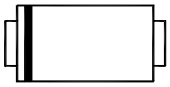
TRENCH SCHOTTKY RECTIFIER

FEATURES

- Forward Voltage and Low Leakage
- Fast Switching with Exceptional Temperature Stability
- Low Power Loss and Lower Operating Temperature
- Higher Efficiency for Achieving Regulatory Compliance
- Low Thermal Resistance
- High Surge Capability
- Fine Lithography Trench−based Schottky Technology for Very Low

SOD-123FL



Cathode

MECHANICAL DATA

- Case: SOD-123FL Molded plastic
- Terminals: Pure tin plated, lead free
- Polarity: Indicated by cathode band
- Weight:11.5 mg (approx.)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

Parameter	Symbol	Value	Unit
Peak Repetitive Peak reverse voltage	V_{RRM}	60	V
Working Peak Reverse Voltage	V_{RWM}	60	V
DC Blocking	V_R	60	V
Average Rectified Output Current	I_O	2	A
Peak forward surge current (Note 1)	I_{FSM}	20	A
Thermal Resistance Junction to Ambient Air	$R_{\theta JA}$	85	°C /W
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +150	°C

Note 1:Surge Applied at Rated Load Conditions Halfwave, Single Phase, 60 Hz

Electrical Characteristics @TA=25°C unless otherwise specified

Parameter	Symbol	Value	Unit
Forward voltage (I_F = 1.0 A, T_J = 25°C)	V_{F1}	0.55	V
Forward voltage (I_F = 2.0 A, T_J = 25°C)	V_{F2}	0.65	V
Forward voltage (I_F = 1.0 A, T_J = 125°C)	V_{F3}	0.48	V
Forward voltage (I_F = 2.0 A, T_J = 25°C)	V_{F4}	0.57	V
Reverse current (T_J = 25°C)	I_{R1}	50	μA
Reverse current (T_J = 125°C)	I_{R2}	5	mA

Pulse Test: Pulse Width ≤ 380 uS, Duty Cycle ≤ 2.0%.

