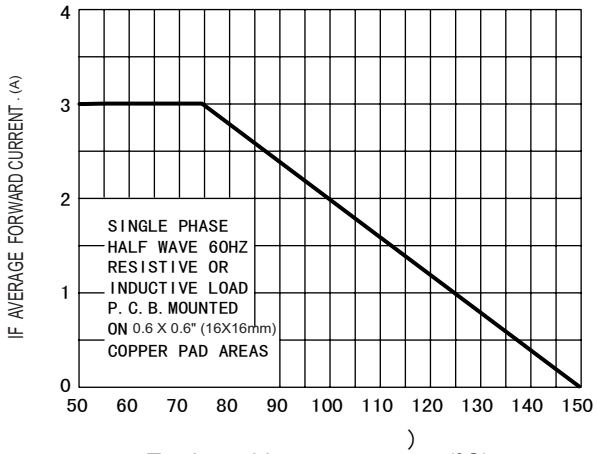
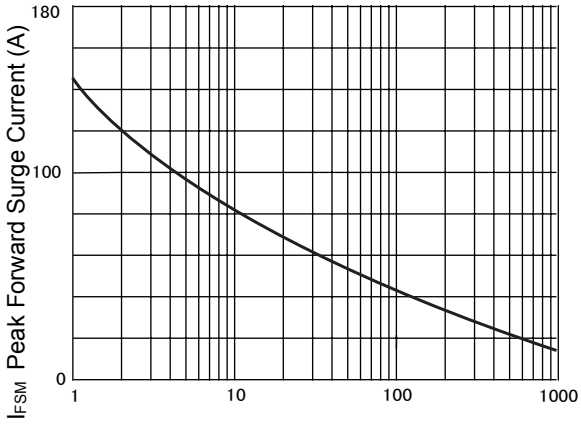
FORWARD CURRENT DERATING CURVE



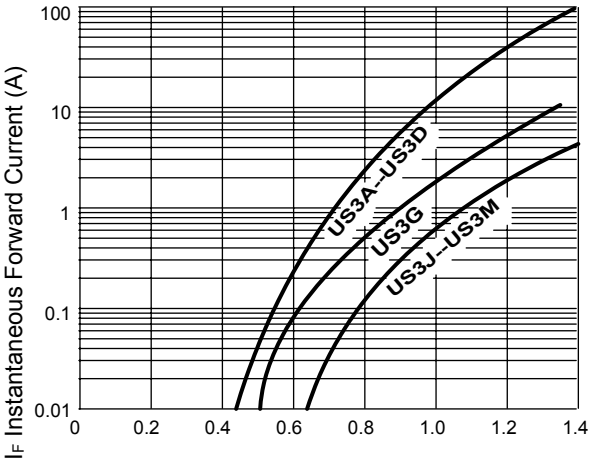
Tamb, ambient temperature (°C)

MAXIMUM NON REPETITIVE
PEAK FORWARD SURGE CURRENT



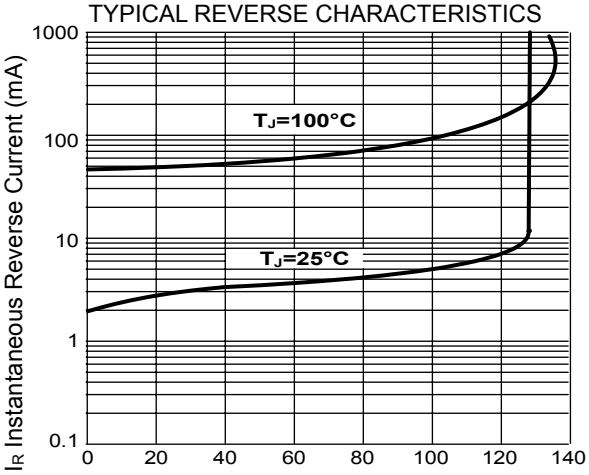
Number of Cycles at 60 Hz.

TYPICAL FORWARD CHARACTERISTIC



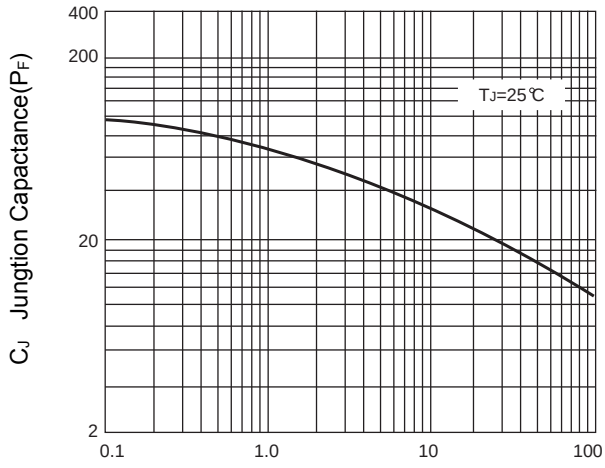
V_F Instantaneous Forward Voltage (V)

TYPICAL REVERSE CHARACTERISTICS



Percent Of Peak Reverse Voltage,%

TYPICAL JUNCTION CAPACITANCE



V_R Reverse Voltage (V)