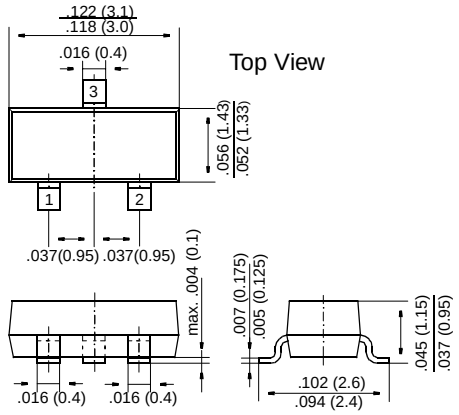
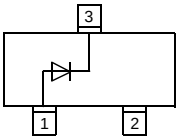
BAT54 THRU BAT54S

Schottky Diodes

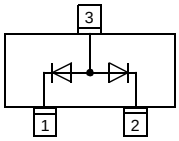
SOT-23



Dimensions in inches and (millimeters)

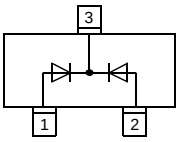


Top View

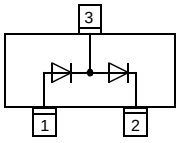


BAT54
Marking: L4

BAT54A
Marking: L42



Top View



BAT54C
Marking: L43

BAT54S
Marking: L44

FEATURES

- 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.

MECHANICAL DATA

Case: SOT-23 Plastic Package
Weight: approx. 0.008 g

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS FOR ONE DIODE

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[1)]	mA
Repetitive Peak Forward Current at T_{amb} = 25 °C	I_{FRM}	300[1)]	mA
Surge Forward Current at t_p < 1 s, T_{amb} = 25 °C	I_{FSM}	600[1)]	mA
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_S	–65 to +150	°C

[1)] Device on fiberglass substrate, see layout.

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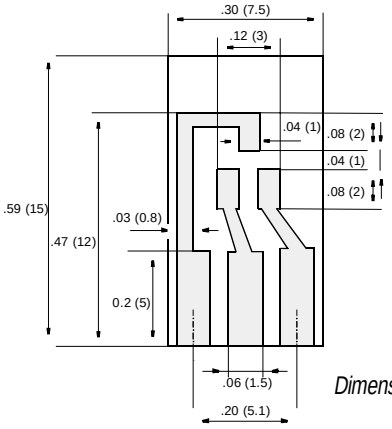
BAT54 THRU BAT54S

ELECTRICAL CHARACTERISTICS

Ratings for one diode 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 = 0.1 mA at I_F = 1 mA at I_F = 10 mA at I_F = 30 mA at I_F = 100 mA	 V_F V_F V_F V_F V_F	 – – – – –	 – – – – –	 240 320 400 500 1000	 mV mV mV mV mV
Leakage Current Pulse Test t_p < 300 μs, δ < 2% at V_R = 25 V	I_R	–	–	2	μA
Capacitance at V_F = 1 V, f = 1 MHz	C_{tot}	–	–	10	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
Thermal Resistance Junction to Ambient Air	R_{thJA}	–	–	430[1)]	K/W

[1)] Device on fiberglass substrate, see layout



Dimensions in inches (millimeters)

Layout for R_{thJA} test

Thickness: Fiberglass 0.059 in (1.5 mm)
Copper leads 0.012 in (0.3 mm)

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