Typical Characteristics

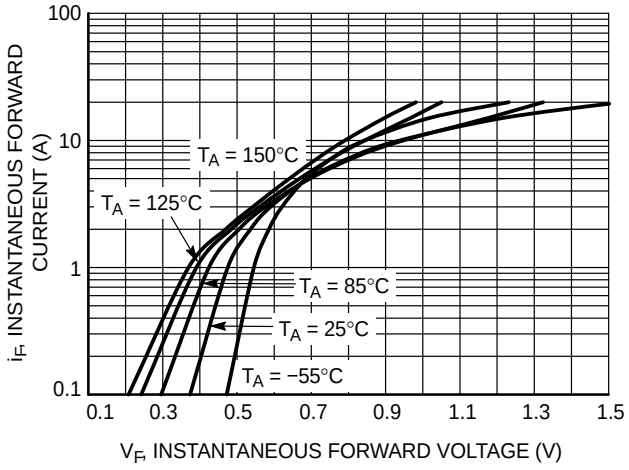


Figure 1. Typical Instantaneous Forward Characteristics

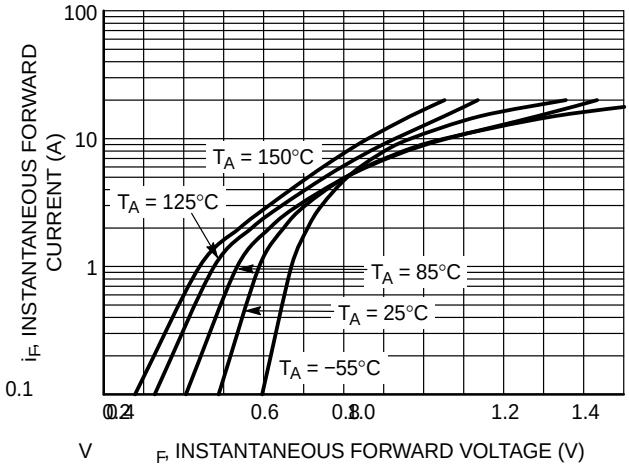


Figure 2. Maximum Instantaneous Forward Characteristics

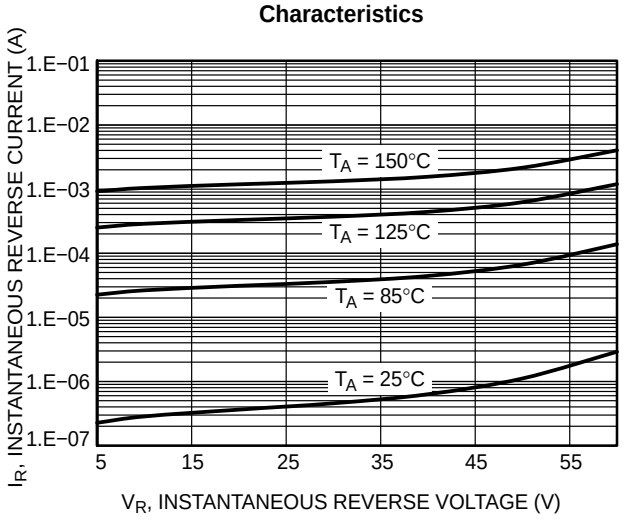


Figure 3. Typical Reverse Characteristics

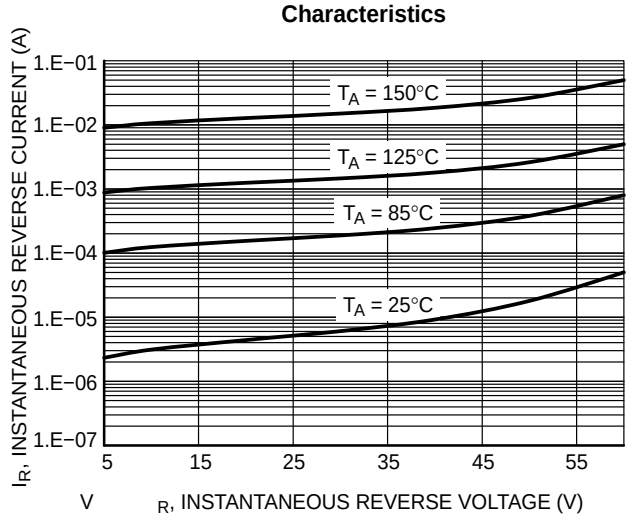


Figure 4. Maximum Reverse Characteristics

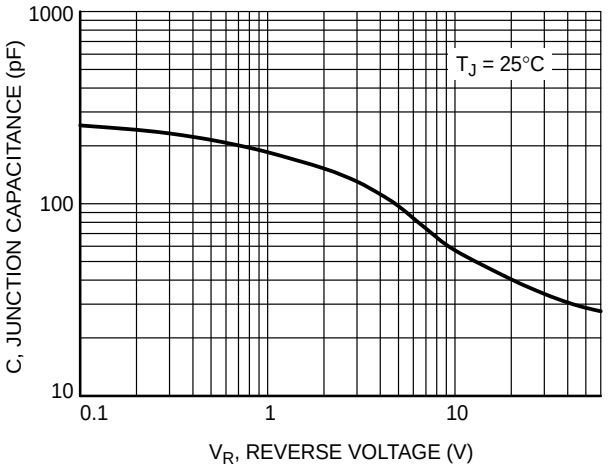


Figure 5. Typical Junction Capacitance

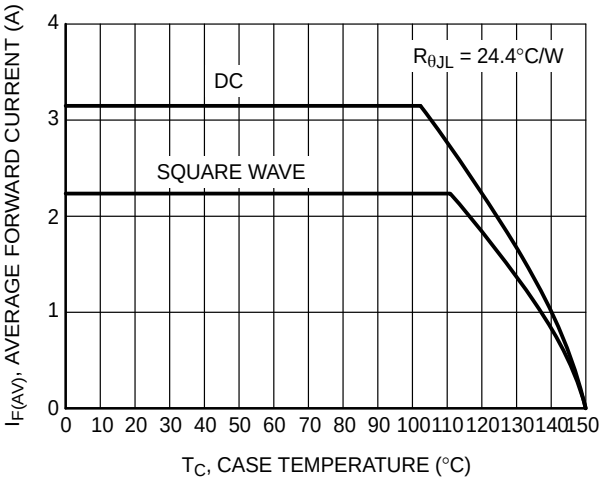
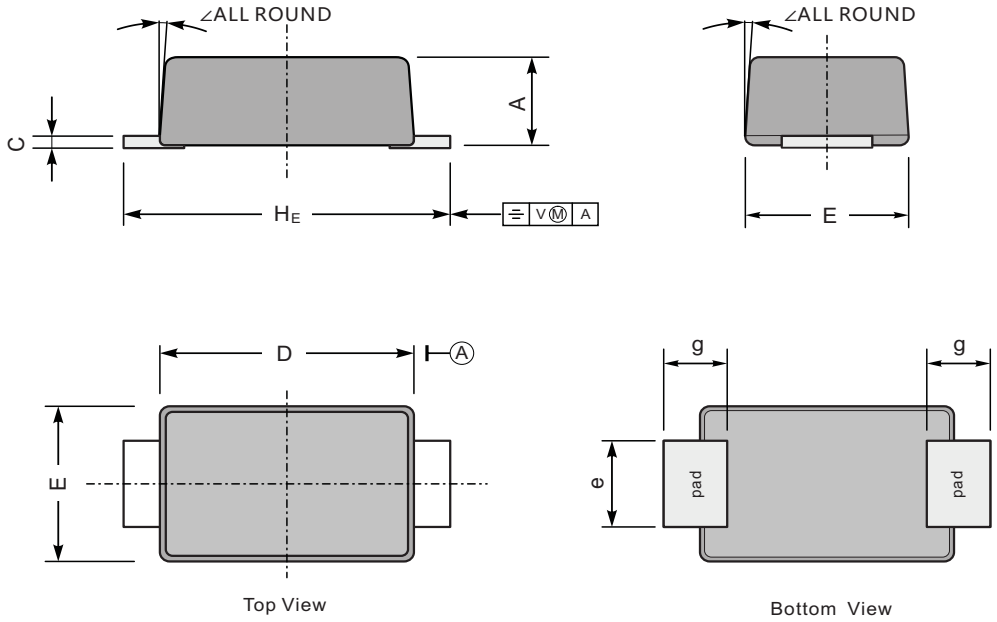


Figure 6. Current Derating

SOD-123FL Package Outline Dimensions



UNIT		A	C	D	E	e	g	H_E	∠
mm	max	1.1	0.20	2.9	1.9	1.1	0.9	3.8	7°
	min	0.9	0.12	2.6	1.7	0.8	0.7	3.5	
mil	max	43	7.9	114	75	43	35	150	
	min	35	4.7	102	67	31	28	138	