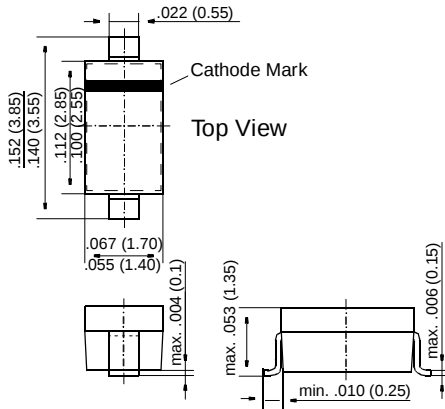


BAT42W, BAT43W

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 $T_{amb} = 25\text{ °C}$	I_F	200	mA
Repetitive Peak Forward Current at $t_p < 1\text{ s}$, $\delta < 0.5$, $T_{amb} = 25\text{ °C}$	I_{FRM}	500	mA
Surge Forward Current at $t_p < 10\text{ ms}$, $T_{amb} = 25\text{ °C}$	I_{FSM}	4 ²⁾	A
Power Dissipation ¹⁾ at $T_{amb} = 65\text{ °C}$	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

BAT42W, BAT43W

ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

	Symbol	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage tested with 100 μ A Pulses	$V_{(BR)R}$	30	—	—	V
Forward Voltage Pulse Test $t_p < 300 \mu s$, $\delta < 2\%$ at $I_F = 200 \text{ mA}$ at $I_F = 10 \text{ mA}$ at $I_F = 50 \text{ mA}$ at $I_F = 2 \text{ mA}$ at $I_F = 15 \text{ mA}$	V_F V_F V_F V_F V_F BAT42W BAT42W BAT43W BAT43W	— — — 0.26 —	— — — — —	1 0.4 0.65 0.33 0.45	V V V V V
Leakage Current Pulse Test $t_p < 300 \mu s$, $\delta < 2\%$ at $V_R = 25 \text{ V}$ at $V_R = 25 \text{ V}$, $T_j = 100 \text{ }^\circ\text{C}$	I_R I_R	— —	— —	0.5 100	μA μA
Capacitance at $V_R = 1 \text{ V}$, $f = 1 \text{ MHz}$	C_{tot}	—	7	—	pF
Reverse Recovery Time from $I_F = 10 \text{ mA}$ through $I_R = 10 \text{ mA}$ to $I_R = 1 \text{ mA}$, $R_L = 100 \Omega$	t_{rr}	—	—	5	ns
Detection Efficiency at $R_L = 15 \text{ K}\Omega$, $C_L = 300 \text{ pF}$, $f = 45 \text{ MHz}$, $V_{RF} = 2 \text{ V}$	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					