

# US2A-US2M



Surface Mount Rectifiers

**REVERSE VOLTAGE: 50 - 1000 V**  
**FORWARD CURRENT: 2.0 A**

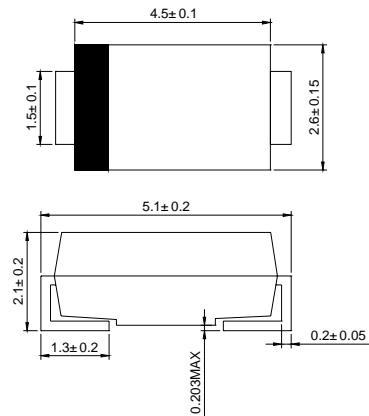
## Features

- ◇ Plastic package has underwriters laboratories flammability classification 94V-0
- ◇ For surface mount applications
- ◇ Glass passivated chip junctions
- ◇ 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

## Mechanical Data

- ◇ Case: JEDEC DO-214AC, molded plastic body over passivated chip
- ◇ Polarity: Color band denotes cathode end
- ◇ Weight: 0.002 ounces, 0.064 gram

### DO-214AC(SMA)



Dimensions in millimeters

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

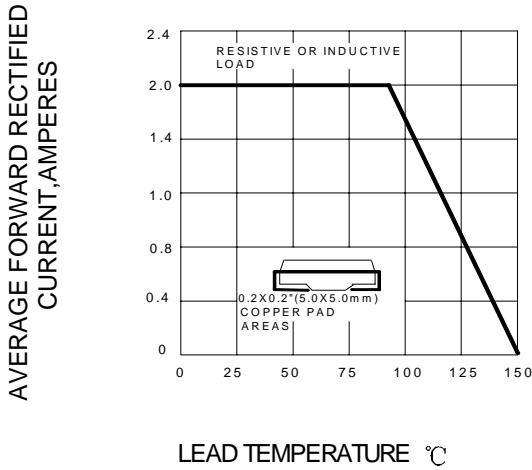
Ratings at 25°C ambient temperature unless otherwise specified

Device marking code		US2A	US2B	US2D	US2G	US2J	US2K	US2M	UNITS
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 @ $T_L=90^\circ\text{C}$	$I_{F(AV)}$	2.0							A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	50							A
Maximum instantaneous forward voltage at 2A	$V_F$	1.0				1.7			V
Maximum DC reverse current @ $T_A=25^\circ\text{C}$ at rated DC blocking voltage @ $T_A=100^\circ\text{C}$	$I_R$	10				350			$\mu\text{A}$
Maximum reverse recovery time at $I_F=0.5\text{A}$ $I_R=1.0\text{A}$ $I_{rr}=0.25\text{A}$	$t_{rr}$	50				75			ns
Typical junction capacitance at 4.0V, 1MHz	$C_J$	50				30			pF
Maximum thermal resistance (NOTE1)	$R_{\theta JA}$ $R_{\theta JL}$	50 18							$^\circ\text{C/W}$
Operating temperature range	$T_J$	-55-----+150							$^\circ\text{C}$
Storage temperature range	$T_{STG}$	-55-----+150							$^\circ\text{C}$

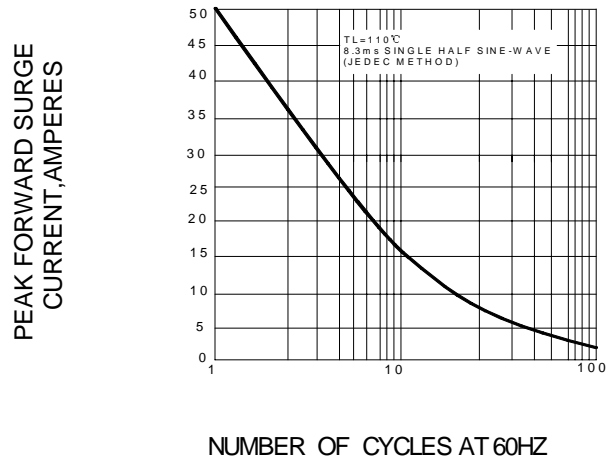
NOTE: 1.P.C.B.mounted on 0.2X0.2"(5.0X5.0mm)copper pad area

