

### FEATURES

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- Ideally suited for use in very high frequency switching power supplies, inverters and as a free wheeling diode
- Ultrafast recovery time for high efficiency
- Soft recovery characteristics
- Excellent high temperature switching
- Glass passivated junction
- High temperature soldering guaranteed: 250°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

### Mechanical Data

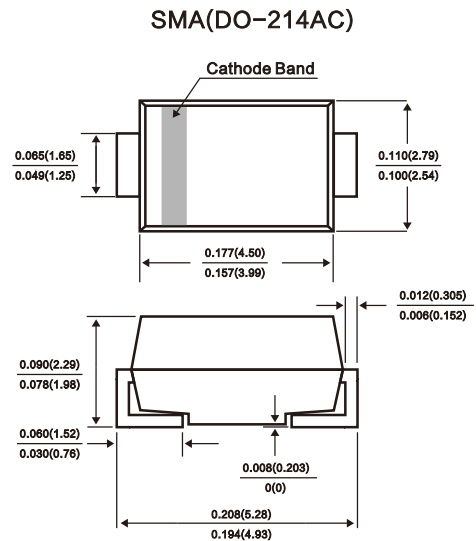
**Case:** JEDEC DO-214AC, molded plastic body over passivated chip

**Terminals:** Axial leads, solderable per MIL-STD-750, Method 2026

**Polarity:** Color band denotes cathode end

**Mounting Position:** Any

**Weight:** 0.012 ounce, 0.34 gram



Dimensions in inches and (millimeters)

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

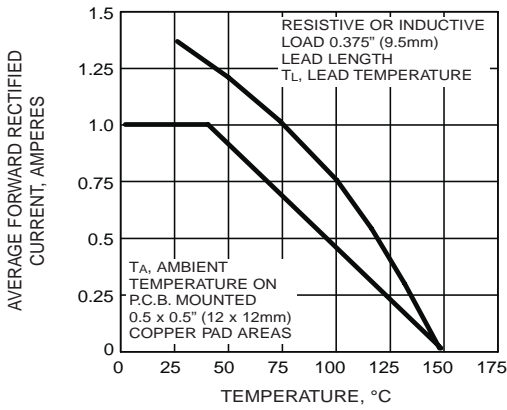
Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

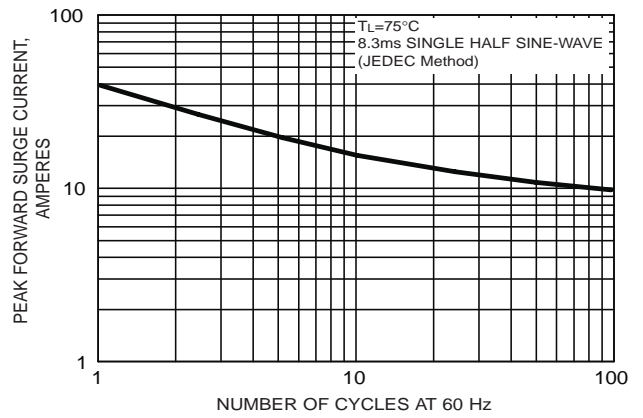
Characteristic	Symbol	US1A	US1B	US1D	US1G	US1J	US1K	US1M	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Working Peak Reverse Voltage	$V_{RWM}$								
DC Blocking Voltage	$V_R$								
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	140	280	420	560	700	V
Average Rectified Output Current @ $T_T = 75^\circ\text{C}$	$I_O$	1.0							A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave Superimposed on Rated Load (JEDEC Method)	$I_{FSM}$	30							A
Forward Voltage Drop @ $I_F = 1.0\text{A}$	$V_{FM}$	1.0			1.3	1.7			V
Peak Reverse Current @ $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A = 100^\circ\text{C}$	$I_{RM}$					5.0	100		$\mu\text{A}$
Reverse Recovery Time (Note 2)	$t_{rr}$	50				75			ns
Typical Junction Capacitance (Note 1)	$C_j$	20				10			pF
Typical Thermal Resistance, Junction to Terminal	$R_{\theta JT}$	30							$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_j, T_{STG}$	-65 to +150							$^\circ\text{C}$

- Notes: 1. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.  
2. Measured with  $I_F = 0.5\text{A}$ ,  $I_R = 1.0\text{A}$ ,  $I_{rr} = 0.25\text{A}$ .

