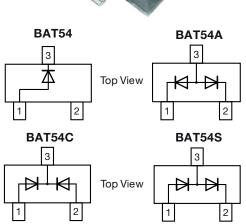


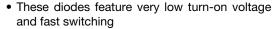
Vishay Semiconductors

Small Signal Schottky Diodes, Single and Dual





FEATURES





 These devices are protected by a PN junction guard ring against excessive voltage, such as electrostatic discharges



• AEC-Q101 qualified available

COMPLIAN

- 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 <u>www.vishay.com/doc?99912</u>

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		
	BAT54-HE3-08 or BAT54-HE3-18	Sirigle diode	L 4		
BAT54A	BAT54A-E3-08 or BAT54A-E3-18	Dual diodes common anode	L42		
	BAT54A-HE3-08 or BAT54A-HE3-18	Dual diodes common anode		Tana and real	
BAT54C	BAT54C-E3-08 or BAT54C-E3-18	Dual diodes common cathode	L43	Tape and reel	
	BAT54C-HE3-08 or BAT54C-HE3-18	Dual diodes common cathode	L43		
BAT54S	BAT54S-E3-08 or BAT54S-E3-18	Dual diodes serial	L44		
	BAT54S-HE3-08 or BAT54S-HE3-18	Dual diodes serial	L44		

ABSOLUTE MAXIMUM RATINGS (T _{amb} = 25 °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 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 °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		Tj	125	°C	
Storage temperature range		T _{stg}	-65 to +150	°C	
Operating temperature range		T _{op}	-55 to +125	°C	



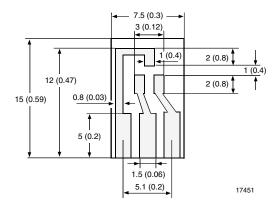
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ELECTRICAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Reserve breakdown voltage	I _R = 100 μA (pulsed)	V _(BR)	30			V
Leakage current	Pulsed test t_p < 300 µs, δ <2 % at V_R = 25 V	I _R			2	μA
	I_F = 0.1 mA, t_p < 300 $\mu s,\delta < 2$ %	V _F			240	mV
	I_F = 1 mA, t_p < 300 μ s, δ < 2 %	V _F			320	mV
Forward voltage	I_F = 10 mA, t_p < 300 μ s, δ < 2 %	V _F			400	mV
	I_F = 30 mA, t_p < 300 μ s, δ < 2 %	V _F			500	mV
	I_F = 100 mA, t_p < 300 μ s, δ < 2 %	V _F			800	mV
Diode capacitance	V _R = 1 V, f = 1 MHz	C _D			10	pF
Reserve recovery time	I_F = 10 mA to I_R = 10 mA, I_R = 1 mA, R_L = 100 Ω	t _{rr}			5	ns

LAYOUT FOR RthJA TEST

Thickness: Fiberglas 15 mm (0.059") Copper leads 0.3 mm (0.012")



TYPICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

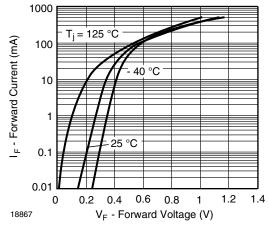


Fig. 1 - Typical Forward Voltage Forward Current vs. Various Temperatures

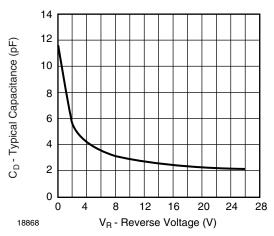


Fig. 2 - Diode Capacitance vs. Reverse Voltage V_R

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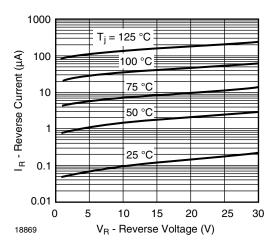
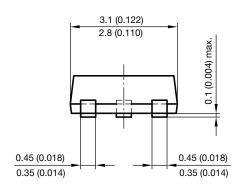
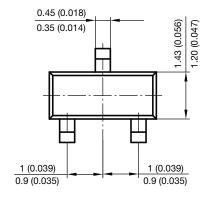


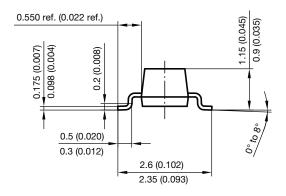
Fig. 3 - Typical Variation of Reverse Current vs. Various Temperatures

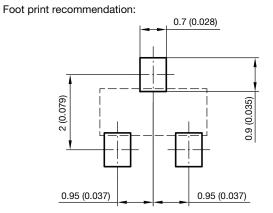
PACKAGE DIMENSIONS in millimeters (inches): SOT-23





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