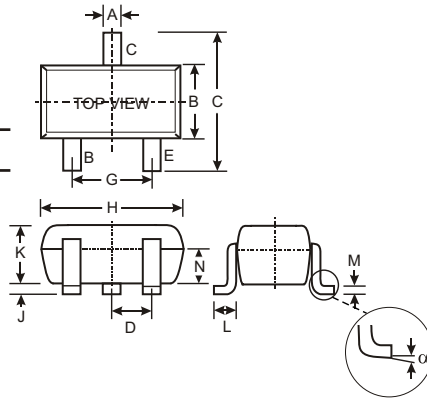


### Features

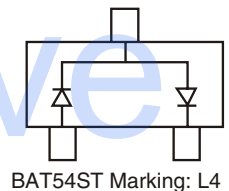
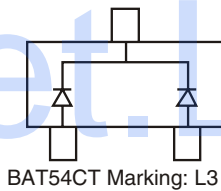
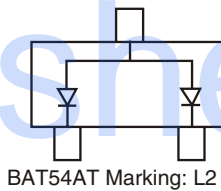
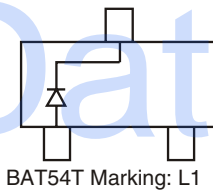
- Ultra-Small Surface Mount Package
- Low Forward Voltage Drop
- Fast Switching
- PN Junction Guard Ring for Transient and ESD Protection

### Mechanical Data

- Case: SOT-523, Molded Plastic
- Case material - UL Flammability Rating 94V-0
- Moisture sensitivity: Level 1 per J-STD-020A
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity: See Diagrams Below
- Marking: See Diagrams Below & Page 2
- Weight: 0.002 grams (approx.)
- Ordering Information, see Page 2



SOT-523			
Dim	Min	Max	Typ
A	0.15	0.30	0.22
B	0.75	0.85	0.80
C	1.45	1.75	1.60
D	—	—	0.50
G	0.90	1.10	1.00
H	1.50	1.70	1.60
J	0.00	0.10	0.05
K	0.60	0.80	0.75
L	0.10	0.30	0.22
M	0.10	0.20	0.12
N	0.45	0.65	0.50
$\alpha$	0°	8°	—
All Dimensions in mm			



### Maximum Ratings @ T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	30	V
Working Peak Reverse Voltage	V <sub>RWM</sub>		
DC Blocking Voltage	V <sub>R</sub>		
Forward Continuous Current (Note 1)	I <sub>FM</sub>	200	mA
Repetitive Peak Forward Current	I <sub>FRM</sub>	300	mA
Forward Surge Current @ t < 1.0s	I <sub>FSM</sub>	600	mA
Power Dissipation (Note 1)	P <sub>d</sub>	150	mW
Thermal Resistance, Junction to Ambient (Note 1)	R <sub>θJA</sub>	833	°C/W
Operating and Storage Temperature Range	T <sub>j</sub> , T <sub>STG</sub>	-65 to +125	°C

### Electrical Characteristics @ T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 2)	V <sub>(BR)R</sub>	30	—	—	V	I <sub>R</sub> = 100μA
Forward Voltage (Note 2)	V <sub>F</sub>	—	—	240 320 400 500 1000	mV	I <sub>F</sub> = 0.1mA I <sub>F</sub> = 1mA I <sub>F</sub> = 10mA I <sub>F</sub> = 30mA I <sub>F</sub> = 100mA
Reverse Leakage Current (Note 2)	I <sub>R</sub>	—	—	2.0	μA	V <sub>R</sub> = 25V
Total Capacitance	C <sub>T</sub>	—	—	10	pF	V <sub>R</sub> = 1.0V, f = 1.0MHz
Reverse Recovery Time	t <sub>rr</sub>	—	—	5.0	ns	I <sub>F</sub> = 10mA through I <sub>R</sub> = 10mA to I <sub>R</sub> = 1.0mA, R <sub>L</sub> = 100Ω

- Notes: 1. Device mounted on FR-4 PC board with recommended pad layout, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.  
2. Short duration test pulse used to minimize self-heating effect.