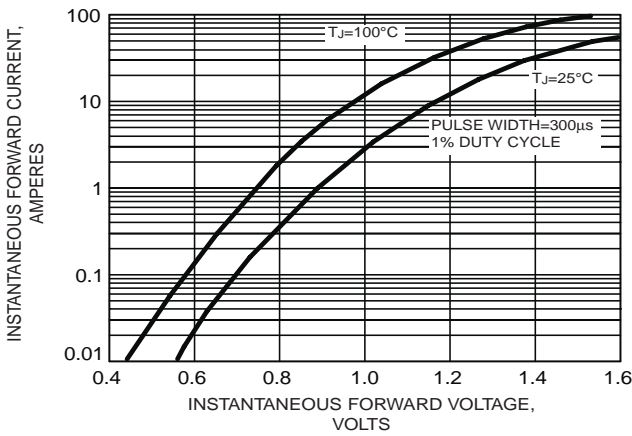
**FIG. 1 - FORWARD CURRENT DERATING CURVES**



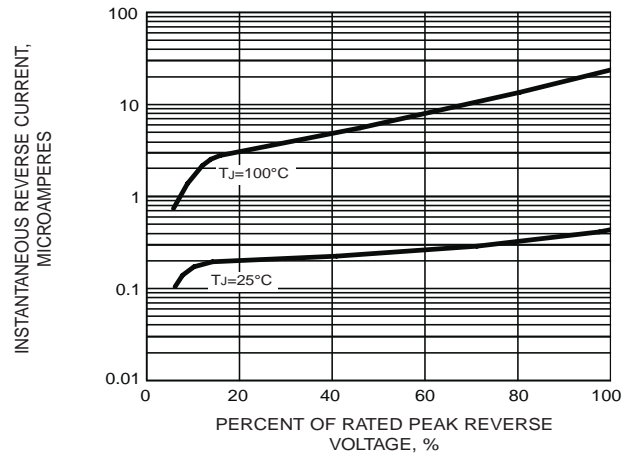
**FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



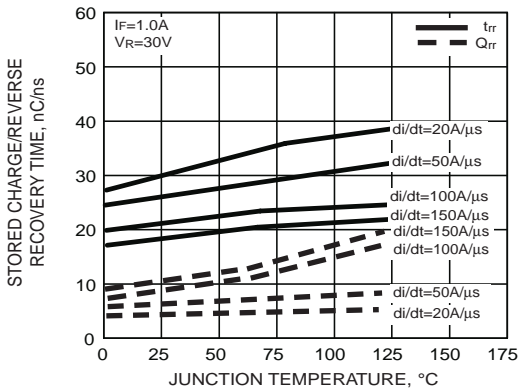
**FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



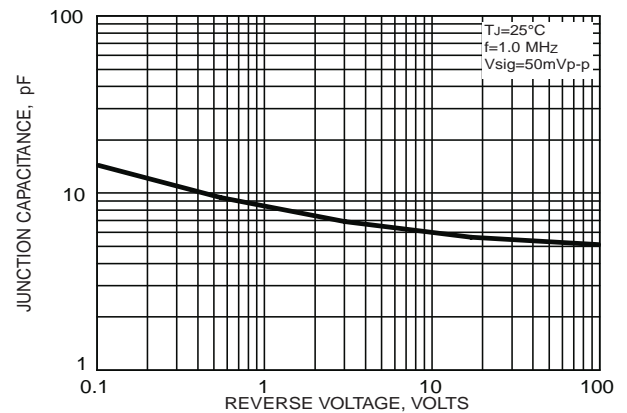
**FIG. 4 - TYPICAL REVERSE CHARACTERISTICS**



**FIG. 5 - REVERSE SWITCHING CHARACTERISTICS**



**FIG. 6 - TYPICAL JUNCTION CAPACITANCE**



**ORDERING INFORMATION**

<b>Order Code</b>	<b>Package</b>	<b>Baseqty</b>	<b>Deliverymode</b>
US1A	SMA	2000	Tape and reel
US1B	SMA	2000	Tape and reel
US1D	SMA	2000	Tape and reel
US1G	SMA	2000	Tape and reel
US1J	SMA	2000	Tape and reel
US1K	SMA	2000	Tape and reel
US1M	SMA	2000	Tape and reel