



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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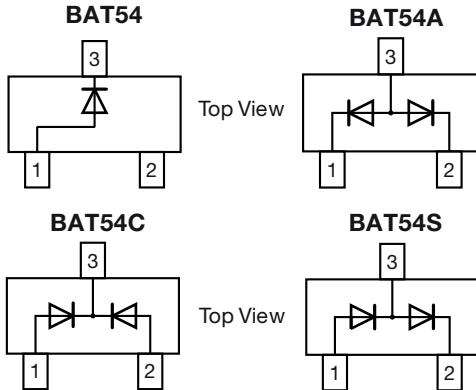
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Small Signal Schottky Diodes, Single and Dual



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
- AEC-Q101 qualified available
- Base P/N-E3 - RoHS-compliant, commercial grade
- Base P/N-HE3 - RoHS-compliant, AEC-Q101 qualified
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912


RoHS
COMPLIANT

MECHANICAL DATA

Case: SOT-23

Weight: approx. 8.8 mg

Packaging codes/options:

18/10K per 13" reel (8 mm tape), 10K/box

08/3K per 7" reel (8 mm tape), 15K/box

PARTS TABLE				
PART	ORDERING CODE	INTERNAL CONSTRUCTION	TYPE MARKING	REMARKS
BAT54	BAT54-E3-08 or BAT54-E3-18	Single diode	L4	Tape and reel
	BAT54-HE3-08 or BAT54-HE3-18			
BAT54A	BAT54A-E3-08 or BAT54A-E3-18	Dual diodes common anode	L42	
	BAT54A-HE3-08 or BAT54A-HE3-18			
BAT54C	BAT54C-E3-08 or BAT54C-E3-18	Dual diodes common cathode	L43	
	BAT54C-HE3-08 or BAT54C-HE3-18			
BAT54S	BAT54S-E3-08 or BAT54S-E3-18	Dual diodes serial	L44	
	BAT54S-HE3-08 or BAT54S-HE3-18			

ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Repetitive peak reverse voltage		V_{RRM}	30	V
Forward continuous current ⁽¹⁾		I_F	200	mA
Repetitive peak forward current ⁽¹⁾		I_{FRM}	300	mA
Surge forward current ⁽¹⁾	$t_p < 1\text{ s}$	I_{FSM}	600	mA
Power dissipation		P_{tot}	230	mW

Note
⁽¹⁾ Device on fiberglass substrate, see layout on next page

THERMAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to ambient air	Device on fiberglass substrate, see layout on next page	R_{thJA}	430	K/W
Junction temperature		T_j	125	$^{\circ}\text{C}$
Storage temperature range		T_{stg}	-65 to +150	$^{\circ}\text{C}$
Operating temperature range		T_{op}	-55 to +125	$^{\circ}\text{C}$

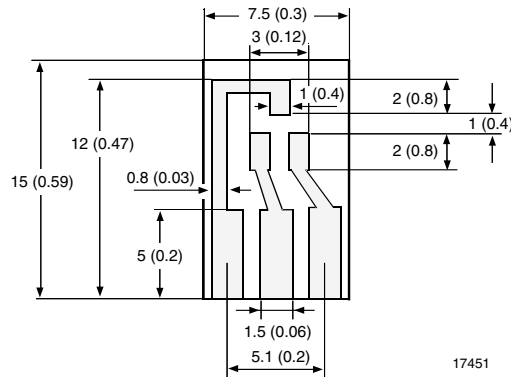
ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Reverse breakdown voltage	$I_R = 100\text{ }\mu\text{A}$ (pulsed)	$V_{(BR)}$	30			V
Leakage current	Pulsed test $t_p < 300\text{ }\mu\text{s}$, $\delta < 2\%$ at $V_R = 25\text{ V}$	I_R			2	μA
Forward voltage	$I_F = 0.1\text{ mA}$, $t_p < 300\text{ }\mu\text{s}$, $\delta < 2\%$	V_F			240	mV
	$I_F = 1\text{ mA}$, $t_p < 300\text{ }\mu\text{s}$, $\delta < 2\%$	V_F			320	mV
	$I_F = 10\text{ mA}$, $t_p < 300\text{ }\mu\text{s}$, $\delta < 2\%$	V_F			400	mV
	$I_F = 30\text{ mA}$, $t_p < 300\text{ }\mu\text{s}$, $\delta < 2\%$	V_F			500	mV
	$I_F = 100\text{ mA}$, $t_p < 300\text{ }\mu\text{s}$, $\delta < 2\%$	V_F			800	mV
Diode capacitance	$V_R = 1\text{ V}$, $f = 1\text{ MHz}$	C_D			10	pF
Reverse recovery time	$I_F = 10\text{ mA}$ to $I_R = 10\text{ mA}$, $i_R = 1\text{ mA}$, $R_L = 100\text{ }\Omega$	t_{rr}			5	ns

