

US1A THRU US1M

SURFACE MOUNT ULTRAFAST RECOVERY RECTIFIER



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HORNBY ELECTRONIC

REVERSE VOLTAGE: 50 to 1000 VOLTS

FORWARD CURRENT: 1.0 AMPERE

FEATURES

- For surface mounted applications
- Low profile package
- Built-in strain relief
- Easy pick and place
- Ultrafast recovery times for high efficiency
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- High temperature soldering : 260°C /10 seconds at terminals

MECHANICAL DATA

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

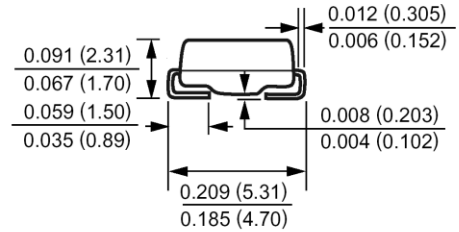
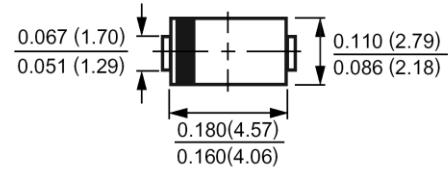
Terminals: Solder plated, solderable per MIL-STD-750, method 2026 guaranteed

Polarity: Color band denotes cathode end

Packaging: 12mm tape per EIA STD RS-481

Weight: 0.002 ounce, 0.064 gram

DO214-AC(SMA)



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%.

	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 =100	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 at Rated DC Blocking Voltage T _A =100	I _R	5.0 100							μAmp
Typical Junction Capacitance (Note 1)	C _J	17							pF
Typical Thermal Resistance (Note 2)	R _{θJL}	30							/W
Maximum Reverse Recovery Time (Note 3)	T _{RR}	50				75			nS
Operating Junction Temperature Range	T _J	-55 to +150							
Storage Temperature Range	T _{stg}	-55 to +150							

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 : $I_F=0.5A$, $I_R=1A$, $I_{RR}=0.25A$.

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RATINGS AND CHARACTERISTIC CURVES

RATING AND CHARACTERISTIC C CURVES

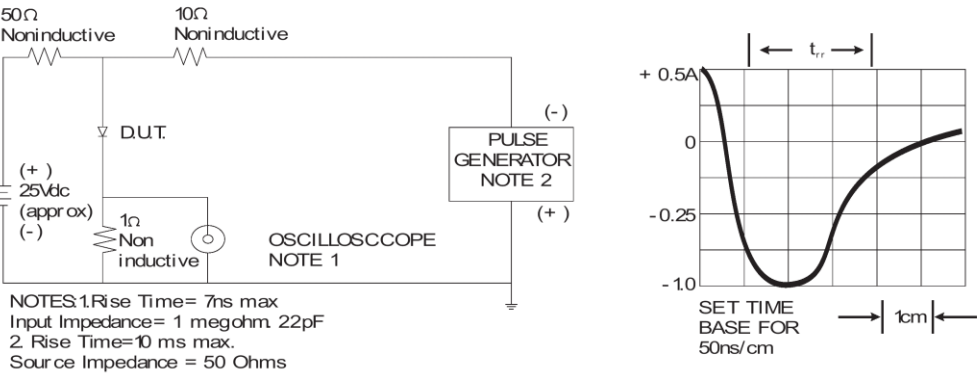


Fig. 1-REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

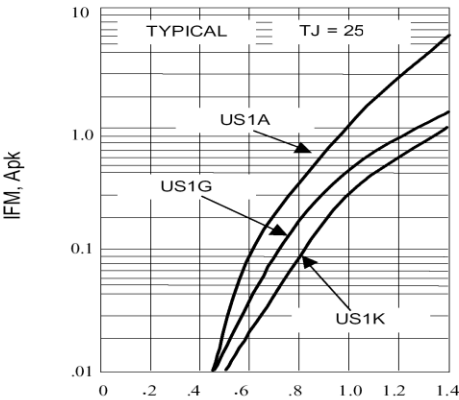


Fig. 2-FORWARD CHARACTERISTICS

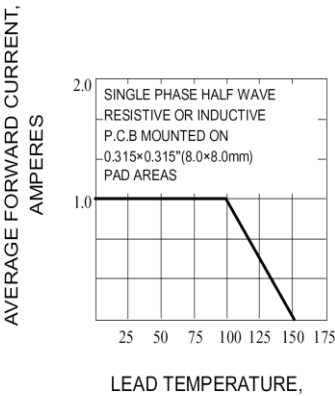


Fig. 3-FORWARD CURRENT DERATING CURVE

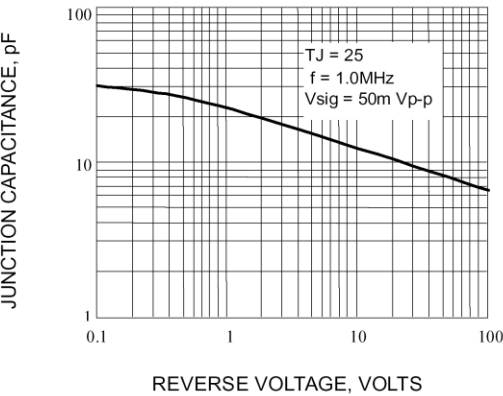


Fig. 4-TYPICAL JUNCTION CAPACITANCE

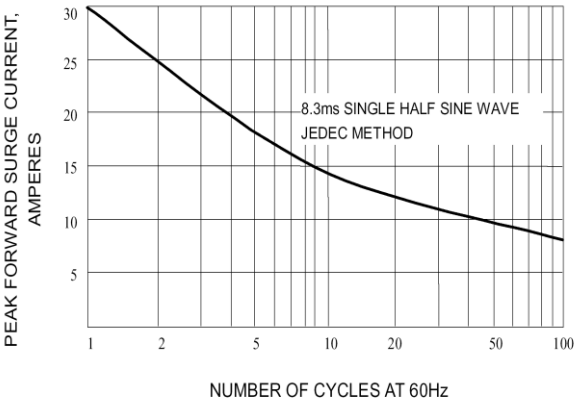


Fig. 5-PEAK FORWARD SURGE CURRENT