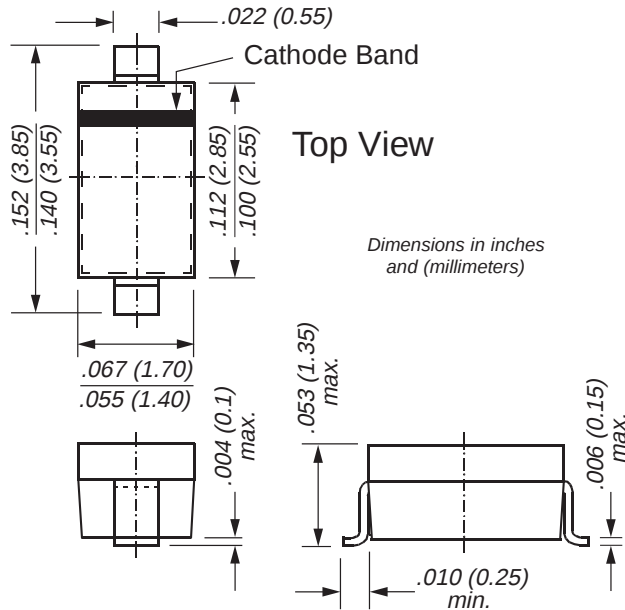
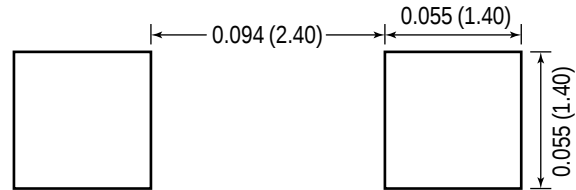


**SOD-123**

Schottky Diodes

**Mounting Pad Layout**

Features

- For general purpose applications
- These diodes feature very low turn-on voltage and fast switching. These devices are protected by a PN junction guard ring against excessive voltage, such as electrostatic discharges.
- These diodes are also available in the DO-35 case with the type designations BAT42 to BAT43 and in the MiniMELF case with the type designations LL42 to LL43.

Mechanical Data

Case: SOD-123 Plastic Package**Weight:** approx. 0.01g**Marking Codes:** BAT42W = L2
BAT43W = L3**Packaging Codes/Options:**

D3/10K per 13" reel (8mm tape), 30K/box

D4/3K per 7" reel (8mm tape), 30K/box

Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameters	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V _{RRM}	30	V
Forward Continuous Current at T _{amb} = 25°C	I _F	200	mA
Repetitive Peak Forward Current at t _p < 1s, δ < 0.5, T _{amb} = 25°C	I _{FRM}	500	mA
Surge Forward Current at t _p < 10 ms, T _{amb} = 25°C	I _{FSM}	4 ⁽¹⁾	A
Power Dissipation ⁽¹⁾ at T _{amb} = 65°C	P _{tot}	200 ⁽¹⁾	mW
Thermal Resistance Junction to Ambient Air	R _{θJA}	300 ⁽¹⁾	°C/W
Junction Temperature	T _j	125	°C
Ambient Operating Temperature Range	T _{amb}	-55 to +125	°C
Storage Temperature Range	T _s	-55 to +150	°C

Note: (1) Valid provided that electrodes are kept at ambient temperature

Electrical Characteristics (T_j = 25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Breakdown Voltage	V _{(BR)R}	I _R = 100μA (pulsed)	30	—	—	V
Leakage Current ⁽¹⁾	I _R	V _R = 25V V _R = 25V, T _j = 100°C	— —	— —	0.5 100	μA
Forward Voltage ⁽¹⁾	V _F	I _F = 200mA I _F = 10mA I _F = 50mA I _F = 2mA I _F = 15mA	— — — 0.26 —	— — — — —	1.0 0.4 0.65 0.33 0.45	V
Capacitance	C _{tot}	V _R = 1V, f = 1MHz	—	7	—	pF
Reverse Recovery Time	t _{rr}	I _F = 10mA to I _R = 10mA to I _R = 1mA, R _L = 100Ω	—	—	5	ns
Detection Efficiency	η _v	R _L = 15KΩ, C _L = 300pF, f = 45MHz, V _{RF} = 2V	80	—	—	%

Note: (1) Pulse Test t_p < 300μs, δ < 2%

Ratings and Characteristic Curves (T_A = 25°C unless otherwise noted)

Fig. 1 – Admissible Power Dissipation vs. Ambient Temperature

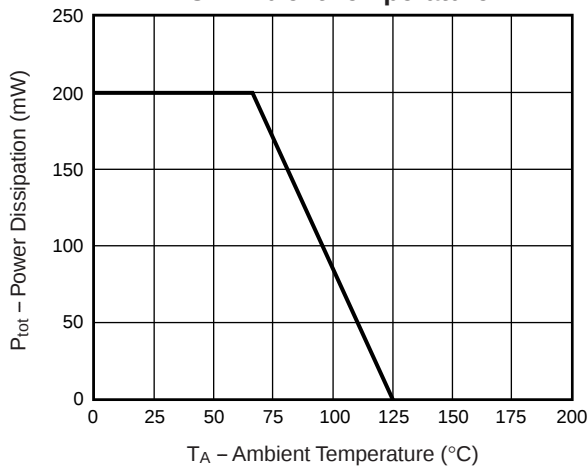


Fig. 2 – Typical Reverse Characteristics

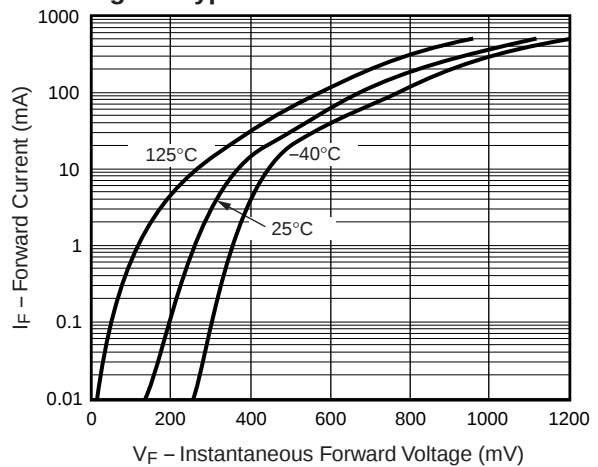


Fig. 3 – Typical Reverse Characteristics

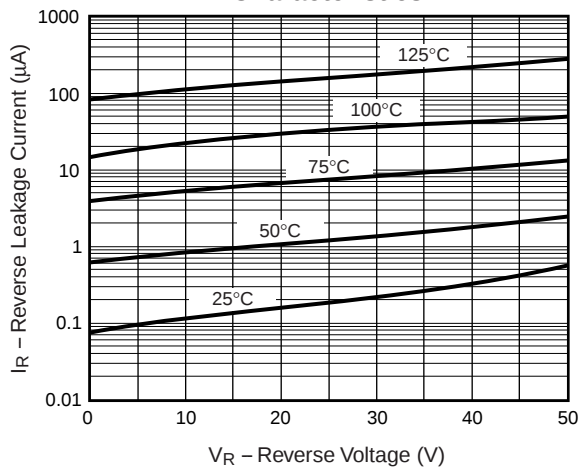


Fig. 4 – Typical Capacitance vs. Reverse Applied Voltage