LAYOUT FOR R_{thJA} TEST

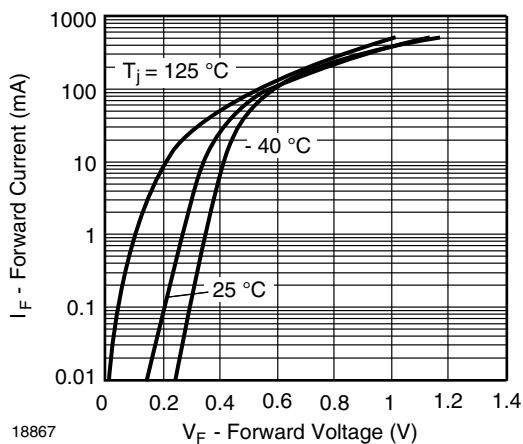
Thickness:

Fiberglass 15 mm (0.059")

Copper leads 0.3 mm (0.012")

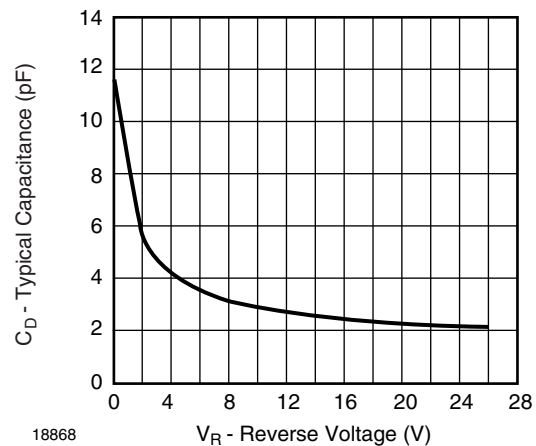


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TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)


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Fig. 1 - Typical Forward Voltage Forward Current vs. Various Temperatures



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 Fig. 2 - Diode Capacitance vs. Reverse Voltage V_R

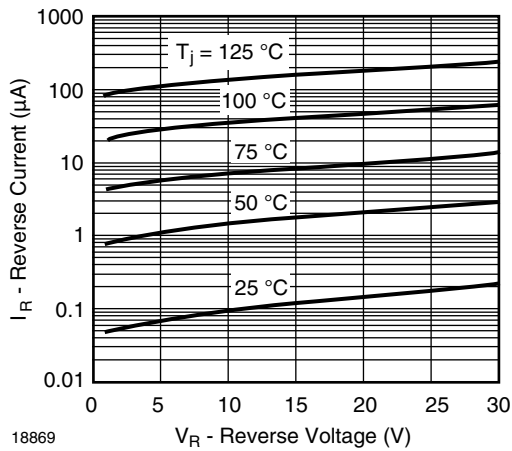
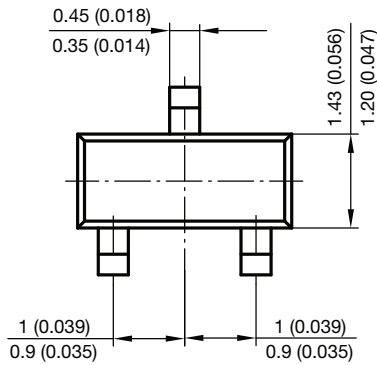
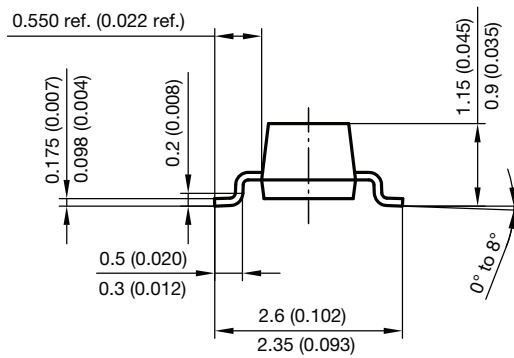
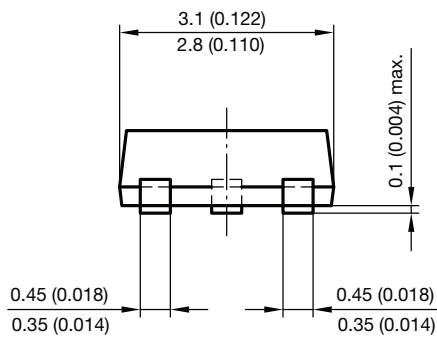
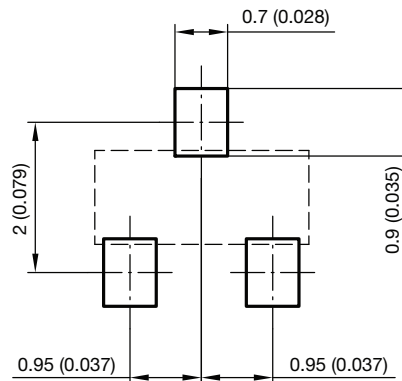


Fig. 3 - Typical Variation of Reverse Current vs. Various Temperatures

PACKAGE DIMENSIONS in millimeters (inches): SOT-23



Foot print recommendation:



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