

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
$T_{J\ MAX}$	125	°C
Package	SOT-323	



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 ($T_A = 25^\circ\text{C}$ 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

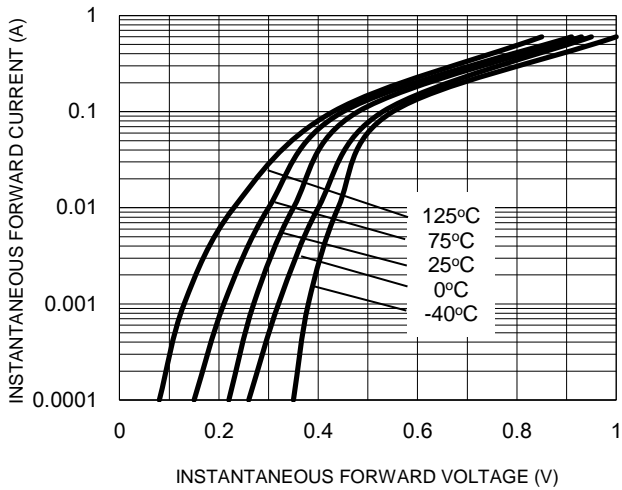


Fig.2 Typical Reverse Characteristics

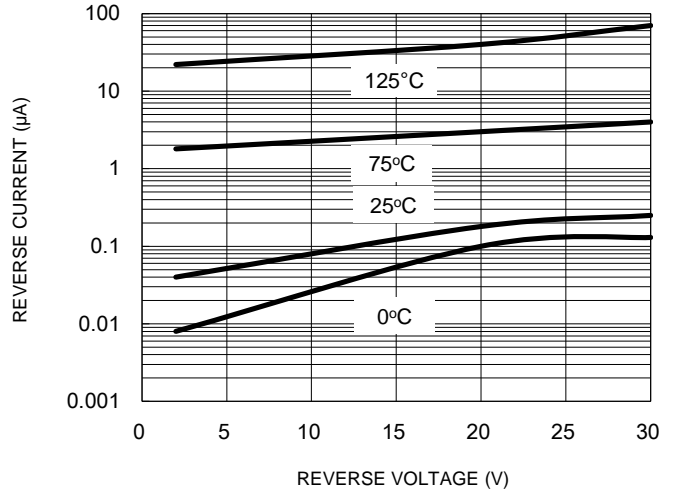


Fig.3 Power Dissipation Curve

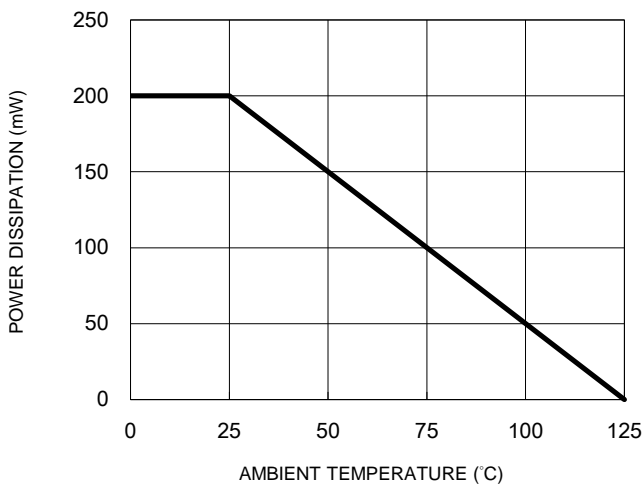
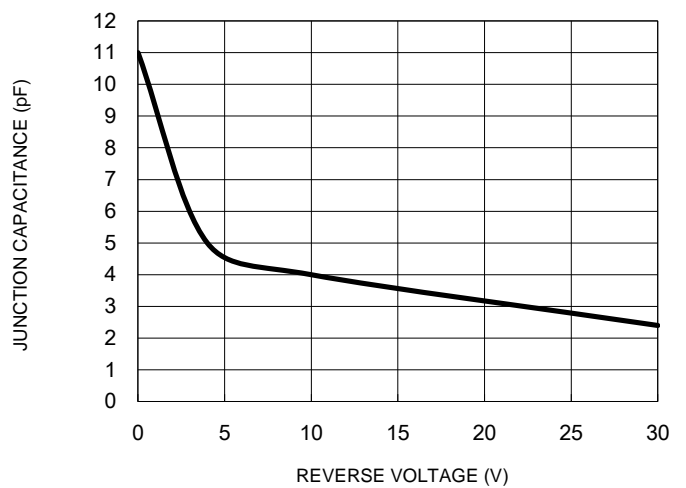
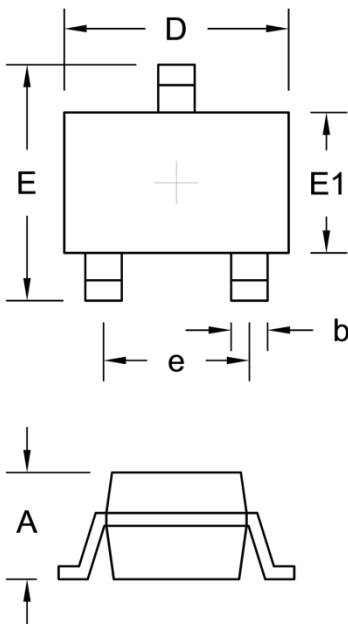


Fig.4 Typical Junction Capacitance



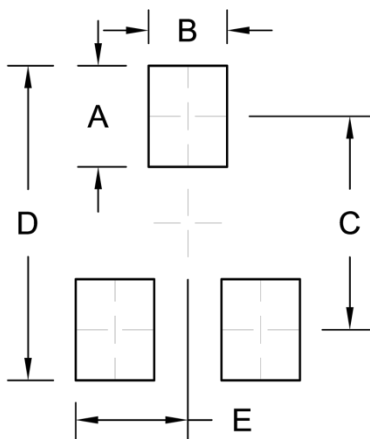
PACKAGE OUTLINE DIMENSIONS

SOT-323



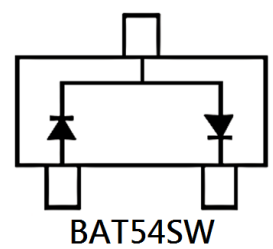
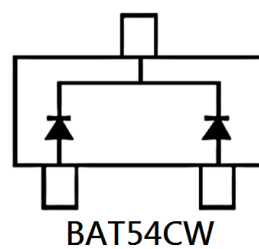
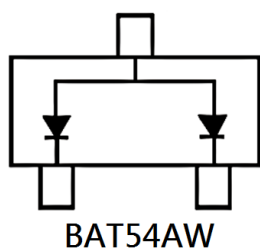
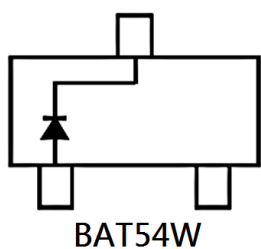
DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	0.80	1.10	0.031	0.043
b	0.25	0.40	0.010	0.016
D	1.80	2.20	0.071	0.087
E	1.80	2.40	0.071	0.094
E1	1.15	1.35	0.045	0.053
e	1.30 (TYP)		0.051 (TYP)	

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



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