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[Diodes Incorporated](#)  
[BAT54WT-7](#)

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**BAT54WT**

**SURFACE MOUNT SCHOTTKY BARRIER DIODE**

**Features**

- Fast Switching
- Ultra-Small Surface Mount Package
- PN Junction Guard Ring for Transient and ESD Protection
- **Lead Free by Design/RoHS Compliant (Note 3)**
- **"Green" Device (Notes 4 and 5)**

**Mechanical Data**

- Case: SOD-523
- Case Material: Molded Plastic, "Green" Molding Compound, Note 5. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Leads: Matte Tin Finish annealed over Alloy 42 leadframe (Lead Free Plating). Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 0.004 grams (approximate)



Top View

**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>		
RMS Reverse Voltage	V <sub>R(RMS)</sub>	21	V
Average Rectified Forward Current	I <sub>O</sub>	100	mA
Forward Continuous Current (Note 1)	I <sub>F</sub>	200	mA
Repetitive Peak Forward Current (Note 1)	I <sub>FRM</sub>	300	mA
Forward Surge Current (Note 1)	I <sub>FSM</sub>	600	mA

**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 1)	P <sub>D</sub>	150	mW
Thermal Resistance, Junction to Ambient Air (Note 1)	R <sub>θJA</sub>	667	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150	°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	V <sub>FM</sub>	—	—	320 400 1000	mV	I <sub>F</sub> = 1mA I <sub>F</sub> = 10mA I <sub>F</sub> = 100mA
Reverse Leakage Current (Note 2)	I <sub>RM</sub>	—	—	2.0	μA	V <sub>R</sub> = 25V
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. Part 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 pulse test used to minimize self-heating effect.
  3. No purposefully added lead.
  4. Diodes Inc.'s "Green" Policy can be found on our website at [http://www.diodes.com/products/lead\\_free/index.php](http://www.diodes.com/products/lead_free/index.php).
  5. Product manufactured with date code 0627 (week 27, 2006) and newer are built with Green Molding Compound. Product manufactured prior to date code 0627 are built with Non-Green Molding Compound and may contain Halogens or Sb2O3 Fire Retardants

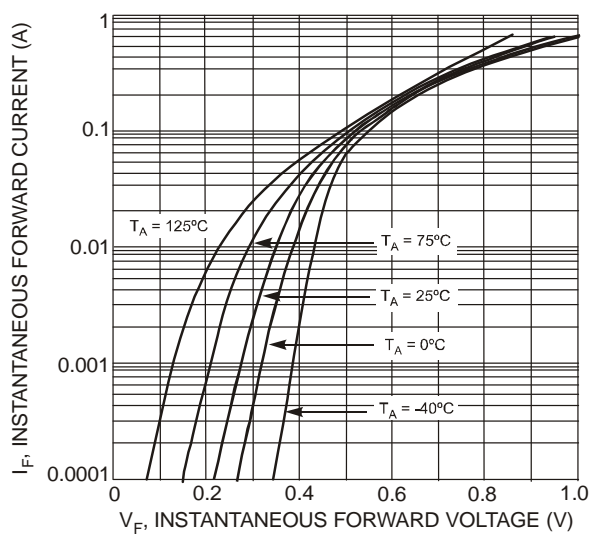


Fig. 1 Forward Characteristics

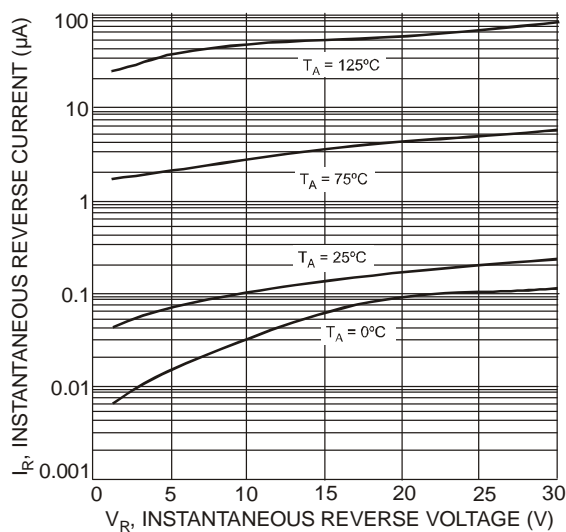


Fig. 2 Typical Reverse Characteristics

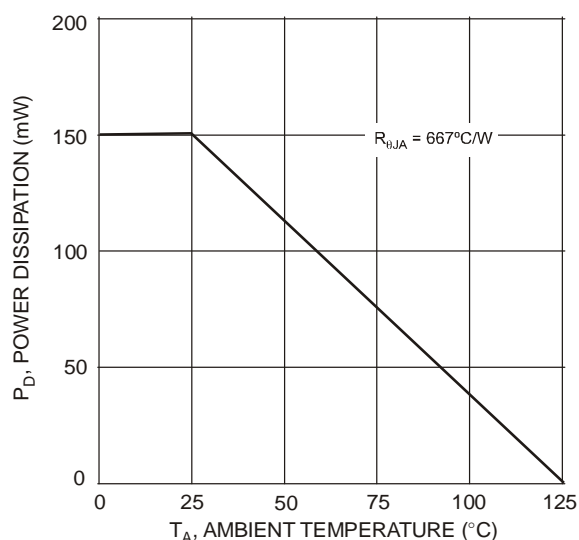


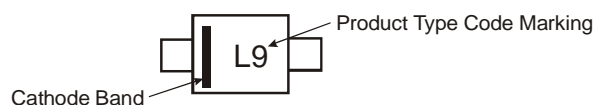
Fig. 3 Power Derating Curve

## Ordering Information (Note 6)

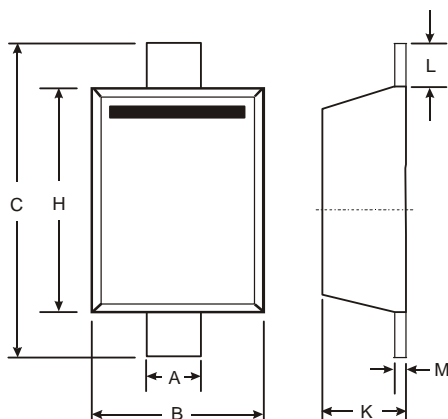
Part Number	Case	Packaging
BAT54WT-7 (Note 7)	SOD-523	3000/Tape & Reel

Notes: 6. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.  
7. Dispensed in every other cavity of the tape.

## Marking Information

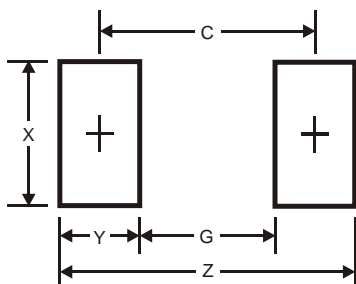


## Package Outline Dimensions



SOD-523		
Dim	Min	Max
A	0.25	0.35
B	0.70	0.90
C	1.50	1.70
H	1.10	1.30
K	0.55	0.65
L	0.10	0.30
M	0.10	0.12
All Dimensions in mm		

## Suggested Pad Layout



Dimensions	Value (in mm)
Z	2.3
G	1.1
X	0.8
Y	0.6
C	1.7

**BAT54WT**

NEW PRODUCT

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