

US1A THRU US1K

SURFACE MOUNT ULTRAFAST RECTIFIER

VOLTAGE - 50 to 800 Volts 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
- Glass passivated junction
- High temperature soldering:
260 °C/10 seconds at terminals

MECHANICAL DATA

Case: JEDEC DO-214AC molded plastic

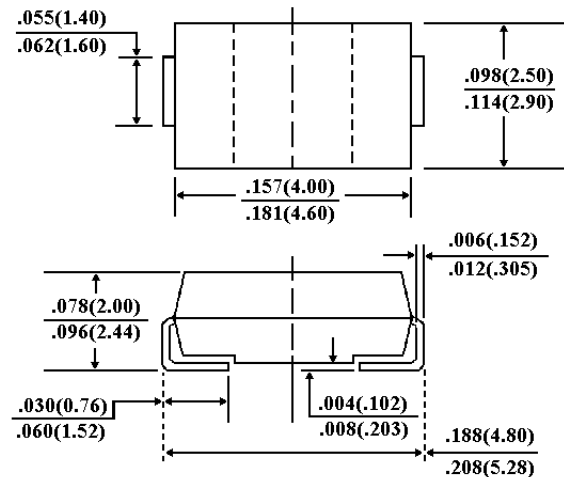
Terminals: Solder plated, solderable per MIL-STD-750,
Method 2026

Polarity: Indicated by cathode band

Standard packaging: 12mm tape (EIA-481)

Weight: 0.002 ounce, 0.064 gram

SMA/DO-214AC



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.

Resistive or inductive load. For capacitive load, derate current by 20%.

	SYMBOLS	US1A	US1B	US1D	US1G	US1J	US1K	UNITS
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	Volts
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	Volts
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	Volts
Maximum Average Forward Rectified Current, at $T_L=100\text{ }^{\circ}\text{C}$	$I_{(AV)}$	1.0						Amps
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load(JEDEC method) $T_A=55\text{ }^{\circ}\text{C}$	I_{FSM}	30.0						Amps
Maximum Instantaneous Forward Voltage at 1.0A	V_F	1.0			1.4	1.7		Volts
Maximum DC Reverse Current $T_A=25\text{ }^{\circ}\text{C}$ At Rated DC Blocking Voltage $T_A=100\text{ }^{\circ}\text{C}$	I_R	10.0 100						$\mu\text{g A}$
Maximum Reverse Recovery Time (Note 1) $T_J=25\text{ }^{\circ}\text{C}$	T_{RR}	50.0				100.0		nS
Typical Junction capacitance (Note 2)	C_J	17						pF
Maximum Thermal Resistance (Note 3)	$R_{\theta KJL}$	30						$^{\circ}\text{C/W}$
Operating and Storage Temperature Range	T_J, T_{STG}	-50 to +150						$^{\circ}\text{C}$

NOTES:

1. Reverse Recovery Test Conditions: $I_F=0.5A$, $I_R=1.0A$, $I_{rr}=0.25A$
2. Measured at 1 MHz and Applied reverse voltage of 4.0 volts
3. 8.0mm^2 (.013mm thick) land areas

RATING AND CHARACTERISTIC CURVES

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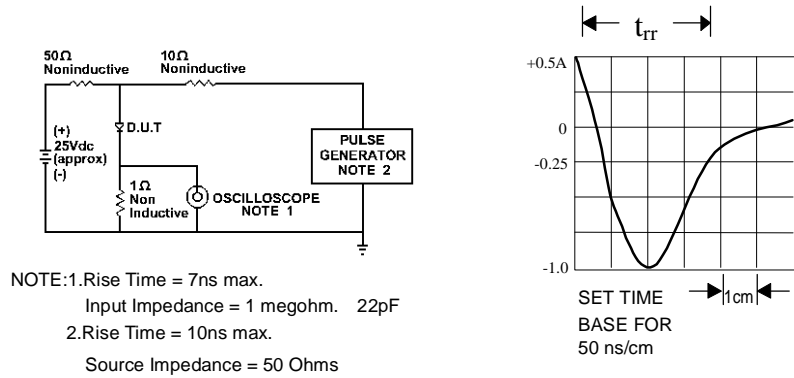


Fig. 1-REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

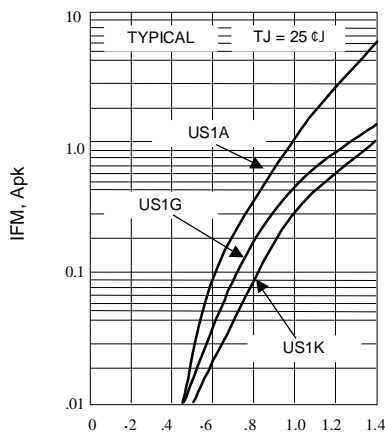


Fig. 2-FORWARD CHARACTERISTICS

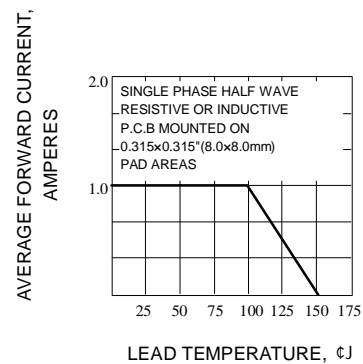


Fig. 3-FORWARD CURRENT DERATING CURVE

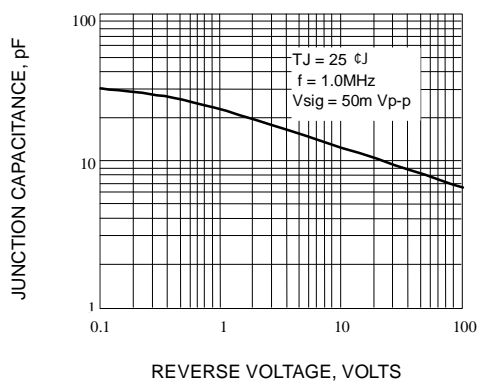


Fig. 4-TYPICAL JUNCTION CAPACITANCE

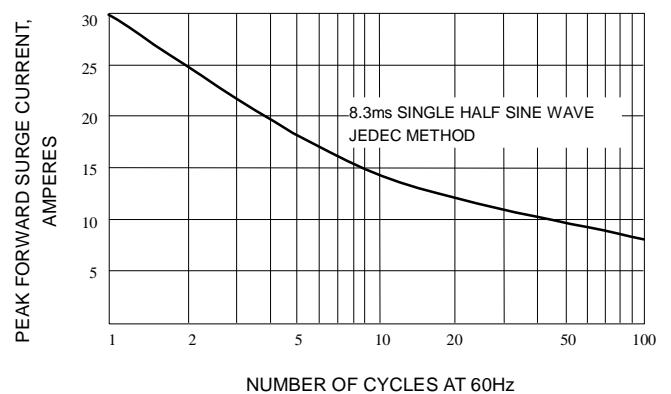


Fig. 5-PEAK FORWARD SURGE CURRENT