

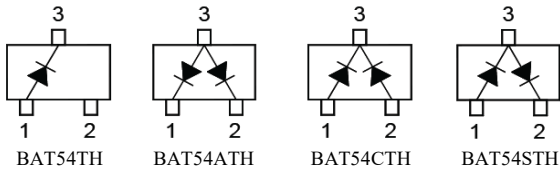


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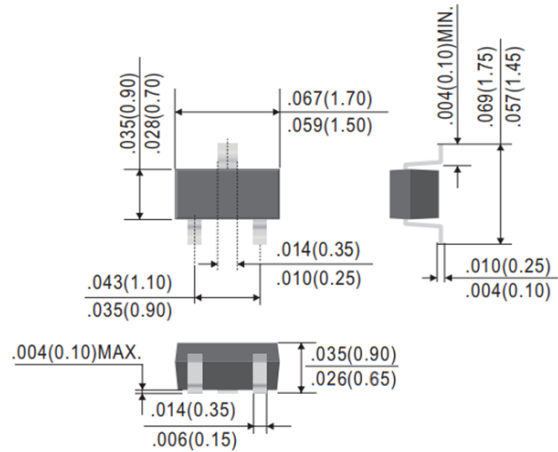
SCHOTTKY BARRIER DIODE

FEATURES

- Low forward voltage
- Suffix "H" indicates Halogen-free parts, ex. BAT54TH.



SOT-523



Dimensions in inch (millimeter)

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

Parameter	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	30	V
Reverse voltage	V_R	30	V
Forward Current	I_F	200	mA
Peak Forward Surge Current ($t_p = 10$ ms)	I_{FSM}	600	mA
Total Power Dissipation	P_{tot}	150	mW
Thermal Resistance from Junction Ambient	R_{thJA}	667	$^\circ\text{C} / \text{W}$
Junction Temperature	T_j	125	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-65 to +150	$^\circ\text{C}$

Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Conditions	Symbol	Min	Max	Unit
Forward voltage	$I_F = 0.1\text{mA}$	V_F	-	240	mV
	$I_F = 1\text{mA}$		-	320	
	$I_F = 10\text{mA}$		-	400	
	$I_F = 30\text{mA}$		-	500	
	$I_F = 100\text{mA}$		-	1000	
Reverse Breakdown Voltage	$I_R = 100\mu\text{A}$	$V_{BR(R)}$	30	-	V
Reverse Current	$V_R = 25\text{V}$	I_R	-	2	μA
Diode Capacitance	$V_R = 1\text{V}$, $f = 1\text{MHz}$	C_d	-	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



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RATINGS AND CHARACTERISTIC CURVES

