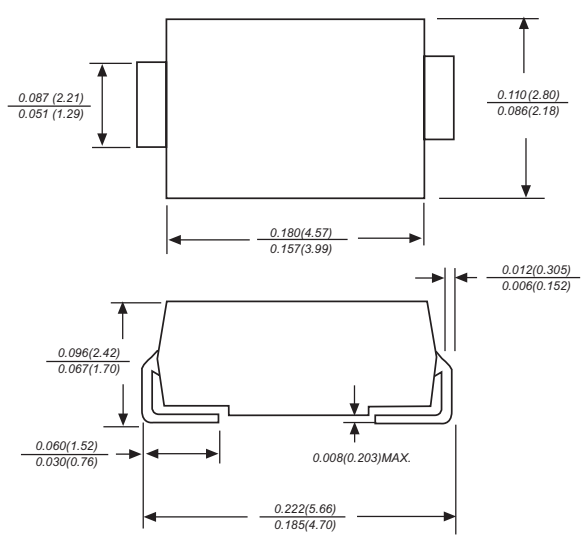


III. Fast / Ultra Fast / Super Fast Recovery Rectifier

2.0A Surface Mount Ultra Fast Recovery Rectifier

US2AA~US2MA

(Package: SMA (DO-214AC))

<p>FEATURES</p> <ul style="list-style-type: none"> • The plastic package carries Underwriters Laboratory Flammability Classification 94V-0 • For surface mounted applications • Ultra fast switching for high efficiency • Low reverse leakage • Built-in strain relief, ideal for automated placement • High forward surge current capability • High temperature soldering guaranteed : 250 /10 seconds at terminals <p>MECHANICAL DATA</p> <ul style="list-style-type: none"> • Case : JEDEC DO-214AC molded plastic body • Terminals : Solder plated, solderable per MIL-STD-750, Method 2026 • Polarity : Color band denotes cathode end • Mounting Position : Any • Weight : 0.058 grams 	 <p style="text-align: center;">Case: SMA Dimensions in inches and (millimeters)</p>
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Ratings & Electrical Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20%.

Characteristics	Symbol	US2AA	US2BA	US2DA	US2GA	US2JA	US2KA	US2MA	Units
Maximum repetitive 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_O	2.0							Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	50.0							Amps
Maximum instantaneous forward voltage at 2.0A	V_F	1.0		1.3	1.7			Volts	
Maximum DC reverse current at rated DC blocking voltage	I_R	5.0		100.0					μA
Maximum reverse recovery time (Note 1)	T_{rr}	50				75			ns
Typical junction capacitance (Note 2)	C_j	20.0							PF
Typical thermal resistance (Note 3)	R_{th-JA}	50.0							/ W
Operating junction and storage temperature range	T_j, T_{stg}	-65 to +150							

Note :

1. Reverse recovery conditions: $I_F = 0.5A, I_R = 1.0A, I_{RR} = 0.25A$
2. Measured at 1.0 MHz and applied reverse voltage of 4.0 volts DC
3. P.C.B. mounted with 0.2 x 0.2" (5.0 x 5.0mm) copper pad areas

Ratings and Characteristic Curves of US2AA~US2MA

FIG. 1- FORWARD CURRENT DERATING CURVE

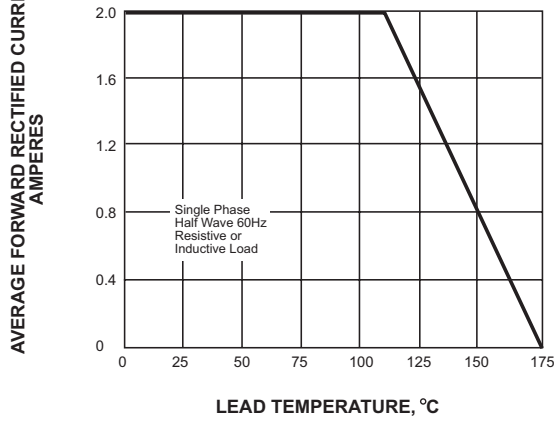


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

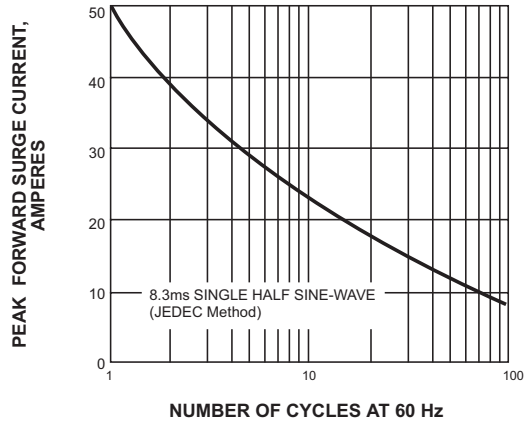


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

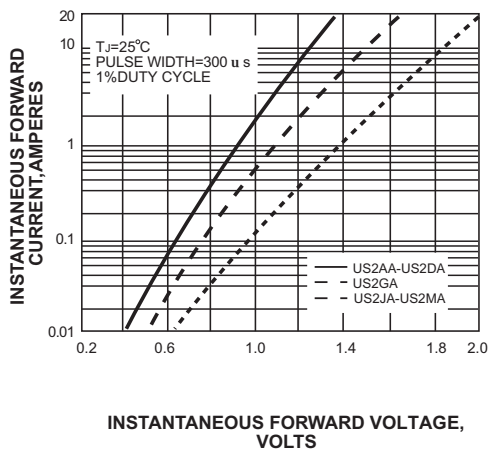


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

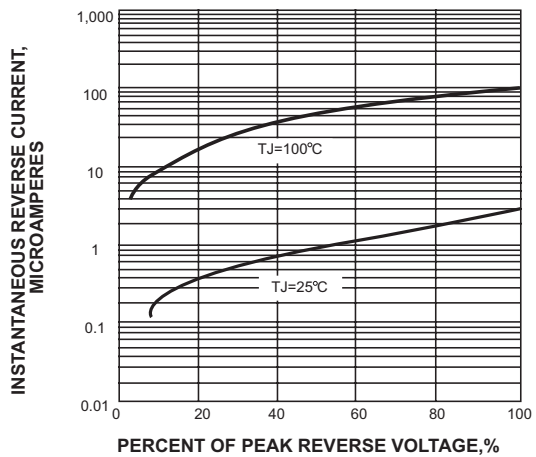


FIG. 5-TYPICAL JUNCTION CAPACITANCE

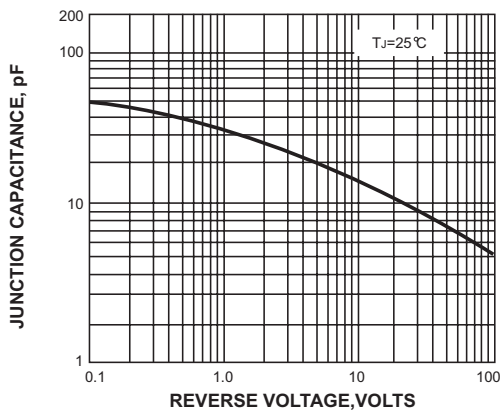


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

