US11PL THRU US17PL

SURFACE MOUNT ULTRA FAST RECTIFIER

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

FEATURES

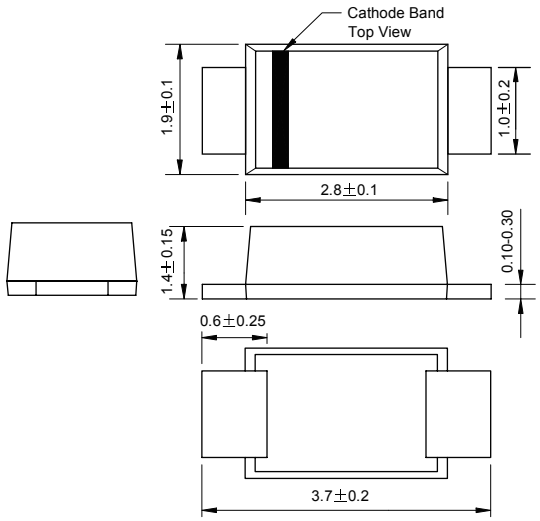
- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- For surface mounted applications
- Fast switching for high efficiency
- Low reverse leakage
- Built-in strain relief,ideal for automated placement
- High forward surge current capability
- High temperature soldering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

MECHANICAL DATA

- Case: SOD-123FL, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.017 grams

RoHS Compliant

SOD-123FL



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

Characteristic	Symbol	US11PL	US12PL	US13PL	US14PL	US15PL	US16PL	US17PL	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	50	100	200	400	600	800	1000	V
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	140	280	420	560	700	V
Average Rectified Output Current @T_L = 75°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 @I_F = 1.0A	V_{FM}	1.0			1.3	1.7			V
Peak Reverse Current @T_A = 25°C At Rated DC Blocking Voltage @T_A = 125°C	I_{RM}	5.0 200							μA
Reverse Recovery Time (Note 1)	t_{rr}	50				75			nS
Typical Junction Capacitance (Note 2)	C_J	10							pF
Thermal Resistance Junction to Ambient (Note 3) Thermal Resistance Junction to Ambient (Note 4) Thermal Resistance Junction to Lead (Note 3) Thermal Resistance Junction to Lead (Note 4)	$R_{\theta JA}$ $R_{\theta JA}$ $R_{\theta JL}$ $R_{\theta JL}$	325 82 26 21							°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150							°C

Note: 1. Measured with I_F = 0.5A, I_R = 1.0A, I_{RR} = 0.25A.
2. Measured at 1.0 MHz and applied reverse voltage of 4.0 V DC.
3. Mounted on FR-4 P.C. Board with minimum recommended pad size.
4. Mounted on FR-4 P.C. Board with 700mm^2 copper pads.