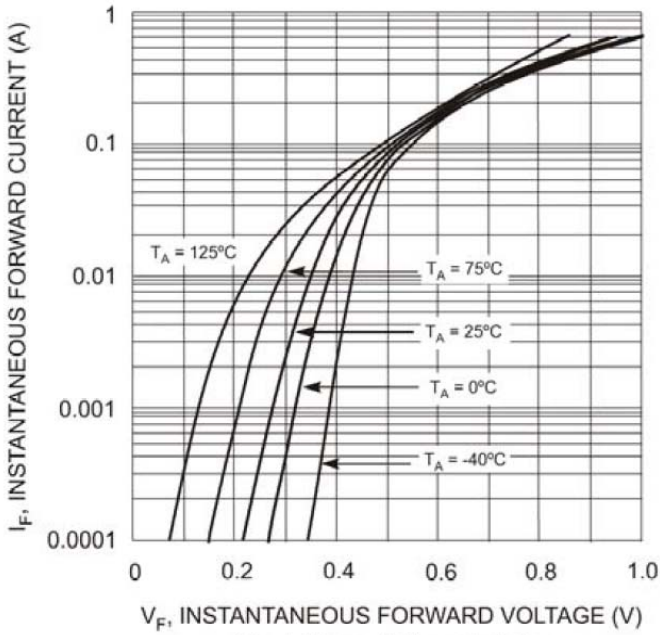


Fig. 1 Forward Characteristics

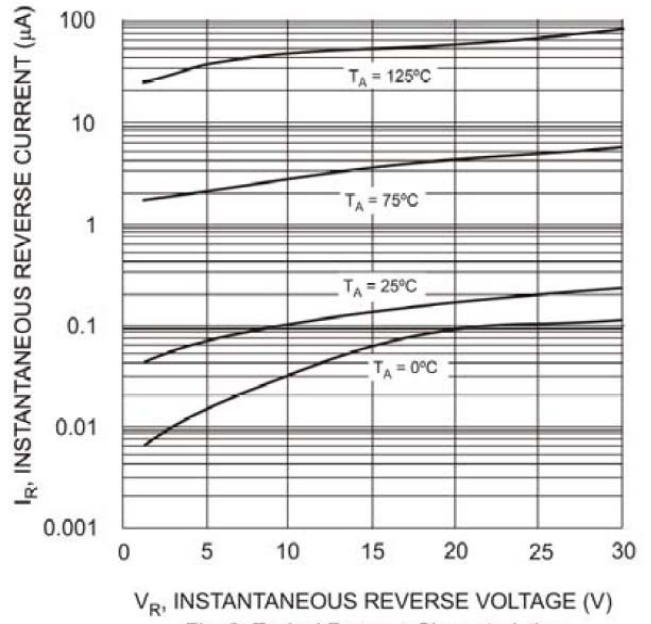


Fig. 2 Typical Reverse Characteristics

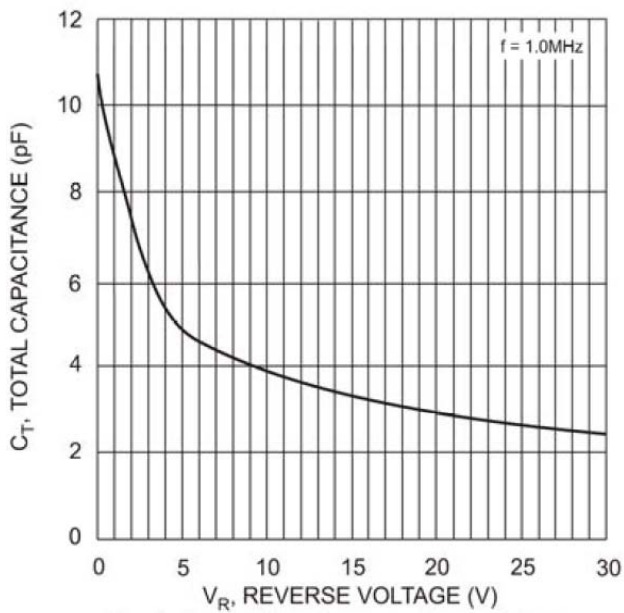


Fig. 3 Typical Capacitance vs. Reverse Voltage

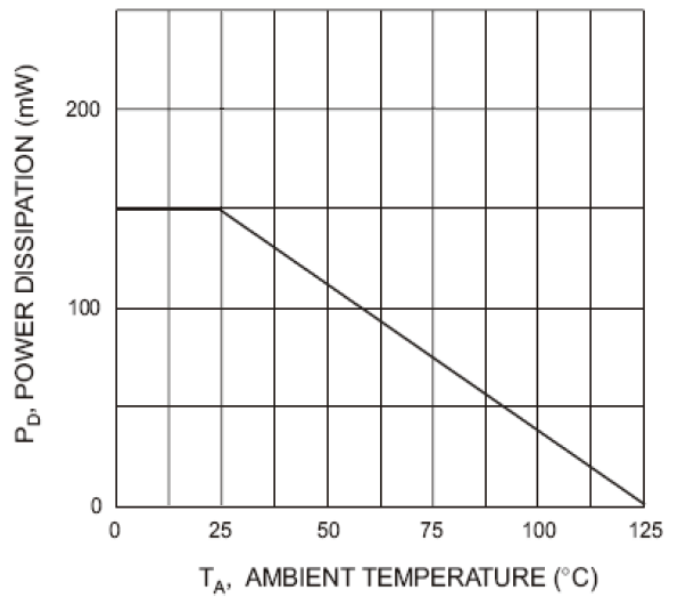


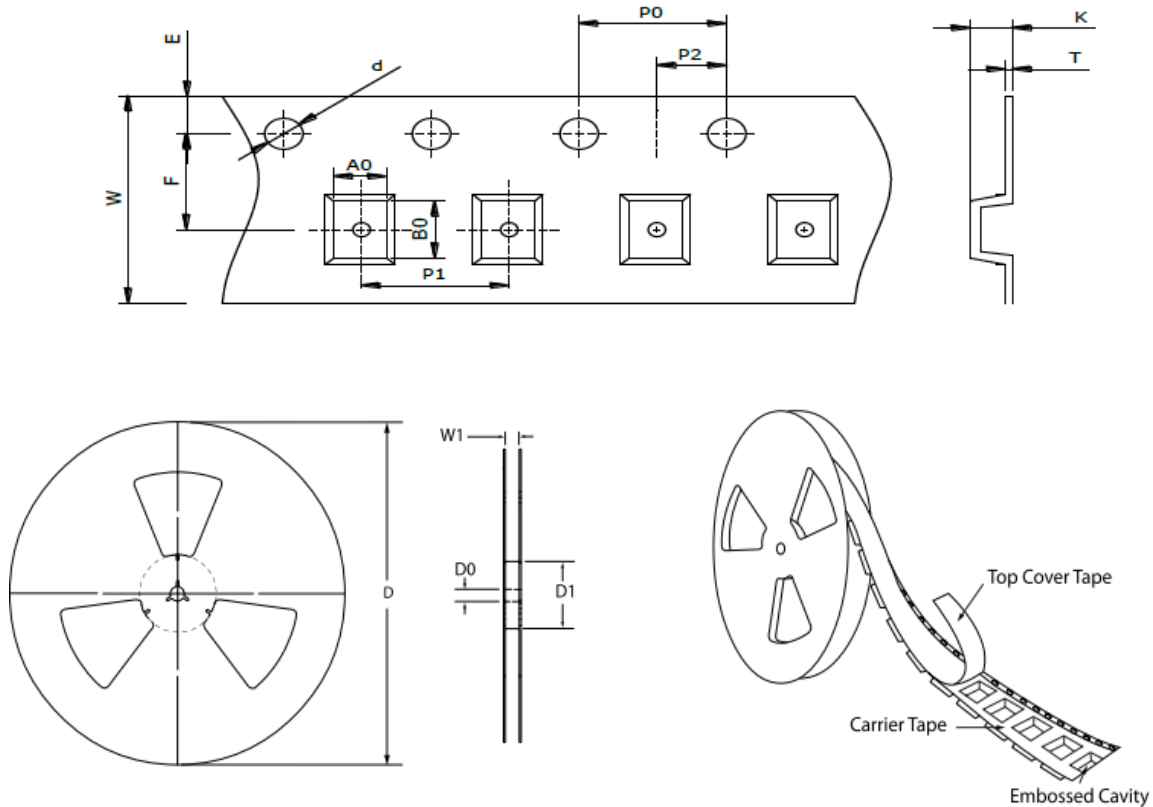
Fig. 4 Power Derating Curve



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TAPE & REEL SPECIFICATION



Item	Symbol	SOT-523
Carrier width	A ₀	1.85 ± 0.10
Carrier length	B ₀	1.85 ± 0.10
Carrier depth	K	1.05 ± 0.10
Sprocket hole	d	1.50 ± 0.10
Reel outside diameter	D	178.00 ± 2.00
Feed hole width	D ₀	13.00 ± 0.50
