

## HIGH EFFICIENCY RECTIFIERS

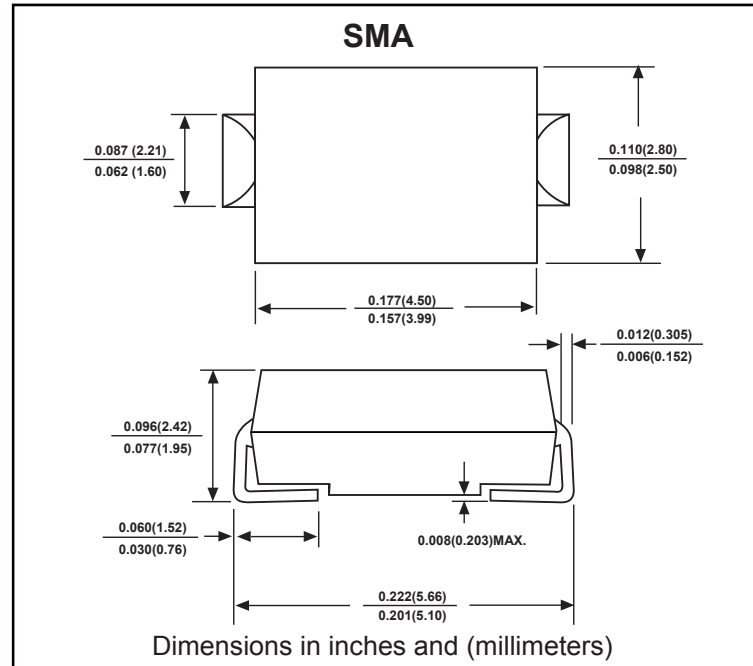
VOLTAGE RANGE: 50--- 1000 V  
CURRENT: 2.0 A

### FEATURES

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- For surface mounted applications
- Ultra fast switching for high efficiency
- Low reverse leakage
- Built-in strain relief,ideal for automated placement
- High forward surge current capability
- High temperature soldering guaranteed 250°C/10 seconds at terminals

### MECHANICAL DATA

- Case: SMA molded plastic body
- Lead:Plated axial leads, solderable per MIL-STD-750,method 2026
- Polarity: Color band denotes cathode end
- Mounting Position:Any



## MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted) Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate by 20%.

		US2A	US2B	US2D	US2G	US2J	US2K	US2M	UNITS
Maximum recurrent peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Maximum RMS voltage	$V_{RMS}$	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, 375" (9.5mm) Lead Length at $T_a=55^\circ\text{C}$	$I_{F(AV)}$	2.0							A
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	50.0							A
Maximum Instantaneous Forward Voltage at 2.0A	$V_F$	1.0		1.4		1.7			V
Maximum reverse current at rated DC blocking voltage	@ $T_A=25$	5.0							$\mu\text{A}$
	@ $T_A=100$	50.0							
Maximum reverse recovery time (Note1)	$t_{rr}$	50				75			ns
Typical junction capacitance (Note2)	$C_J$	20							pF
Typical thermal resistance (Note3)	$R_{\theta JA}$	50							$^\circ\text{C/W}$
Operating junction temperature range	$T_j$	- 55 ---- + 125							$^\circ\text{C}$
Storage temperature range	$T_{STG}$	- 55 ---- + 150							$^\circ\text{C}$

1.Reverse recovery condition  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{rr}=0.25\text{A}$

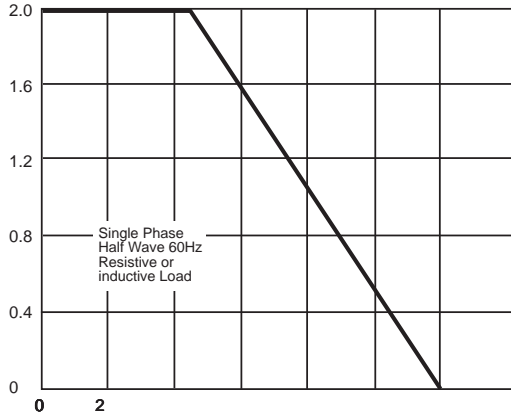
2.Measured at 1MHz and applied reverse voltage of 4.0V D.C.

