



US1A THRU US1M

SURFACE MOUNT ULTRAFAST RECOVERY RECTIFIER

REVERSE VOLTAGE: 50 to 1000 VOLTS

FORWARD CURRENT: 1.0 AMPERE

FEATURES

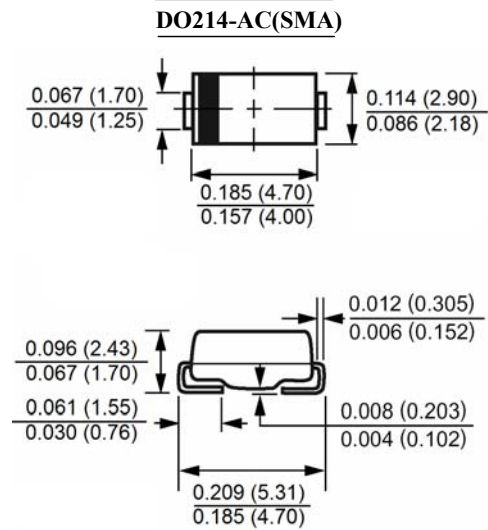
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- Glass Passivated Die Construction
- For surface mounted applications
- Low profile package
- Easy pick and place
- Built-in strain relief
- Ultrafast recovery times for high efficiency
- Suffix "H" indicates Halogen-free parts, ex. US1AH

MECHANICAL DATA

Case : Molded plastic, DO-214AC(SMA)

Terminals : Solder plated, solderable per MIL-STD-750, method 2026 guaranteed

Polarity : Color band denotes cathode end



Dimensions in inches and (millimeters)

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, derate current by 20%.

Parameter	Symbols	US1A	US1B	US1D	US1G	US1J	US1K	US1M	Units
Maximum Recurrent 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 $T_L=75^\circ\text{C}$	$I_{(AV)}$	1.0							Amp
Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	30							Amp
Maximum Forward Voltage at 1.0A	V_F	1.0			1.3	1.7			Volts
Maximum Reverse Current at $T_A=25^\circ\text{C}$	I_R	5.0							uAmp
at Rated DC Blocking Voltage $T_A=100^\circ\text{C}$		100							
Typical Junction Capacitance (Note 1)	C_J	17							pF
Typical Thermal Resistance (Note 2)	$R_{\theta JL}$	30							°C/W
Maximum Reverse Recovery Time (Note 3)	T_{RR}	50				75			nS
Operating Junction Temperature Range	T_J	-65 to +150							°C
Storage Temperature Range	T_{stg}	-65 to +150							°C

NOTES:

1- Measured at 1 MHz and applied reverse voltage of 4.0 VDC.

2- Thermal resistance from junction to lead mounted on P.C.B. with 0.3 x 0.3" (8.0 x 8.0mm) copper pad areas

3- Reverse Recovery Test Conditions: $I_F=5A$, $I_R=1A$, $I_{RR}=25A$.



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RATINGS AND CHARACTERISTIC CURVES

