

200mA, 30V Schottky Barrier Diode

FEATURES

- Fast switching speed
- Low forward voltage
- Surface mount device type
- Ultra high-speed switching
- Voltage clamping
- Protection circuits
- High temperature soldering guaranteed: 260°C/10s
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
I_F	200	mA
V_{RRM}	30	V
I_{FSM}	600	mA
$T_J \text{ MAX}$	125	°C
Package	SOT-323	



RoHS
COMPLIANT

**HALOGEN
FREE**

APPLICATIONS

- Voltage clamping
- Ultra high-speed switching
- Reverse polarity protection



SOT-323

MECHANICAL DATA

- Case: SOT-323
- Weight: 5.00mg (approximately)

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	VALUE	UNIT
Repetitive peak reverse voltage	V_{RRM}	30	V
Forward current	I_F	200	mA
Power dissipation	P_D	200	mW
Peak Forward Surge Current ($t_p = 10\text{ms}$)	I_{FSM}	600	mA
Repetitive Peak Forward Current	I_{FRM}	300	mA
Junction temperature	T_J	125	°C
Storage temperature	T_{STG}	-55 to +150	°C

THERMAL PERFORMANCE

PARAMETER	SYMBOL	TYP	UNIT
Junction-to-ambient thermal resistance	$R_{\Theta JA}$	625	°C/W

ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ C$ unless otherwise noted)

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward Voltage	$I_F = 0.1\text{mA}$	V_F	-	240	mV
	$I_F = 1.0\text{mA}$		-	320	mV
	$I_F = 10\text{mA}$		-	400	mV
	$I_F = 30\text{mA}$		-	500	mV
	$I_F = 100\text{mA}$		-	1000	mV
Reverse current	$V_R = 25\text{V}$	I_R	-	2	uA
Junction capacitance	$V_R = 1\text{V}, f = 1.0\text{MHz}$	C_J	-	10	pF
Reverse Recovery Time	$I_F = 10 \text{ mA through}$ $I_R = 10\text{mA to } I_R = 1\text{mA},$ $R_L = 100 \Omega$	t_{rr}	-	5	ns

ORDERING AND MARKING INFORMATION

ORDERING CODE ⁽¹⁾	MARKING	PACKAGE	PACKING
BAT54W RFG	L4	SOT-323	3K / 7" Reel
BAT54AW RFG	L42	SOT-323	3K / 7" Reel
BAT54CW RFG	L43	SOT-323	3K / 7" Reel
BAT54SW RFG	L44	SOT-323	3K / 7" Reel
BAT54W-B0 RFG	L4	SOT-323	3K / 7" Reel
BAT54AW-B0 RFG	L42	SOT-323	3K / 7" Reel
BAT54CW-B0 RFG	L43	SOT-323	3K / 7" Reel
BAT54SW-B0 RFG	L44	SOT-323	3K / 7" Reel

Notes:

1. "G" means green compound (halogen free)

CHARACTERISTICS CURVES

($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig.1 Typical Forward Characteristics