3.P.C.B. mounted with 0.2x0.2" (5.0x5.0mm) copper pad areas

# RATINGS AND CHARACTERISTIC CURVES

AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

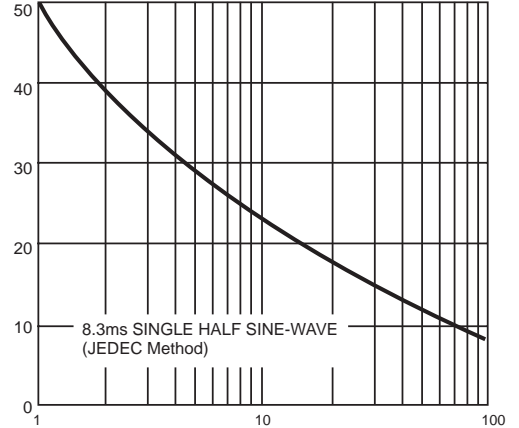
FIG. 1- FORWARD CURRENT DERATING CURVE



AMBIENT TEMPERATURE, °C

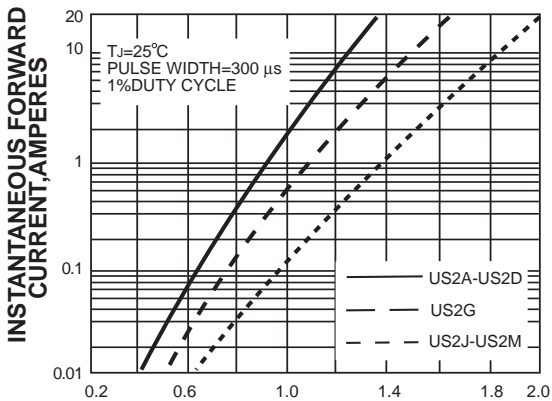
PEAK FORWARD SURGE CURRENT, AMPERES

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



NUMBER OF CYCLES AT 60 Hz

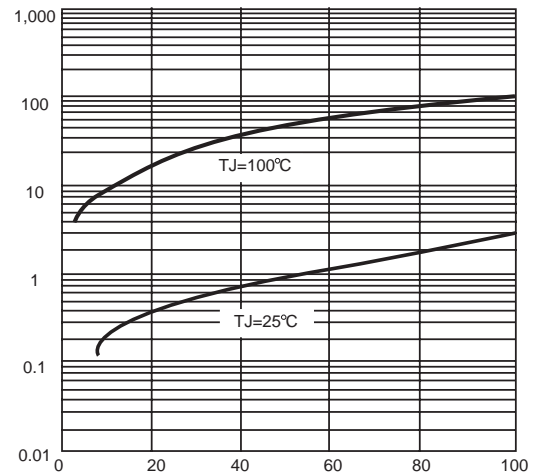
FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



INSTANTANEOUS FORWARD VOLTAGE, VOLTS

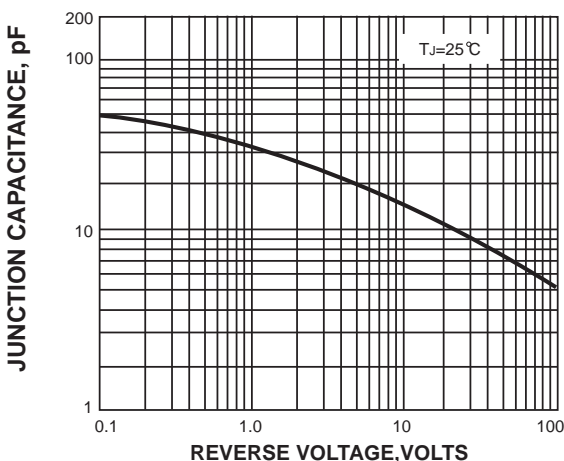
INSTANTANEOUS REVERSE CURRENT, MICROAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS



PERCENT OF PEAK REVERSE VOLTAGE, %

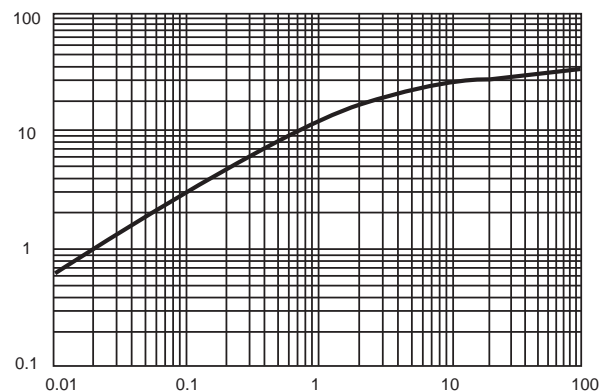
FIG. 5-TYPICAL JUNCTION CAPACITANCE



REVERSE VOLTAGE, VOLTS

TRANSIENT THERMAL IMPEDANCE, °C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



t, PULSE DURATION, sec.