Reel inner diameter	D ₁	MIN. 50.00
Sprocke hole position	E	1.75 ± 0.10
Punch hole position	F	3.50 ± 0.10
Sprocke hole pitch	P ₀	4.00 ± 0.10
Punch hole pitch	P ₁	4.00 ± 0.10
Embossment center	P ₂	2.00 ± 0.10
Overall tape thickness	T	MAX. 0.60
Tape width	W	8.00 ± 0.20
Reel width	W1	MAX. 10.00

ORDER INFORMATION

Package	Reel Size	Quantity
SOT-523	7"	4,000

MARKING CODE

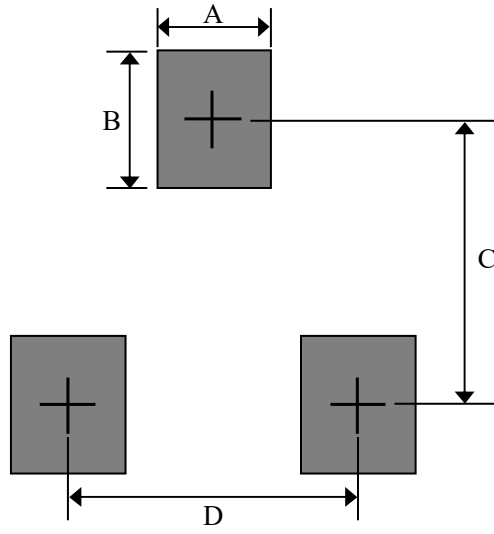
Part Number	Marking Code
BAT54TH	L1
BAT54ATH	L2
BAT54CTH	L3
BAT54STH	L4



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SUGGESTED SOLDER PAD LAYOUT



Unit : mm

PACKAGE	A	B	C	D
SOT-523	0.70	0.70	1.30	1.00