



SURFACE MOUNT LOW LEAKAGE DIODE

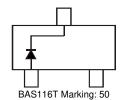
Features

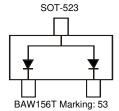
- Ultra-Small Surface Mount Package
- Very Low Leakage Current
- Lead Free/RoHS Compliant (Note 2)
- Qualified to AEC-Q101 Standards for High Reliability
- "Green" Device (Notes 3 and 4)

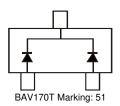
Mechanical Data

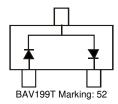
- Case: SOT-523
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Polarity: See Diagrams Below
- Marking Information: See Diagrams Below and Page 3
- Ordering Information: See Page 2
- Weight: 0.002 grams (approximate)











Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit	
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage		V _{RRM} V _{RWM} V _R	85	V
RMS Reverse Voltage		V _{R(RMS)}	60	V
Forward Continuous Current (Note 1)	Single Diode Double Diode	I _{FM}	215 125	mA
Repetitive Peak Forward Current		I _{FRM}	500	mA
Non-Repetitive Peak Forward Surge Current	@ t = 1.0μs @ t = 1.0ms @ t = 1.0s	I _{FSM}	4.0 1.0 0.5	А

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 1)	P _D	150	mW
Thermal Resistance Junction to Ambient Air (Note 1)	$R_{ hetaJA}$	833	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +150	°C

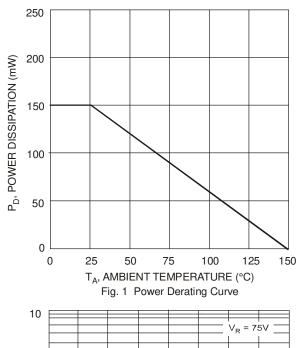
Electrical Characteristics @T_A = 25°C unless otherwise specified

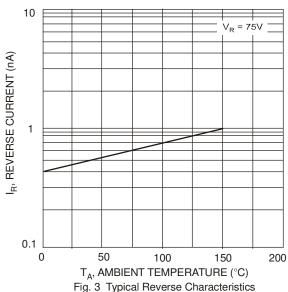
Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 5)	$V_{(BR)R}$	85	_	_	V	$I_R = 100 \mu A$
Forward Voltage	V _F		_	0.90 1.0 1.1 1.25	٧	I _F = 1.0mA I _F = 10mA I _F = 50mA I _F = 150mA
Leakage Current (Note 5)	I _R		_	5.0 80	nA nA	$V_R = 75V$ $V_R = 75V$, $T_j = 150$ °C
Total Capacitance	C _T	_	2	_	pF	$V_R = 0, f = 1.0MHz$
Reverse Recovery Time	t _{rr}	_	_	3.0	μS	$I_F = I_R = 10 \text{mA},$ $I_{rr} = 0.1 \times I_R, R_1 = 100 \Omega$

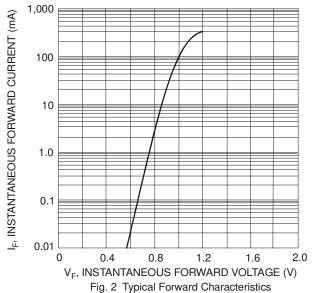
Notes: 1. Device mounted on FR-4 PC board with recommended pad layout, which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.

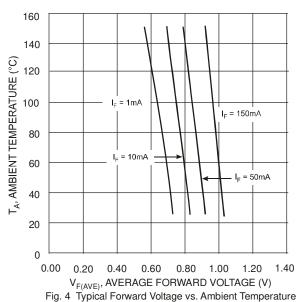
- 2. No purposefully added lead.
- 3. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
- 4. Product manufactured with Date Code UO (week 40, 2007) and newer are built with Green Molding Compound. Product manufactured prior to Date Code UO are built with Non-Green Molding Compound and may contain Halogens or Sb₂O₃ Fire Retardants.
- 5. Short duration pulse test used to minimize self-heating effect.











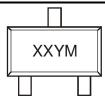
Ordering Information (Note 6)

Part Number	Case	Packaging
BAS116T-7-F	SOT-523	3000/Tape & Reel
BAW156T-7-F	SOT-523	3000/Tape & Reel
BAV170T-7-F	SOT-523	3000/Tape & Reel
BAV199T-7-F	SOT-523	3000/Tape & Reel

Notes: 6. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.



Marking Information



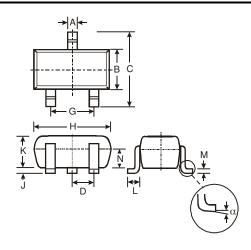
XX = Product Type Marking Code (See Page 1, e.g. 50 = BAS116T)

YM = Date Code Marking Y = Year (ex: N = 2002) M = Month (ex: 9 = September)

Date Code Key

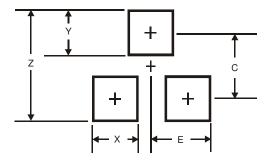
Date Code Noy												
Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Code	М	N	Р	R	S	T	U	V	W	X	Υ	Z
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Package Outline Dimensions



SOT-523					
Dim	Min	Max	Тур		
Α	0.15	0.30	0.22		
В	0.75	0.85	0.80		
С	1.45	1.75	1.60		
D		_	0.50		
G	0.90	1.10	1.00		
Н	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		
М	0.10	0.20	0.12		
N	0.45	0.65	0.50		
α	0°	8°			
All	All Dimensions in mm				

Suggested Pad Layout



Dimensions	Value (in mm)
Z	1.8
Х	0.4
Υ	0.51
С	1.3
E	0.7

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