



# US1A THRU US1M

## SURFACE MOUNT HIGH EFFICIENCY RECTIFIER

Reverse Voltage - 50 to 1000 Volts Forward Current - 1.0 Ampere

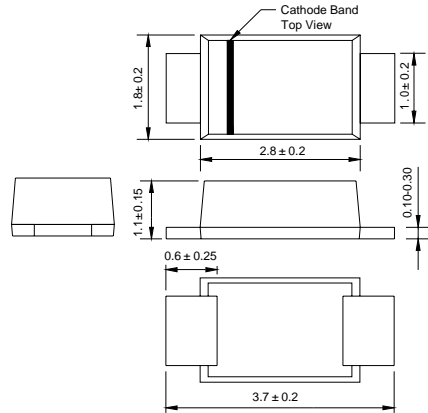
### FEATURES

Glass passivated device  
 Ideal for surface mounted applications  
 Low reverse leakage  
 Metallurgically bonded construction  
 High temperature soldering guaranteed:  
 260°C/10 seconds, 0.375" (9.5mm) lead length,  
 5 lbs. (2.3kg) tension

### MECHANICAL DATA

**Case:** JEDEC SOD-123FL molded plastic body over passivated chip  
**Terminals:** Plated axial leads, solderable per MIL-STD-750, Method 2026  
**Polarity:** Color band denotes cathode end  
**Mounting Position:** Any  
**Weight:** 0.0007 ounce, 0.02 grams

### SOD-123FL



Dimensions in millimeters

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

	SYMBOLS	US1A UA	US1B UB	US1D UD	US1G UG	US1J UJ	US1K UK	US1M UM	UNITS
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	VOLTS
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	VOLTS
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	VOLTS
Maximum average forward rectified current at $T_A=100^\circ\text{C}$ (NOTE 1)	$I_{(AV)}$				1.0				Amp
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$				30.0				Amps
Maximum instantaneous forward voltage at 1.0A	$V_F$	1.0		1.4	1.7			Volts	
Maximum DC reverse current at rated DC blocking voltage	$I_R$				5.0 100.0				$\mu\text{A}$
Maximum reverse recovery time (NOTE 1)	$t_{rr}$	50			75			ns	
Typical thermal resistance	$R_{\theta JA}$				180				K/W
Operating junction and storage temperature range	$T_J, T_{STG}$				-55 to +150				$^\circ\text{C}$

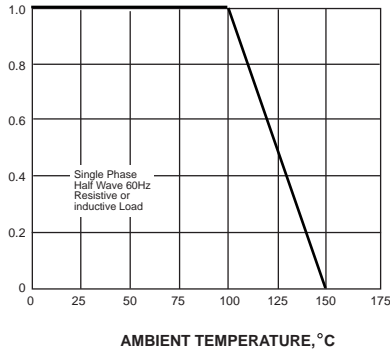
**Note:** 1. Measured with  $I_F=0.5\text{A}$ ,  $I_R=1\text{A}$ ,  $I_{rr}=0.25\text{A}$ .



# RATINGS AND CHARACTERISTIC CURVES US1A THRU US1M

AVERAGE FORWARD RECTIFIED CURRENT,  
AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



PEAK FORWARD SURGE CURRENT,  
AMPERES

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

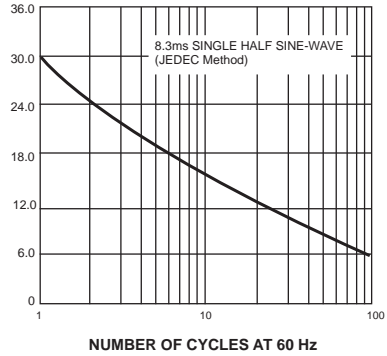
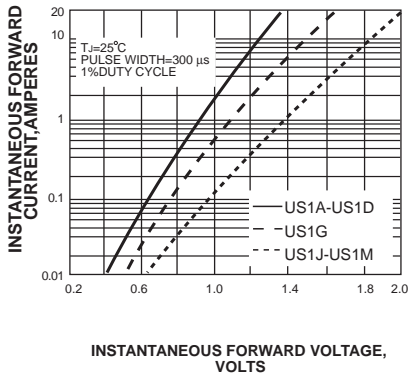


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



INSTANTANEOUS REVERSE CURRENT,  
MICROAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS