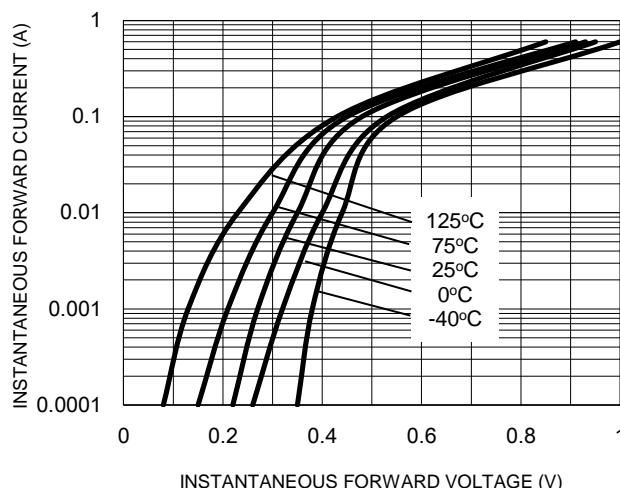


Fig.2 Typical Reverse Characteristics

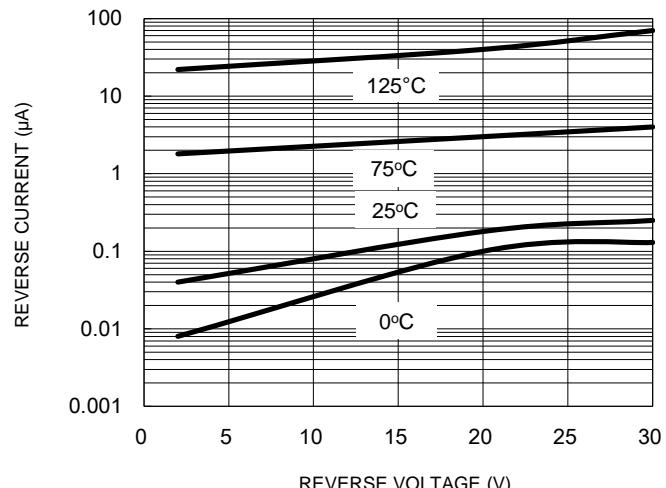


Fig.3 Power Dissipation Curve

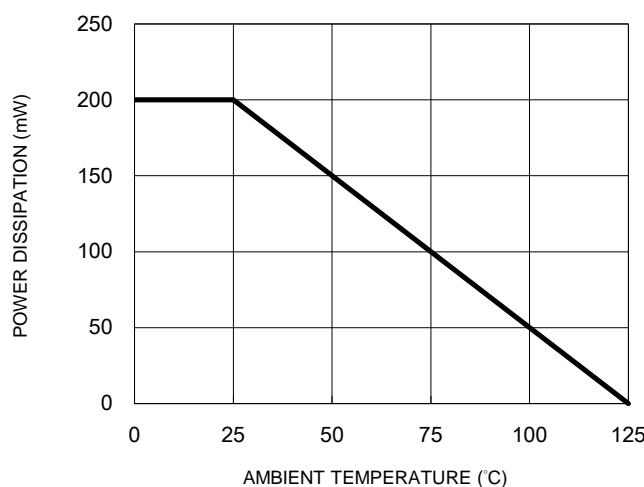
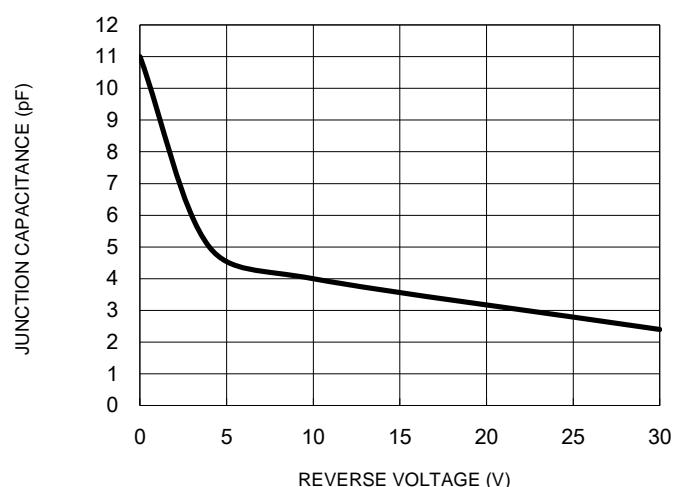
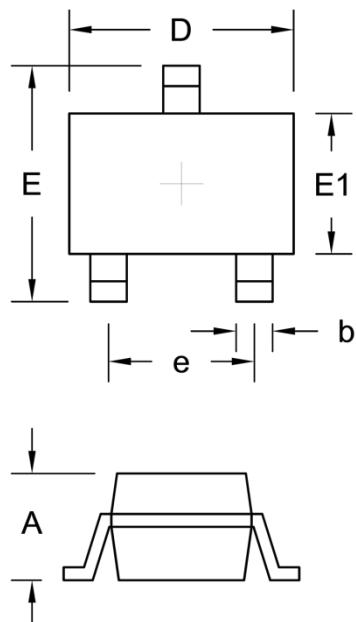


Fig.4 Typical Junction Capacitance



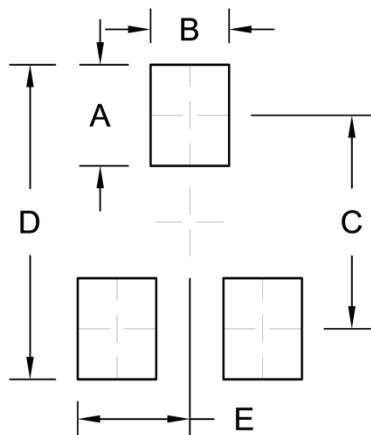
PACKAGE OUTLINE DIMENSIONS

SOT-323



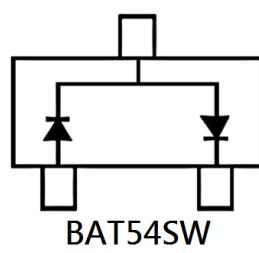
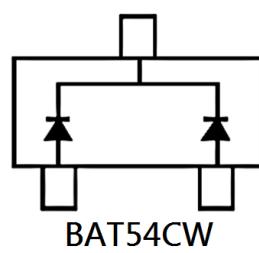
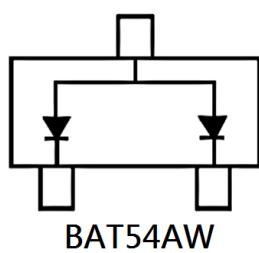
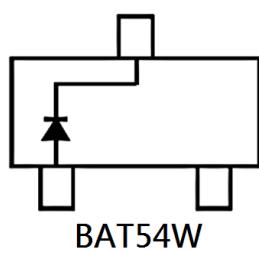
DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	0.80	1.10	0.031	0.043
b	0.25	0.40	0.010	0.016
D	1.80	2.20	0.071	0.087
E	1.80	2.40	0.071	0.094
E1	1.15	1.35	0.045	0.053
e	1.30 (TYP)		0.051 (TYP)	

SUGGESTED PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
A	0.90	0.035
B	0.70	0.028
C	1.90	0.075
D	2.80	0.110
E	1.00	0.039

PIN CONFIGURATION



Notice

Specifications of the products displayed herein are subject to change without notice. TSC or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Purchasers are solely responsible for the choice, selection, and use of TSC products and TSC assumes no liability for application assistance or the design of Purchasers' products.

Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in TSC's terms and conditions of sale for such products, TSC assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of TSC products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify TSC for any damages resulting from such improper use or sale.