US11PL THRU US17PL

RATINGS AND CHARACTERISTIC CURVES

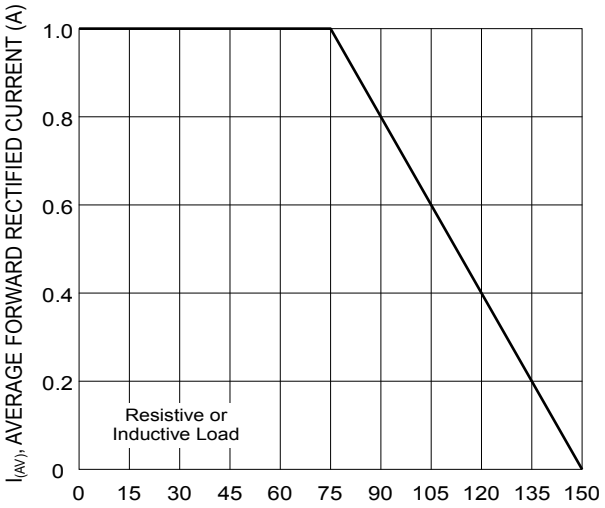


Fig. 1 Forward Current Derating Curve

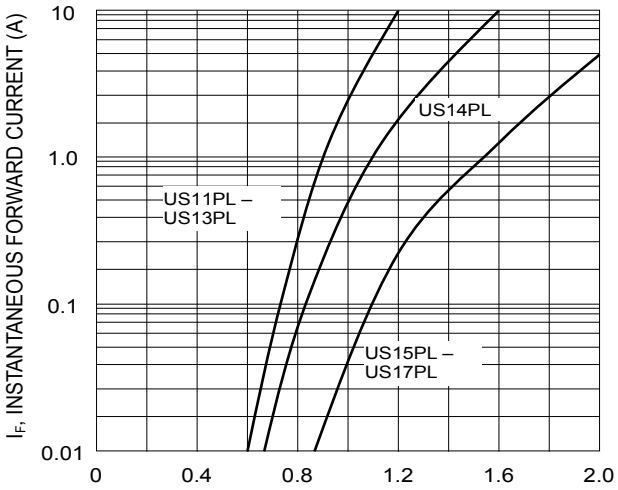


Fig. 2 Typical Forward Characteristics

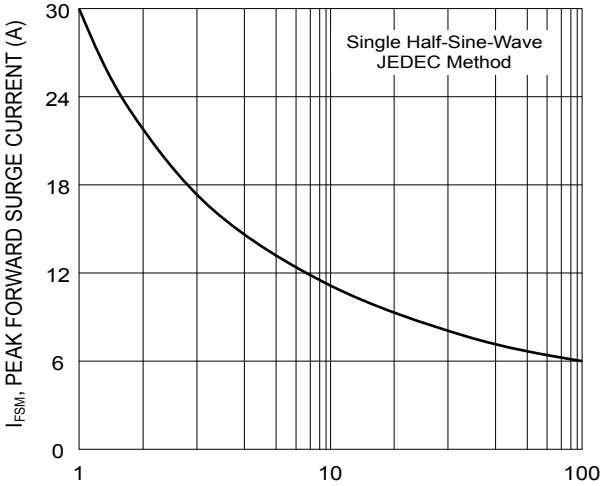


Fig. 3 Forward Surge Current Derating Curve

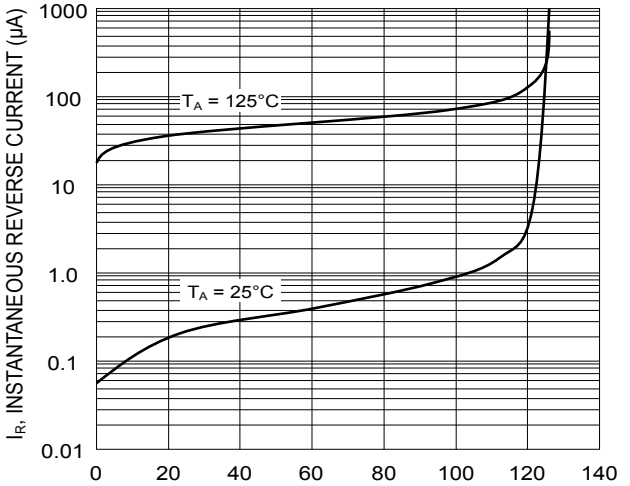


Fig. 4 Typical Reverse Characteristics

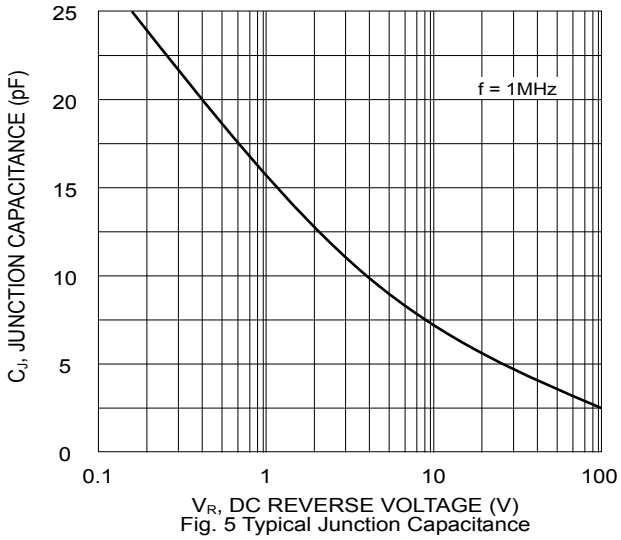


Fig. 5 Typical Junction Capacitance