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

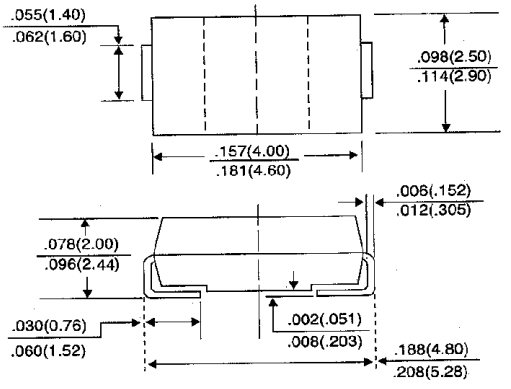
Terminals: Solder plated solderable per MIL-STD-750, Method 2026

Polarity: Indicated by cathode band

Standard Packaging: 12mm tape (EIA-481)

Weight: 0.002 ounces, 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°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°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°C at Rated DC Blocking Voltage T_A = 100°C	I_R	10.0 100						μA
Maximum Reverse Recovery Time (NOTE 1) T_J = 25°C	T_{RR}	50.0				100.0		nS
Typical Junction Capacitance (NOTE 2)	C_J	17.0						pf
Maximum Thermal Resistance (NOTE 3)	RΘJL	30.0						°C/W
Operating and Storage Temperature Range	T_J,T_{STG}	-50 to +150						°C

NOTES:
1. Reverse Recovery Test Conditions: I_F = 0.5A, I_R = 1.0A, Irr = 0.25A.
2. Measured at 1.0 MHz and applied reverse voltage of 4.0 volts.
3. 8.0mm² (.013mm thick) land areas.

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RATING AND CHARACTERISTIC CURVES
US1A—US1K

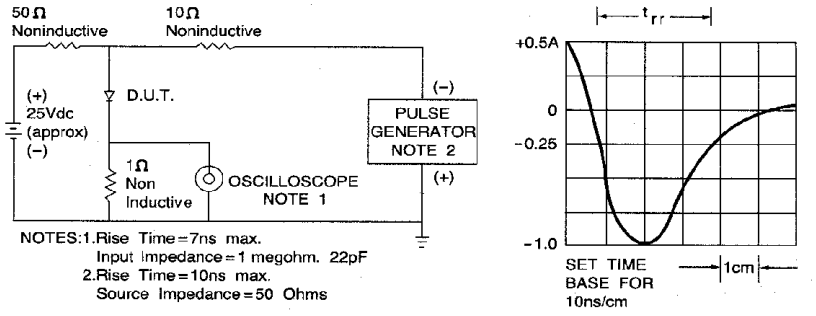

Fig. 1 – REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

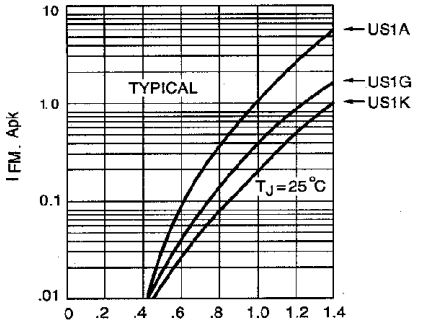

Fig. 2 – FORWARD CHARACTERISTICS

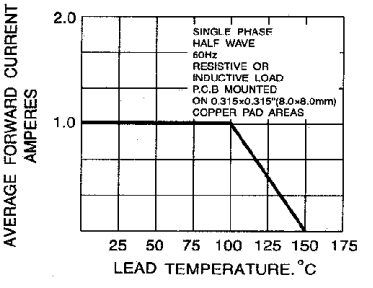

Fig. 3 – FORWARD CURRENT DERATING CURVE

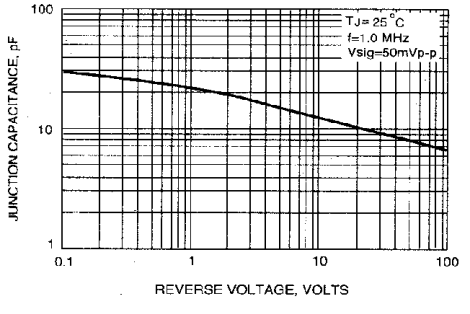

Fig. 4 – TYPICAL JUNCTION CAPACITANCE

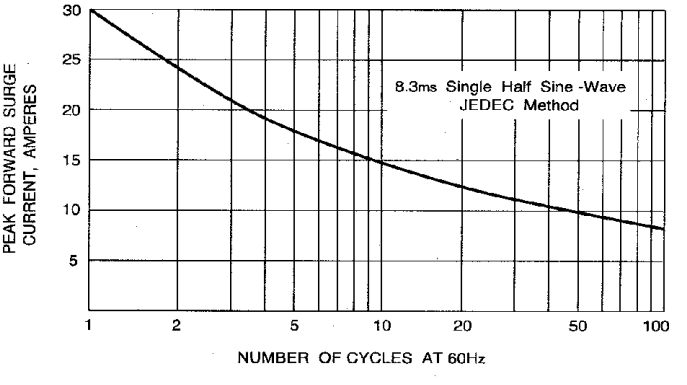

Fig. 5 – PEAK FORWARD SURGE CURRENT

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