

US1A thru US1K

SURFACE MOUNT ULTRAFAST RECTIFIER



**CHENG-YI
ELECTRONIC**



FEATURES

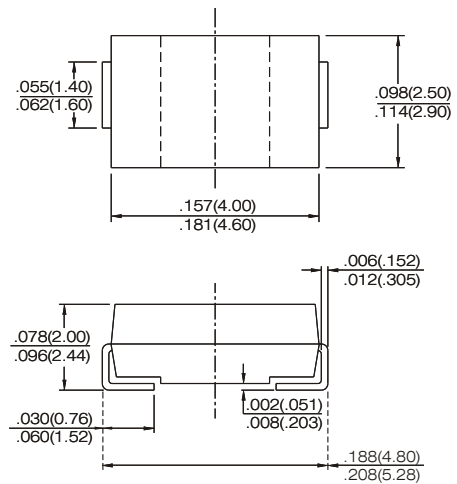
- For surface mounted applications
- Low profile package
- Built-in strain relief
- Easy pick and place
- Ultrafast recovery times for high efficiency
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Glass passivated junction
- High temperature soldering
260°C/10 seconds 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

VOLTAGE RANGE
-50 TO 800 VOLTS
CURRENT
-1.0 Amperes

SMA/DO-214AC



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, 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	V
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	V
Maximum Average Forward Rectified Current, at $T_L=100^\circ\text{C}$	$I_{(AV)}$	1.0						A
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method) $T_A=55^\circ\text{C}$	I_{FSM}	30.0						A
Maximum Instantaneous Forward Voltage at 1.0A	V_F	1.0			1.4	1.7		V
Maximum DC Reverse Current @ $T_A=25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A=100^\circ\text{C}$	I_R	10.0			100			μA
Maximum Reverse Recovery Time (Note 1) $T_J=25^\circ\text{C}$	T_{RR}	50.0				100.0		nS
Typical Junction Capacitance (Note 2)	C_J	17.0						pF
Maximum Thermal Resistance (Note 3)	$R\theta_{JL}$	30.0						$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	T_J, T_{STG}	-50 to +150						$^\circ\text{C}$

- Notes : 1. Reverse Recovery Test Conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$
 2. Measured at 1.0 MHz and Applied $V_r=4.0$ volts.
 3. 8.0mm^2 (.013mm thick) land areas.

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RATING AND CHARACTERISTICS CURVES US1A THRU US1K

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

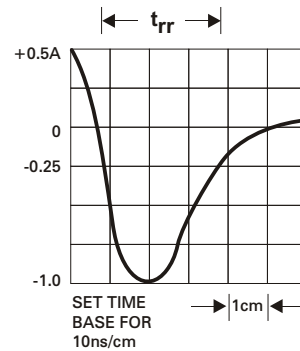
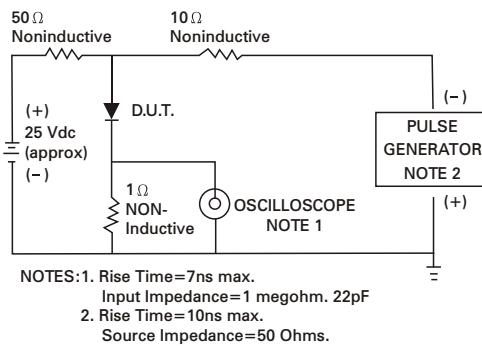


Fig. 2 - FORWARD CHARACTERISTICS

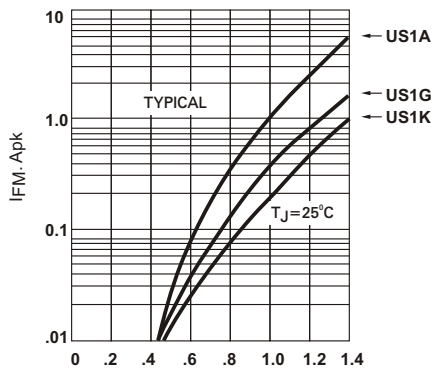


Fig. 3 - FORWARD CURRENT DERATING CURVE

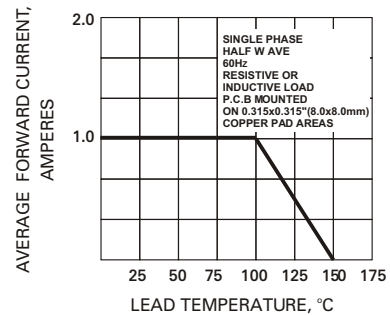


Fig. 4 - TYPICAL JUNCTION CAPACITANCE

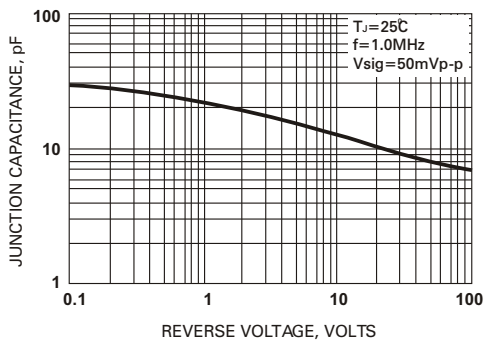


Fig. 5 - PEAK FORWARD SURGE CURRENT