## Ratings AND Characteristic Curves

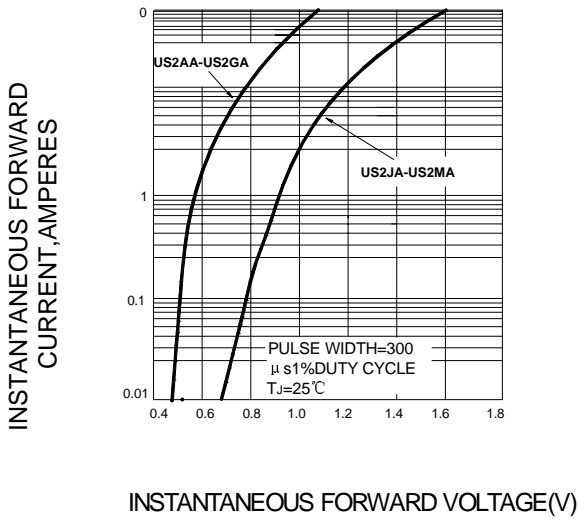
**FIG.1 – FORWARD CURRENT DERATING CURVE**



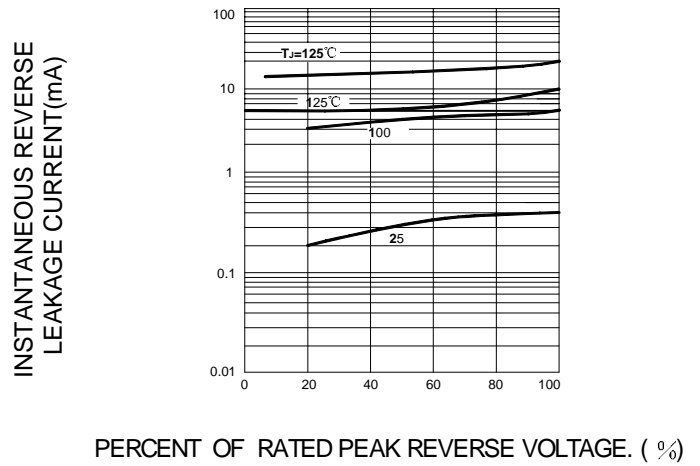
**FIG.2 – MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



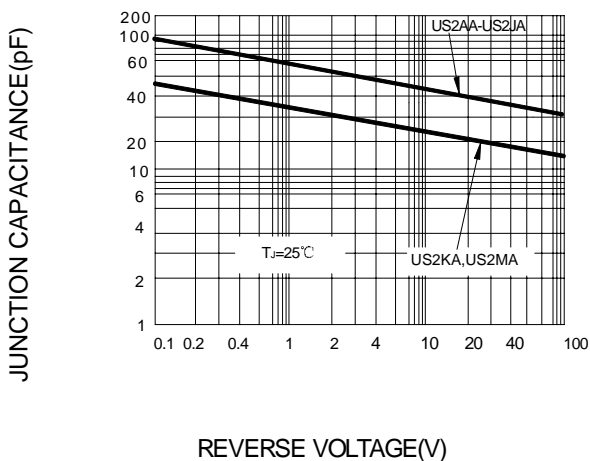
**FIG.3 – TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



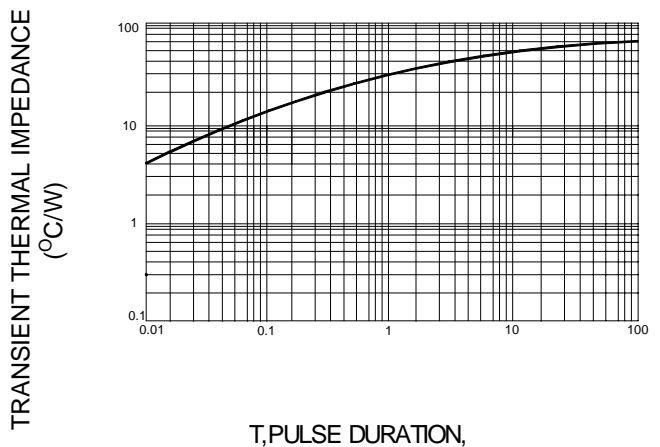
**FIG.4 – TYPICAL REVERSE CHARACTERISTICS**



**FIG.5 – TYPICAL JUNCTION CAPACITANCE**



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



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