

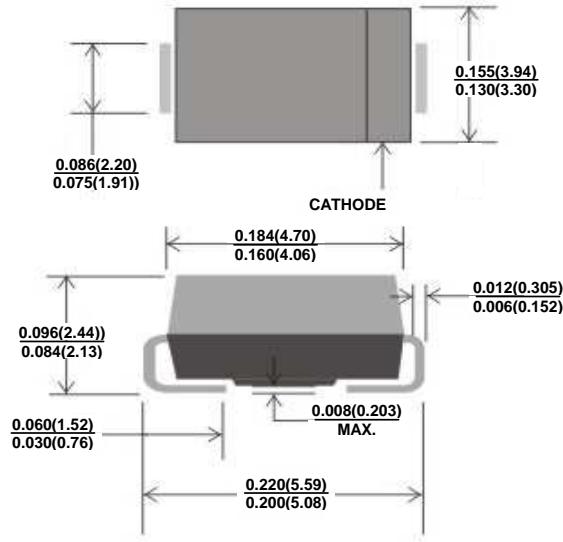


US1AB THRU US1MB

SURFACE MOUNT ULTRA FAST RECTIFIER

Reverse Voltage - 50 to 1000 Volts Forward Current - 1.0 Ampere

DO-214AA



Dimensions in inches and (millimeters)

FEATURES

- ◆ Fast switching speed
- ◆ Surface mount package ideally suited for automatic insertion
- ◆ Low power loss, high efficiency
- ◆ Pb free product : 99% Sn above can meet RoHS environment substance directive request
- ◆ Built-in strain relief, ideal for automated placement
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed: 260°C/10 seconds at terminals

MECHANICAL DATA

Case: JEDEC DO-214AA, Molded plastic

Terminals: Solderable per MIL-STD-750 Method 2026

Approx. Weight: 0.005 ounce, 0.138 grams

Polarity: Color band denotes cathode end

Mounting Position: Any

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

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

PARAMETER	SYMBOLS	US1AB	US1BB	US1DB	US1GB	US1JB	US1KB	US1MB	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
Minimum Reverse Breakdown Voltage	V_R	50	100	200	400	600	800	1000	Volts
Average Rectified current at $T_L = 55^\circ\text{C}$	$I_{(AV)}$	1.0							Amp
Non-repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	30							Amps
Maximum Forward Voltage at $I_F = 1.0\text{A}$	V_F	1.0		1.3		1.7		Volts	
Maximum DC reverse current at rated DC blocking voltage	I_R	$T_A = 25^\circ\text{C}$		5.0		$T_A = 100^\circ\text{C}$		50.0	μA
Maximum reverse recovery time (NOTE 1)	t_{rr}	50				70			nS
Typical Junction Capacitance (NOTE 2)	C_J	15							pF
Typical Thermal Resistance (NOTE 3)	$R_{\theta JA}$	50							$^\circ\text{C/W}$
Operating Junction & Storage Temperature Range	T_J, T_{STG}	-55 ~ +150							$^\circ\text{C}$

- Note:**
1. Reverse recovery condition $I_F = 0.5\text{A}, I_R = 1.0\text{A}, I_{rr} = 0.25\text{A}$
 2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
 3. Mounted with minimum recommended pad size, PCB board FR4.



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RATINGS AND CHARACTERISTIC CURVES

FIG. 1- FORWARD CURRENT DERATING CURVE

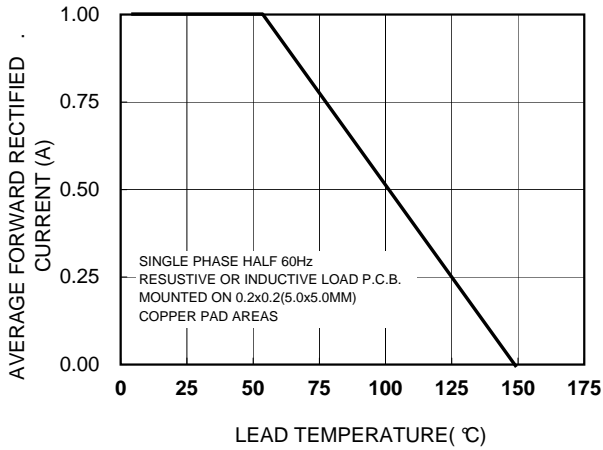


FIG. 2-TYPICAL JUNCTION RATINGS

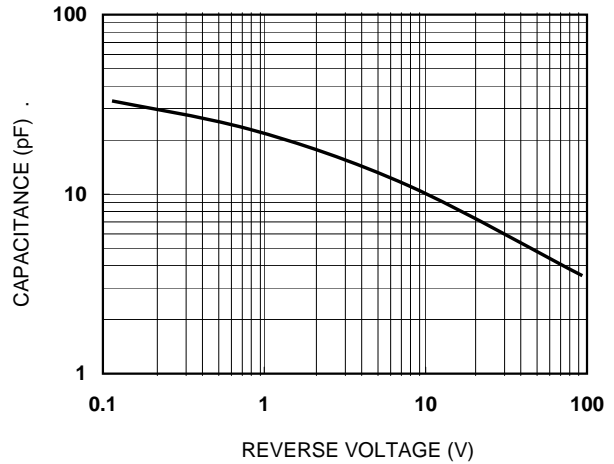


FIG. 3-TYPICAL REVERSE CHARACTERISTICS

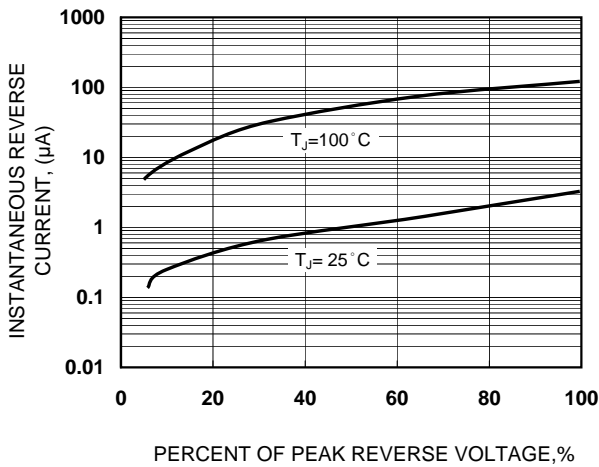


FIG. 4-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

