



**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**

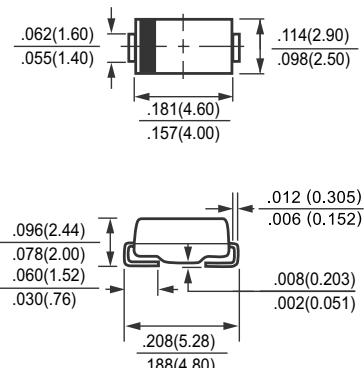
- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Terminals: Solder plated solderable per MIL-STD-750, Method 2026
- \* Polarity: As marked
- \* Mounting position: Any
- \* Weight: 0.064 gram

**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)



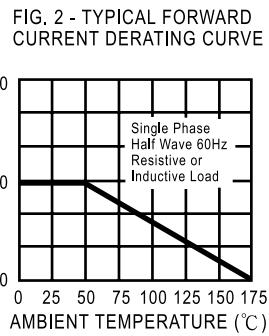
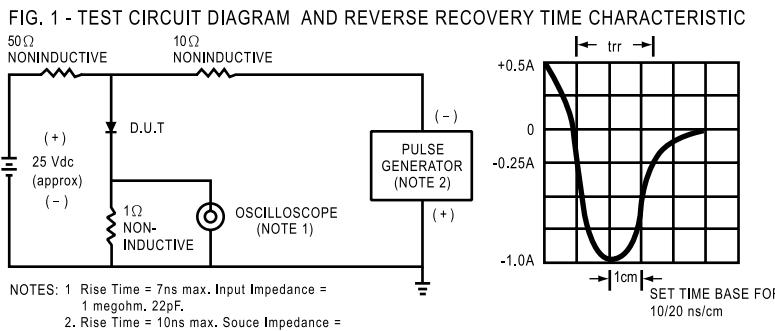
Dimensions in inches and (millimeters)

	SYMBOL	US1A	US1B	US1D	US1G	US1J	US1K	UNITS
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	Volts
Maximum RMS Volts	V <sub>RMS</sub>	35	70	140	280	420	560	Volts
Maximum DC Blocking Voltage	V <sub>D</sub>	50	100	200	400	600	800	Volts
Maximum Average Forward Current at T <sub>A</sub> = 50°C	I <sub>O</sub>				1.0			Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>				30			Amps
Maximum Forward Voltage at 1.0A DC	V <sub>F</sub>		1.0		1.4		1.7	Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	I <sub>R</sub> @T <sub>A</sub> = 25°C @T <sub>A</sub> = 100°C			5.0				uAmps
Maximum Reverse Recovery Time (Note 1)	t <sub>rr</sub>		50		100			nSec
Typical Junction Capacitance (Note 2)	C <sub>J</sub>			17				pF
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>			-65 to + 175				°C

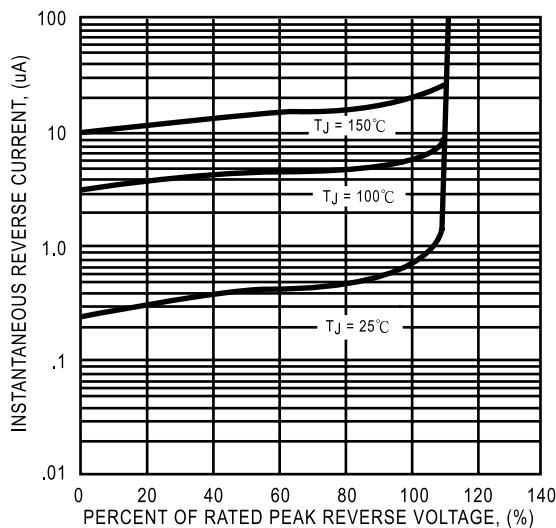
NOTES : 1. Test Conditions: I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>RR</sub>=0.25A.

2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

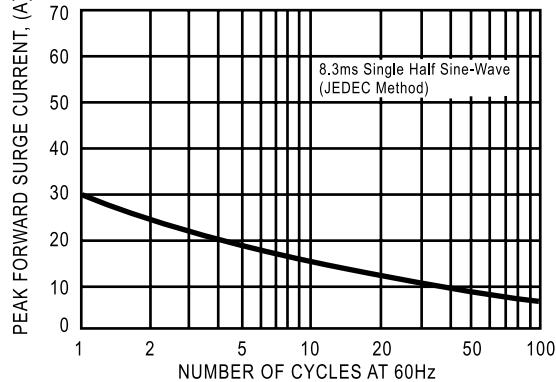
## RATING AND CHARACTERISTIC CURVES ( US1A THRU US1K )



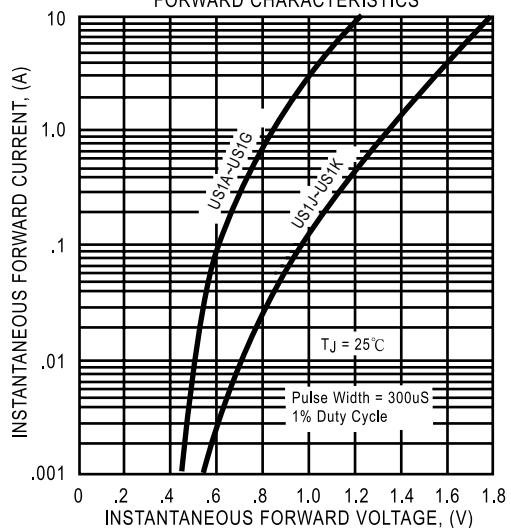
**FIG. 3 - TYPICAL REVERSE CHARACTERISTICS**



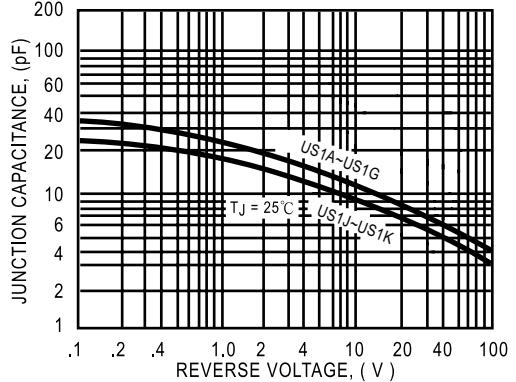
**FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT**



**FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



**FIG. 6 - TYPICAL JUNCTION CAPACITANCE**



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