



# DATA SHEET

## US1A~US1M

### SURFACE MOUNT ULTRAFAST RECTIFIER

**VOLTAGE** 50 to 1000 Volts **CURRENT** 1.0 Amperes

**SMA/DO-214AC**

Unit: inch (mm)

#### 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
- Pb free product are available : 99% Sn above can meet RoHS environment substance directive reuest

#### MECHANICAL DATA

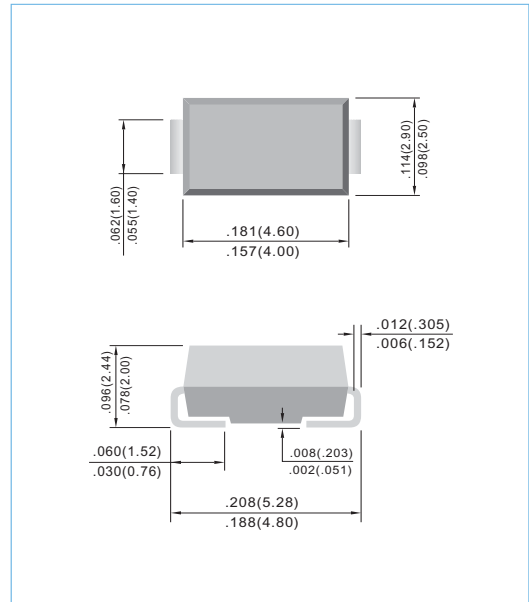
Case: JEDEC DO-214AC molded plastic

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

Polarity: Indicated by cathode band

Standard packaging: 12mm tape (EIA-481)

Weight: 0.002 ounce, 0.064 gram



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

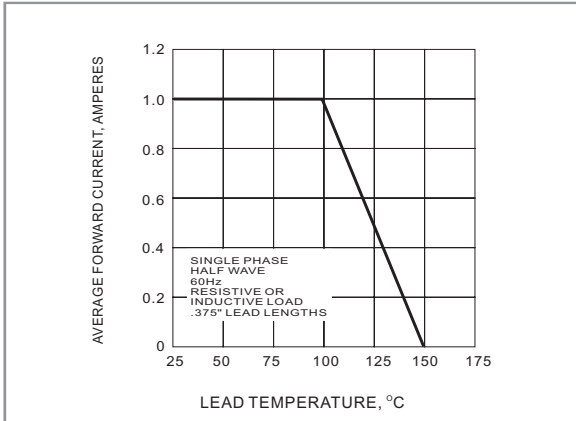
Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

PARAMETER	SYMBOL	US1A	US1B	US1D	US1G	US1J	US1K	US1M	UNITS
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	V
Maximum Average Forward Current .375"(9.5mm) lead length at TL=100°C	I <sub>AV</sub>	1.0							A
Peak Forward Surge Current : 8.3ms single half sine-wave superimposed on rated load(JEDEC method)	I <sub>FSM</sub>	30							A
Maximum Forward Voltage at 1.0A	V <sub>F</sub>	1.0		1.4		1.7		V	
Maximum DC Reverse Current at TA=25°C Rated DC Blocking Voltage TA=125°C	I <sub>R</sub>				10.0 100		uA		
Typical Junction capacitance (Note 2)	C <sub>J</sub>				17		pF		
Typical Thermal Resistance(Note 3)	R <sub>θJL</sub>				30		°C / W		
Maximum Reverse Recovery Time (Note 1)	T <sub>RR</sub>	50			100		ns		
Operating Junction and Storage Temperature Range	T <sub>J</sub> ,T <sub>STG</sub>	-50 TO +150							°C