FIG. 1- FORWARD CURRENT DERATING CURVE

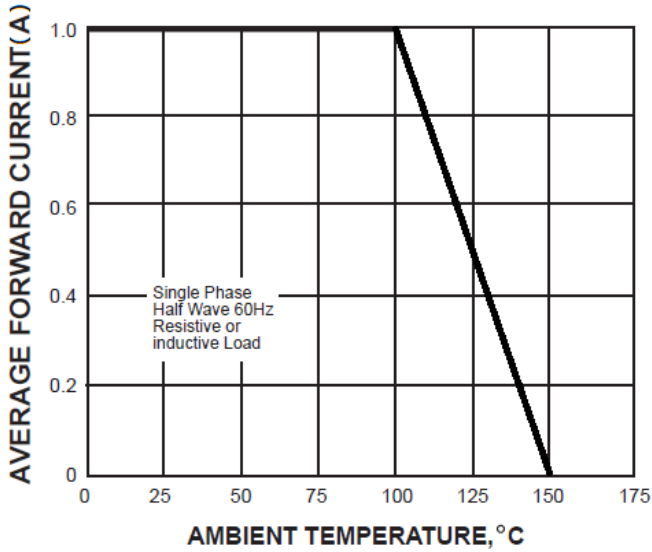


FIG. 2- PEAK FORWARD SURGE CURRENT

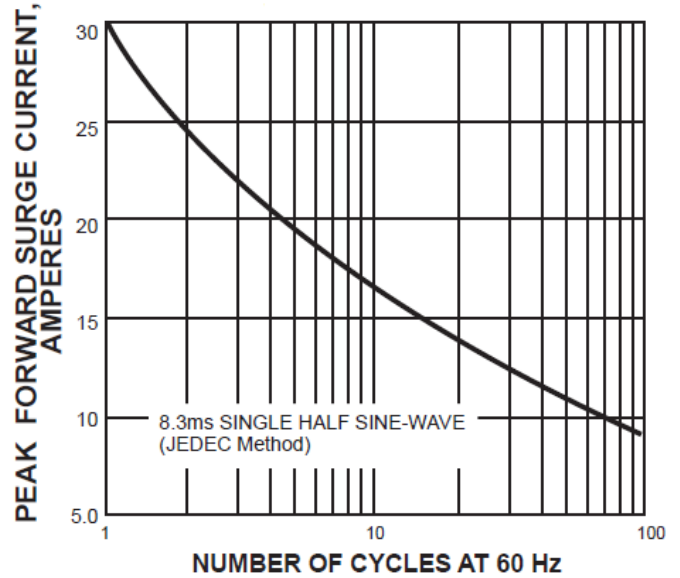


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

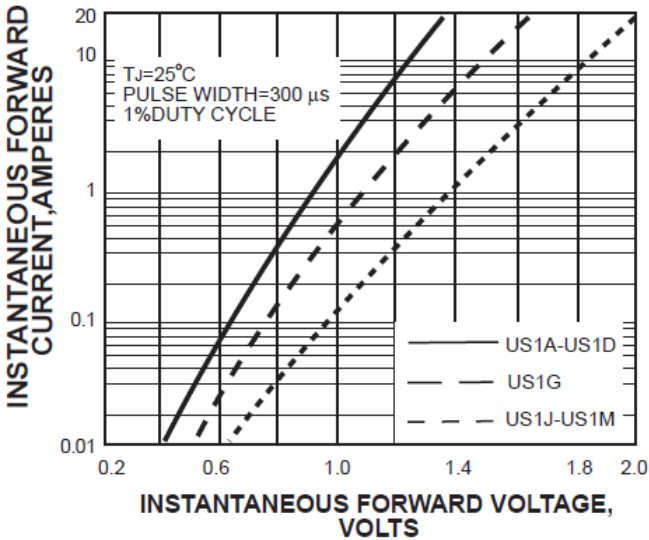
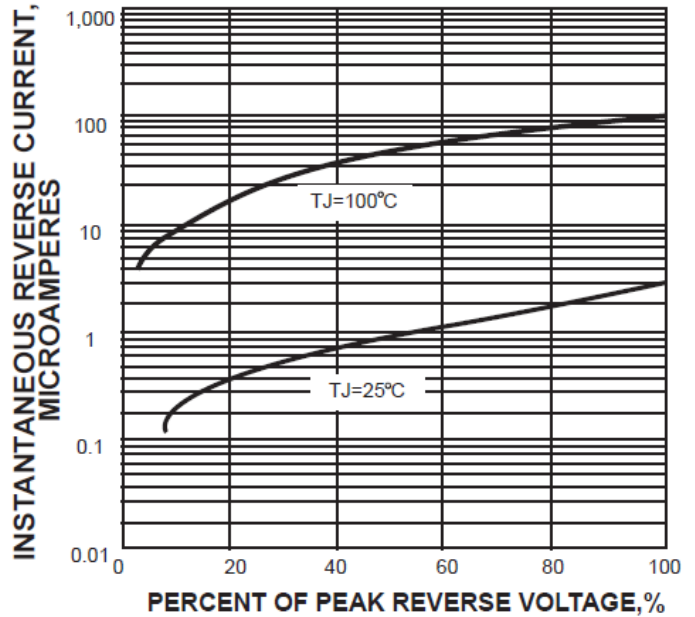
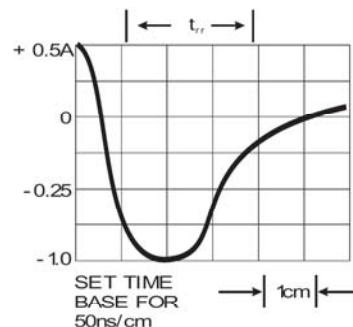
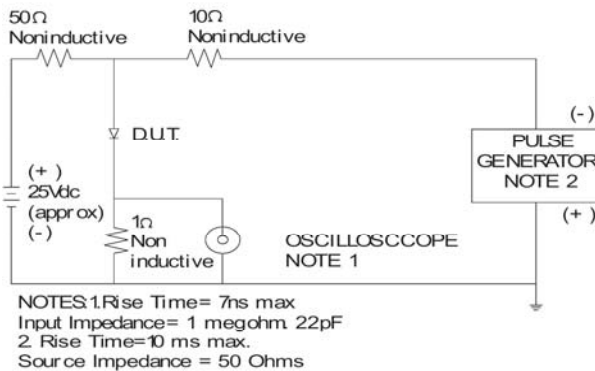


FIG. 4-TYPICAL REVERSE CHARACTERISTICS



RATING AND CHARACTERISTIC CURVES



REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM