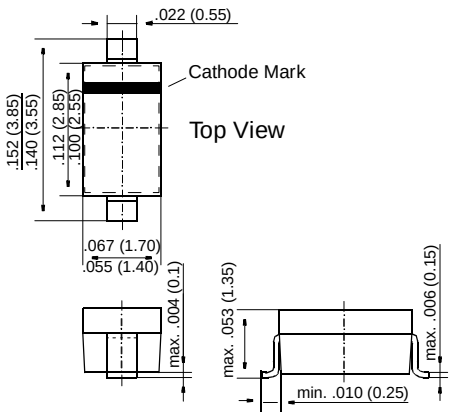
BAT42W, BAT43W

Schottky Diodes

SOD-123



Dimensions in inches and (millimeters)

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 type designations LL42 to LL43.

MECHANICAL DATA

Case: SOD-123 Plastic Case
Weight: approx. 0.01 g

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

	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 < 1 s, 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 [2)]	A
Power Dissipation[1)] at T_{amb} = 65 °C	P_{tot}	200 [2)]	mW
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

[2)] Valid provided that electrodes are kept at ambient temperature

ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

		Symbol	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage tested with 100 µA Pulses		$V_{(BR)R}$	30	–	–	V
Forward Voltage Pulse Test t_p < 300 µs, δ < 2% at I_F = 200 mA at I_F = 10 mA at I_F = 50 mA at I_F = 2 mA at I_F = 15mA	 **BAT42W** **BAT42W** **BAT43W** **BAT43W**	 V_F V_F V_F V_F V_F	 – – – 0.26 –	 – – – – –	 1 0.4 0.65 0.33 0.45	 V V V V V
Leakage Current Pulse Test t_p < 300 µs, δ < 2% at V_R = 25 V at V_R = 25 V, T_j = 100 °C		 I_R I_R	 – –	 – –	 0.5 100	 µA µA
Capacitance at V_R = 1 V, f = 1 MHz		C_{tot}	–	7	–	pF
Reverse Recovery Time from I_F = 10 mA through I_R = 10 mA to I_R = 1 mA, R_L = 100 Ω		t_{rr}	–	–	5	ns
Detection Efficiency at R_L = 15 KΩ, C_L = 300 pF, f = 45 MHz, V_{RF} = 2 V		η_v	80	–	–	%
Thermal Resistance Junction to Ambient Air		R_{thJA}	–	–	0.3 [2)]	K/mW

[2)] Valid provided that electrodes are kept at ambient temperature