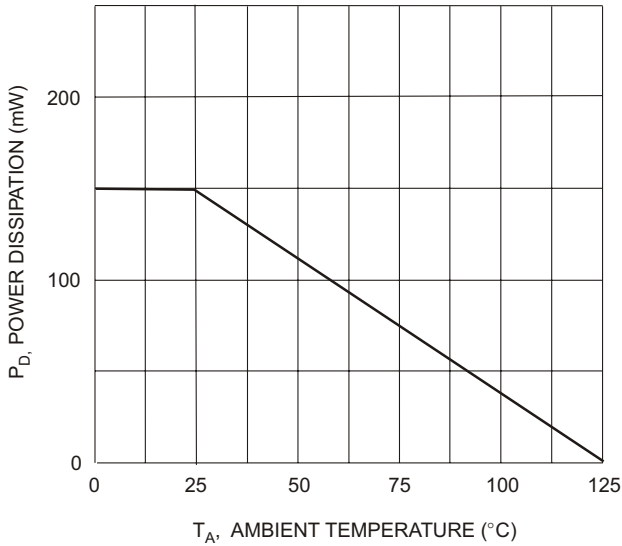


Fig. 1 Power Derating Curve

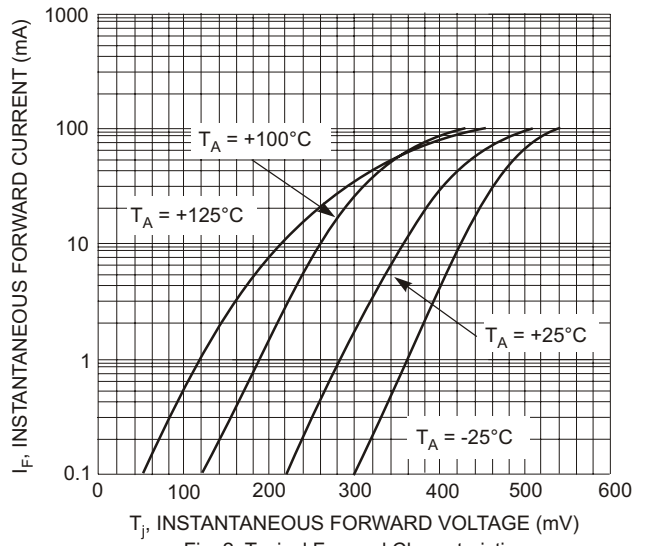


Fig. 2, Typical Forward Characteristics

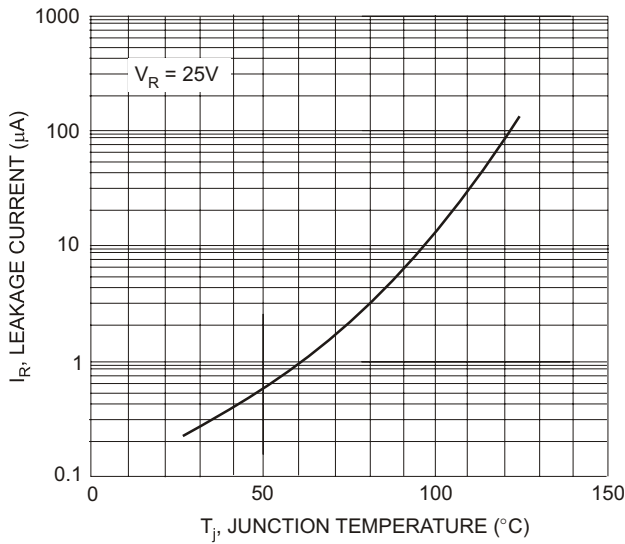


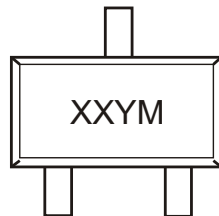
Fig. 3, Typical Reverse Characteristics

**Ordering Information** (Note 3)

Device	Packaging	Shipping
BAT54T-7	SOT-523	3000/Tape & Reel
BAT54AT-7	SOT-523	3000/Tape & Reel
BAT54CT-7	SOT-523	3000/Tape & Reel
BAT54ST-7	SOT-523	3000/Tape & Reel

Notes: 3. For Packaging Details: go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

**Marking Information**



XX = Product Type Marking Code (See Page 1, e.g. L1 = BAT54T)  
 YM = Date Code Marking  
 Y = Year (ex: N = 2002)  
 M = Month (ex: 9 = September)

Date Code Key

Year	2002	2003	2004	2005	2006	2007	2008	2009
Code	N	P	R	S	T	U	V	W

Month	Jan	Feb	March	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D