



# US3A-US3M

Surface Mount Rectifiers

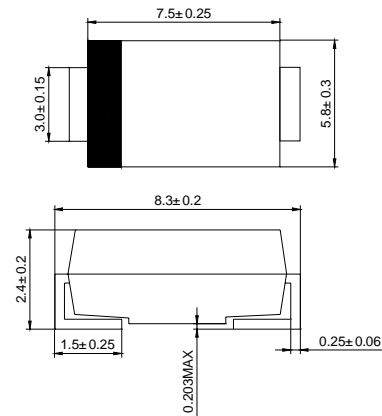
**REVERSE VOLTAGE: 50 - 1000 V**

**FORWARD CURRENT: 3.0 A**

## Features

- Plastic package has underwriters laboratories flammability classification 94V-0
- For surface mount applications
- Low profile package
- Easy pick and place
- Ultrafast recovery times for high efficiency
- Low forward voltage, low power loss
- Built-in strain relief, ideal for automated placement
- High temperature soldering:  
250°C/10 seconds on terminals

### DO-214AB(SMC)



Dimensions in millimeters

## Mechanical Data

- Case: JEDEC DO-214AB, molded plastic body
- c over passivated chip
- Terminals: Solder Plated, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Weight: 0.007 ounces, 0.21 gram

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

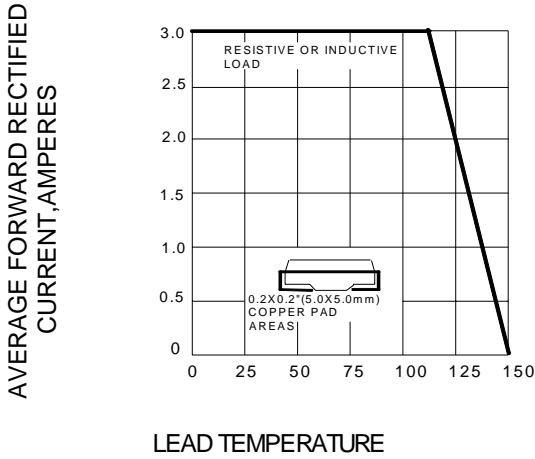
Ratings at 25°C ambient temperature unless otherwise specified

		US3A	US3B	US3D	US3G	US3J	US3K	US3M	UNITS
Device marking code		US3A	US3B	US3D	US3G	US3J	US3K	US3M	
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Maximum RMS voltage	$V_{RWS}$	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	V
Maximum average forward rectified current at $T_L=110^\circ\text{C}$	$I_{F(AV)}$	3.0							A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load(JEDEC Method)	$I_{FSM}$	100							A
Maximum instantaneous forward voltage at 3A	$V_F$	1.0				1.7			V
Maximum DC reverse current @ $T_A=25^\circ\text{C}$ at rated DC blocking voltage @ $T_A=125^\circ\text{C}$	$I_R$	10				500			$\mu\text{A}$
Maximum reverse recovery time at $I_F=0.5\text{A}$ $I_R=1.0\text{A}$ $I_{tr}=0.25\text{A}$	$t_{rr}$	50				75			ns
Typical junction capacitance at 4.0V, 1MHz	$C_J$	70				50			pF
Maximum thermal resistance (NOTE1)	$R_{JA}$	25							$^\circ\text{C/W}$
Operating temperature range	$T_J$	-55-----+150							$^\circ\text{C}$
Storage temperature range	$T_{STG}$	-55-----+150							$^\circ\text{C}$

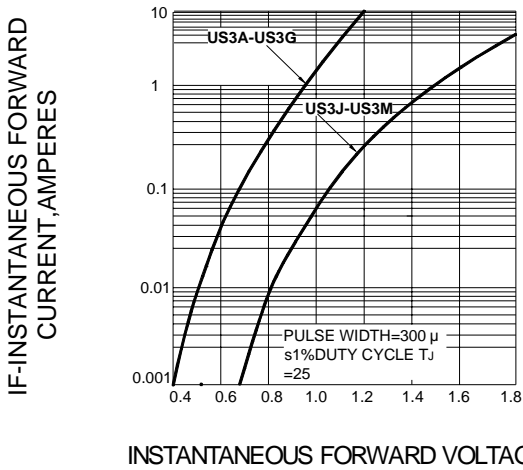
NOTE: 1.P.C.B.mounted on 0.2X0.2"(5.0X5.0mm)copper pad area

## Ratings AND Characteristic Curves

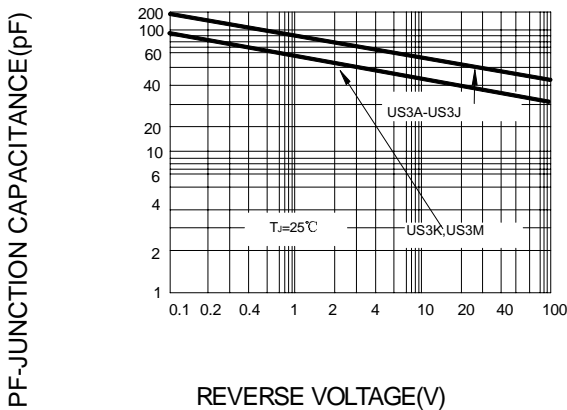
**FIG.1 – FORWARD CURRENT DERATING CURVE**



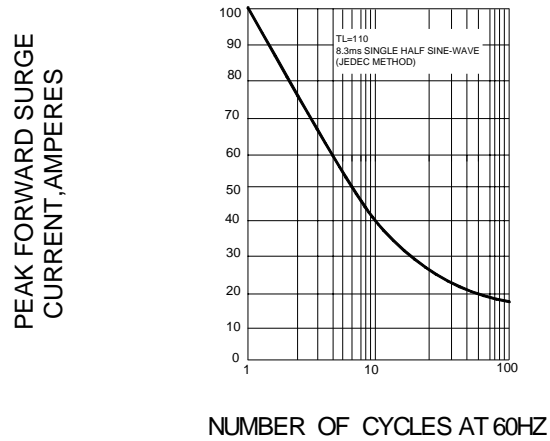
**FIG.3 – TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



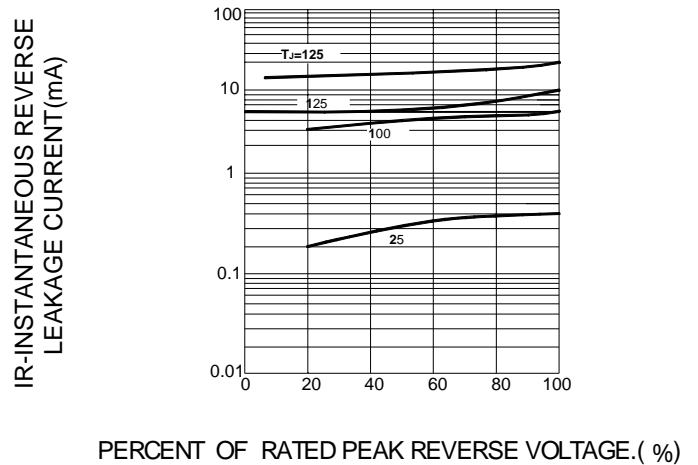
**FIG.5 – TYPICAL JUNCTION CAPACITANCE**



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



**FIG.4 – TYPICAL REVERSE CHARACTERISTICS**



**FIG.6 – TYPICAL TRANSIENT THERMAL IMPEDANCE**

