III. Fast / Ultra Fast / Super Fast Recovery Rectifier

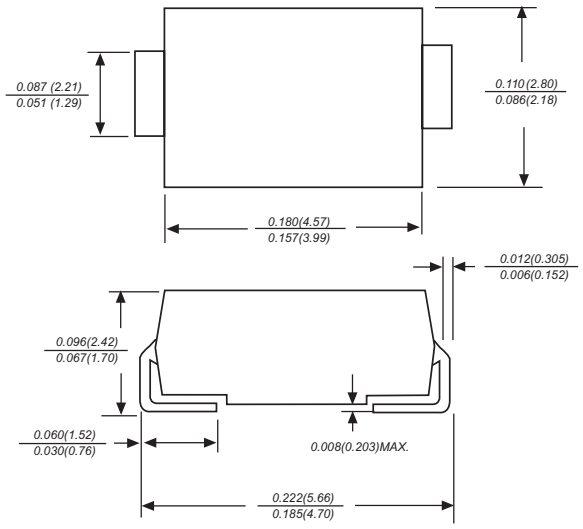
2.0A Surface Mount Ultra Fast Recovery Rectifier
US2AA~US2MA (Package: SMA (DO-214AC))

FEATURES

- 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

MECHANICAL DATA

- 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



Case: SMA
Dimensions in inches and (millimeters)

Ratings & Electrical Characteristics

Ratings at 25℃ 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 Ta = 25℃ at rated DC blocking voltage Ta = 100℃	I_R	5.0 100.0							μA
Maximum reverse recovery time (Note 1)	Trr	50				75			ns
Typical junction capacitance (Note 2)	Cj	20.0							PF
Typical thermal resistance (Note 3)	Rth-JA	50.0							℃ / W
Operating junction and storage temperature range	Tj, Tstg	-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

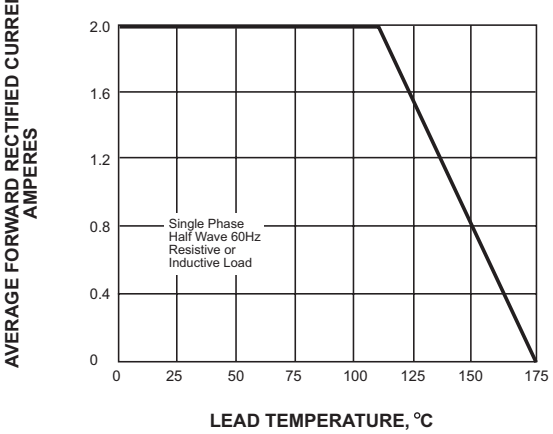


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

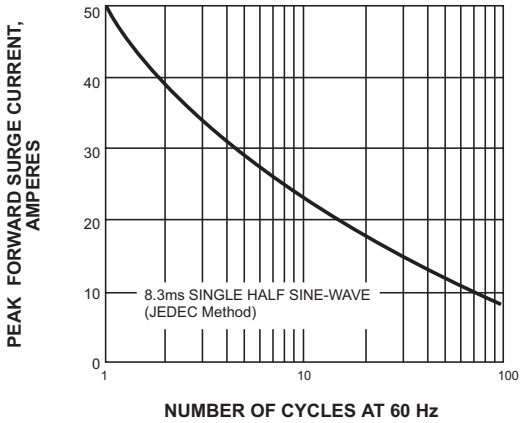


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

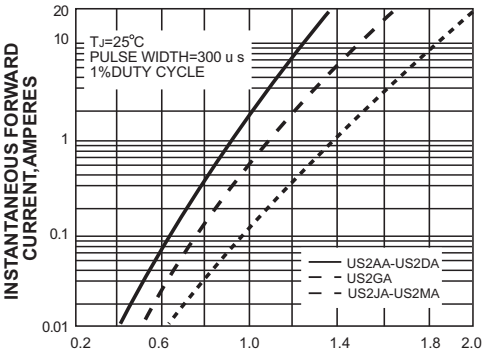


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

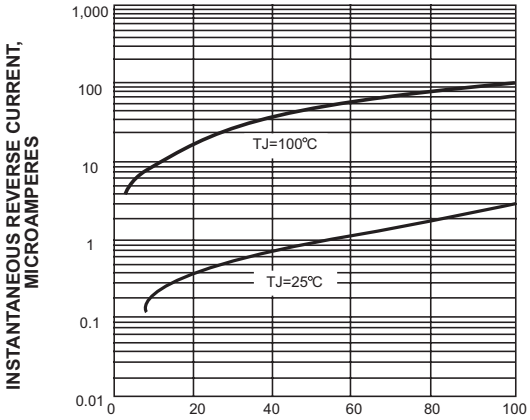


FIG. 5-TYPICAL JUNCTION CAPACITANCE

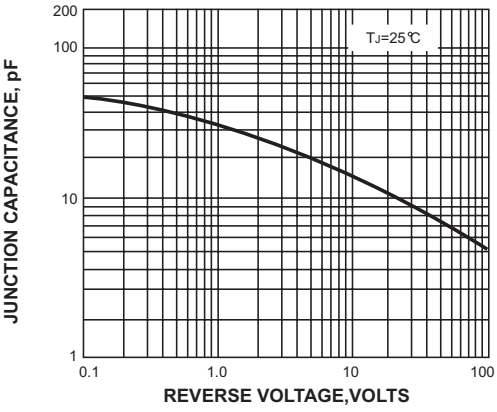


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE