



DC COMPONENTS CO., LTD.

RECTIFIER SPECIALISTS

US1A
THRU
US1M

TECHNICAL SPECIFICATIONS OF SURFACE MOUNT ULTRA FAST RECTIFIER

VOLTAGE RANGE - 50 to 1000 Volts

CURRENT - 1.0 Ampere

FEATURES

- * Ideal for surface mounted applications
- * Low leakage current
- * Glass passivated junction
- * Low profile package
- * Low power loss, high efficiency
- * High surge capability

MECHANICAL DATA

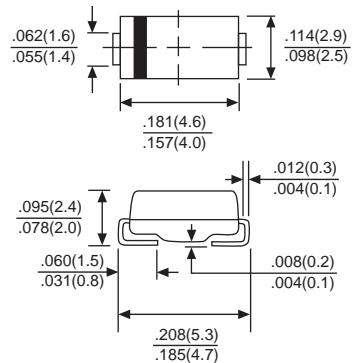
- * Case: Molded plastic
- * Epoxy: UL 94V-0 rate flame retardant
- * Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- * Polarity: As marked
- * Mounting position: Any
- * Weight: 0.064 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, 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	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 _A = 90°C	I _O	1.0							Amps
Peak Forward Surge Current I _{FM} (surge): 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		1.3		1.7		Volts	
Maximum DC Reverse Current at Rated DC Blocking Voltage	I _R	@ T _A = 25°C							μAmps
		@ T _A = 100°C							
Maximum Reverse Recovery Time (Note 1)	t _{rr}	50				100		nSec	
Typical Junction Capacitance (Note 2)	C _J	15							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 1.0 MHz and applied reverse voltage of 4.0 volts.

RATING AND CHARACTERISTIC CURVES (US1A THRU US1M)

FIG. 1
TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

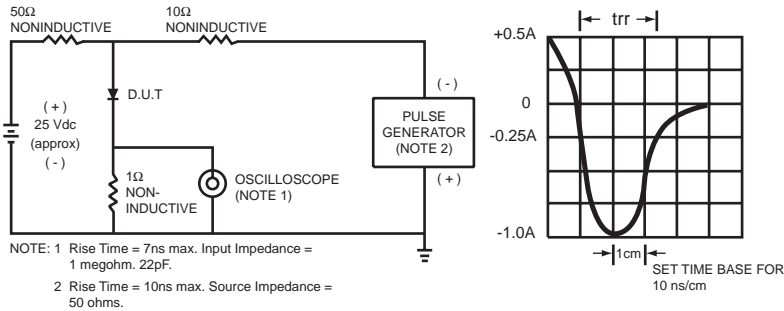


FIG. 2
TYPICAL FORWARD CURRENT DERATING CURVE

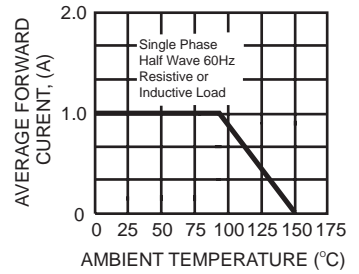


FIG. 3
TYPICAL REVERSE CHARACTERISTICS

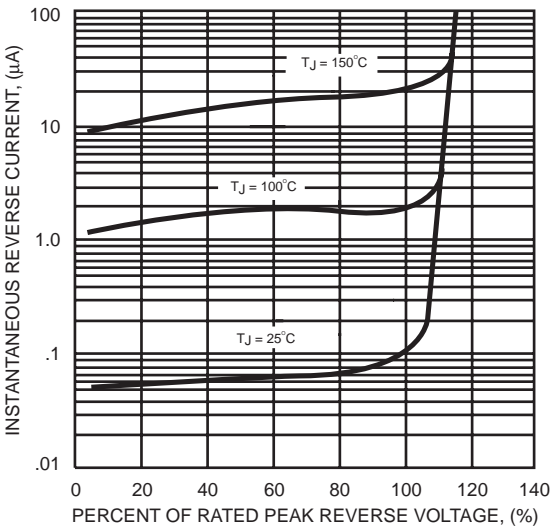


FIG. 4
TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

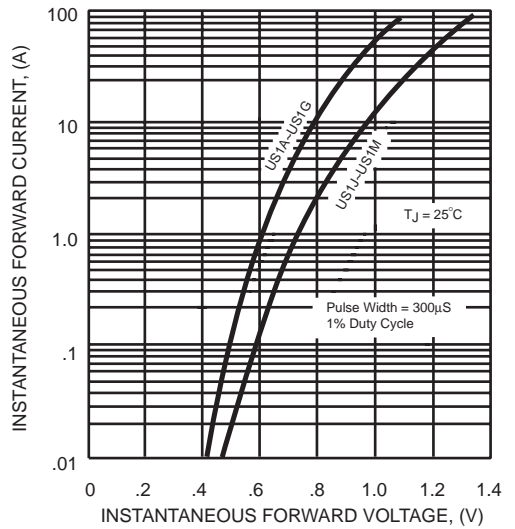


FIG. 5
MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

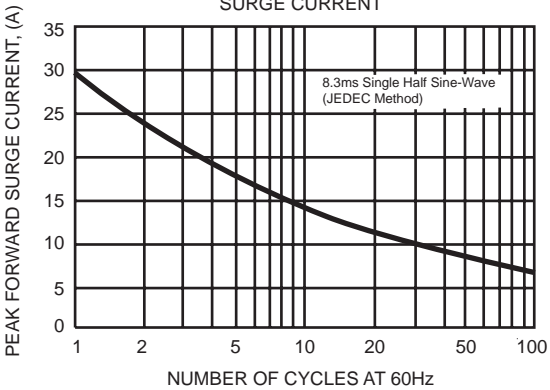
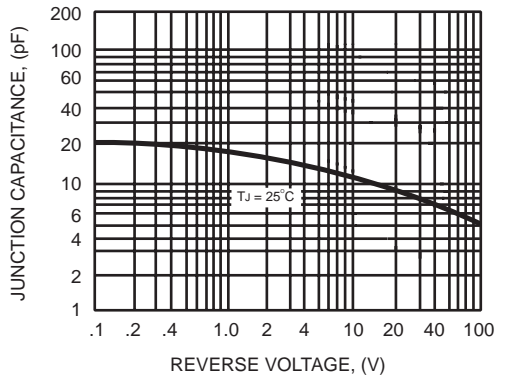


FIG. 6
TYPICAL JUNCTION CAPACITANCE



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