



DC COMPONENTS CO., LTD.

RECTIFIER SPECIALISTS

US1A
THRU
US1K

TECHNICAL SPECIFICATIONS OF SURFACE MOUNT ULTRA FAST RECTIFIER

VOLTAGE RANGE - 50 to 800 Volts

CURRENT - 1.0 Ampere

FEATURES

- * Ideal for surface mounted applications
- * Low leakage current
- * Glass passivated junction

MECHANICAL DATA

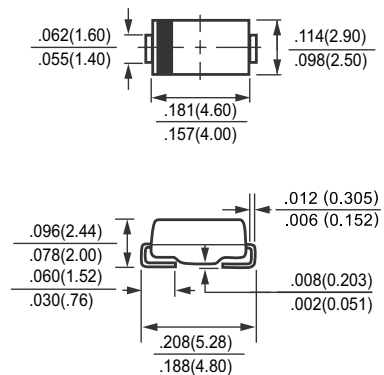
- * Case: Molded plastic
- * Epoxy: UL 94V-0 rate flame retardant
- * Terminals: Solder plated solderable per MIL-STD-750, Method 2026
- * Polarity: As marked
- * Mounting position: Any
- * Weight: 0.064 gram

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%.



SMA (DO-214AC)



Dimensions in inches and (millimeters)

		SYMBOL	US1A	US1B	US1D	US1G	US1J	US1K	UNITS
Maximum Recurrent Peak Reverse Voltage		V _{RRM}	50	100	200	400	600	800	Volts
Maximum RMS Volts		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 Current at T _A = 50°C		I _O	1.0						Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)		I _{FSM}	30						Amps
Maximum Forward Voltage at 1.0A DC		V _F	1.0			1.4	1.7		Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	@T _A = 25°C	I _R	5.0						uAmps
	@T _A = 100°C		100						
Maximum Reverse Recovery Time (Note 1)		t _{rr}	50			100			nSec
Typical Junction Capacitance (Note 2)		C _J	17						pF
Operating and Storage Temperature Range		T _J , T _{STG}	-65 to + 175						°C

NOTES : 1. 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.

RATING AND CHARACTERISTIC CURVES (US1A THRU US1K)

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

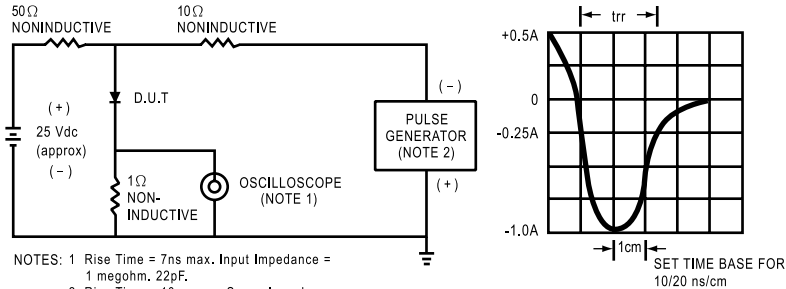


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

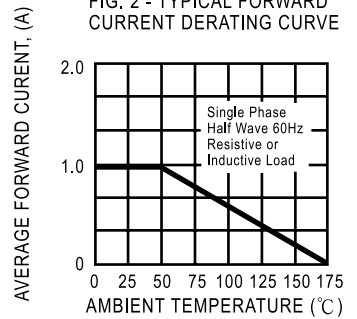


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

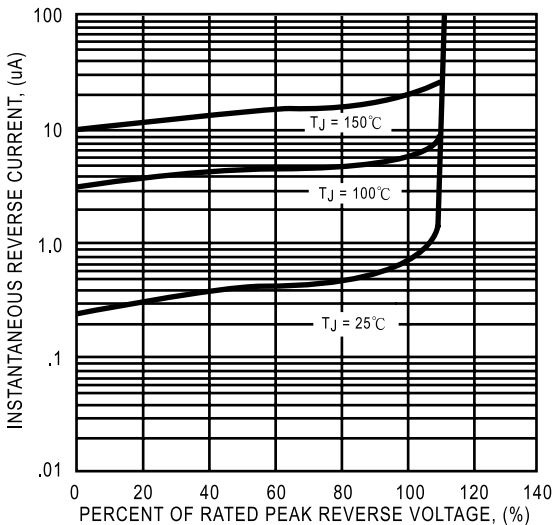


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

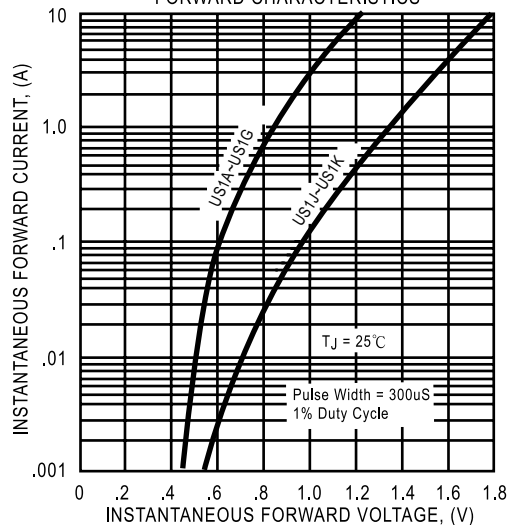


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

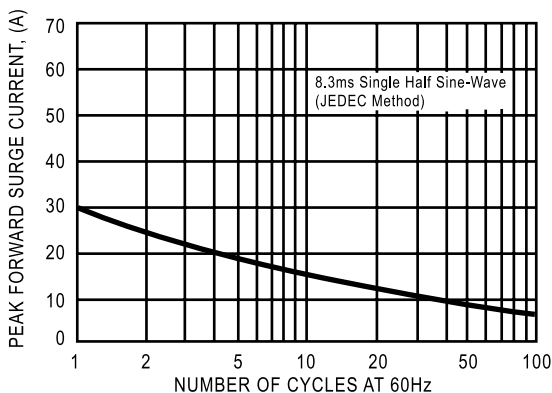
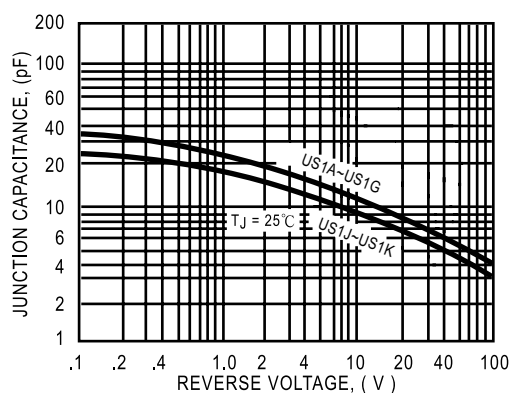


FIG. 6 - TYPICAL JUNCTION CAPACITANCE



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