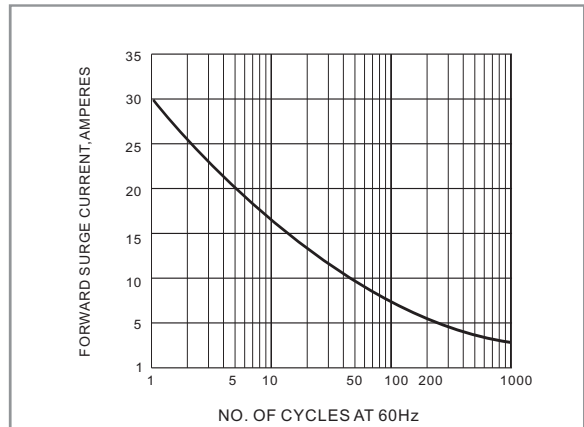
NOTES:1. Reverse Recovery Test Conditions: I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>rr</sub>=0.25A  
2. Measured at 1 MHz and applied V<sub>r</sub> = 4.0 volts.  
3. 8.0 mm<sup>2</sup> ( .013mm thick ) land areas.



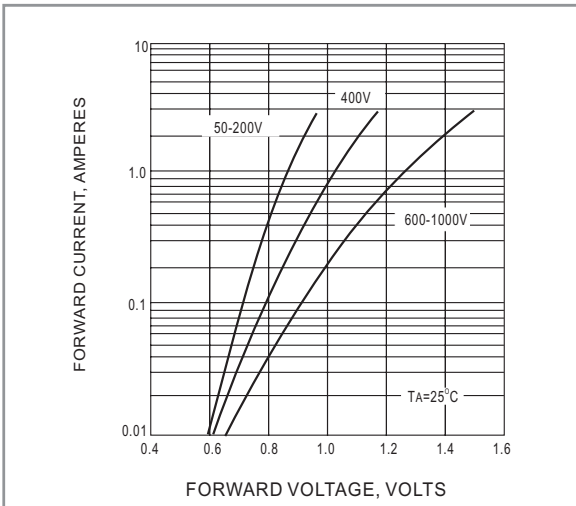
**RATING AND CHARACTERISTIC CURVES**



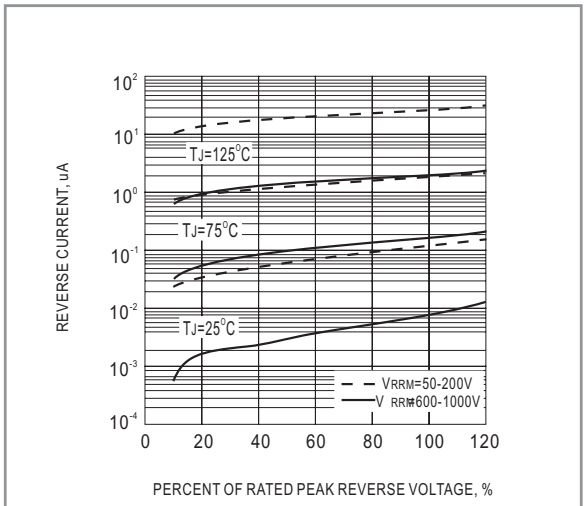
**Fig.1 FORWARD CURRENT DERATING CURVE**



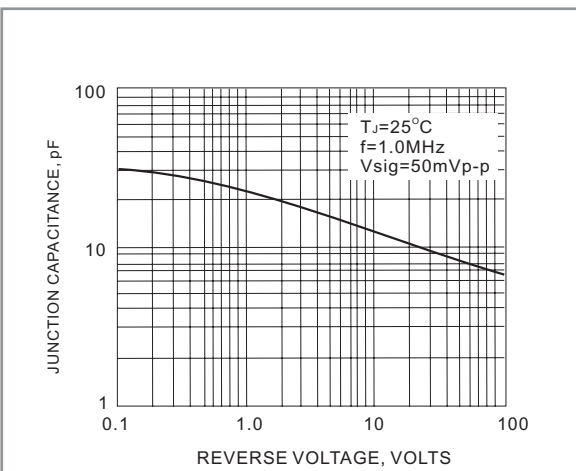
**Fig.2 PEAK FORWARD SURGE CURRENT**



**Fig.3 FORWARD CHARACTERISTICS**



**Fig.4 TYPICAL REVERSE CHARACTERISTICS**



**Fig.5 TYPICAL JUNCTION CAPACITANCE**