



SURFACE MOUNT SCHOTTKY BARRIER DIODE

Features

- Low Forward Voltage Drop
- Fast Switching Time
- Surface Mount Package Ideally Suited for Automated Insertion
- Lead, Halogen and Antimony Free, RoHS Compliant "Green" Device (Notes 3 and 4)

Mechanical Data

- Case: SOD-123
- Case Material: Molded Plastic. 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: Cathode Band
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 0.01 grams (approximate)



Top View

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	30	V
RMS Reverse Voltage		V _{R(RMS)}	21	V
Forward Continuous Current (Note 1)		I _{FM}	200	mA
Repetitive Peak Forward Current (Note 1)	@ t < 1.0s	I _{FRM}	500	mA
Non-Repetitive Peak Forward Surge Current	@ t < 10ms	I _{FSM}	4.0	Α

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation	P_{D}	200	mW
Thermal Resistance Junction to Ambient Air (Note 1)	$R_{ hetaJA}$	500	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +125	°C

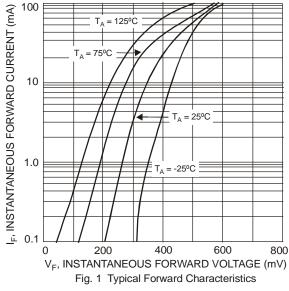
Electrical Characteristics @TA = 25°C unless otherwise specified

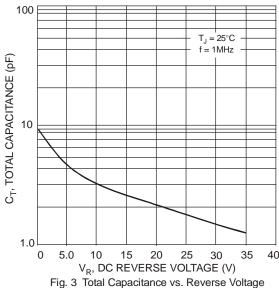
Characteristic	Symbol	Min	Max	Unit	Test Condition	
Reverse Breakdown Voltage (Note 2)	$V_{(BR)R}$	30	_	V	$I_R = 100 \mu A$	
Forward Voltage Drop	All Types		_	1.0		$I_F = 200 \text{mA}$
,	BAT42W			0.40		$I_F = 10mA$
	BAT42W	V_{FM}		0.65	V	$I_F = 50 \text{mA}$
	BAT43W		0.26	0.33		$I_F = 2.0 \text{mA}$
	BAT43W			0.45		$I_F = 15mA$
Peak Reverse Current (Note 2)				500	nA	$V_R = 25V$
		I _{RM}	_	100	μΑ	$V_R = 25V, T_J = 100^{\circ}C$
Total Capacitance		Ст	_	10	pF	$V_R = 1.0V, f = 1.0MHz$
Reverse Recovery Time		+		5.0	20	$I_F = I_R = 10 \text{mA},$
		t _{rr}	_		ns	$I_{rr} = 0.1 \times I_{R}, R_{L} = 100\Omega$

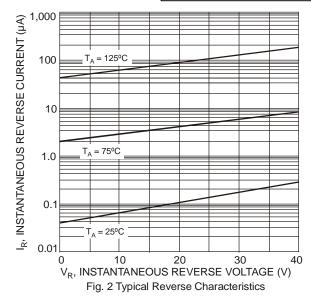
Notes

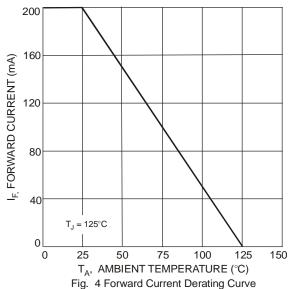
- 1. Part mounted on FR-4 board with recommended pad layout, which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.
- Short duration pulse test used to minimize self-heating effect.
- 3. No purposefully added lead. Halogen and Antimony Free.
- Product manufactured with Data Code V9 (week 33, 2008) and newer are built with Green Molding Compound. Product manufactured prior to Date Code V9 are built with Non-Green Molding Compound and may contain Halogens or Sb₂O₃ Fire Retardants.









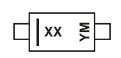


Ordering Information (Note 5)

Part Number	Case	Packaging
BAT42W-7-F	SOD-123	3000/Tape & Reel
BAT43W-7-F	SOD-123	3000/Tape & Reel

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

Marking Information



xx = Product Type Marking Code S7 = BAT42W

S8 = BAT43W

YM = Date Code Marking

Y = Year (ex: N = 2002)

M = Month (ex: 9 = September)

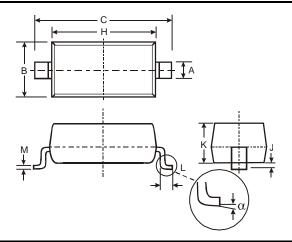
Data Cada Kay

Year 2001 20	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Code M N	N P	R	S	Т	U	V	W	X	Υ	Z	Α	В	С

Ī	Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ĺ	Code	1	2	3	4	5	6	7	8	9	0	N	D

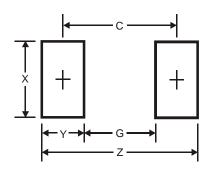


Package Outline Dimensions



	SOD-123							
Dim	Min	Max						
Α	0.55	Тур						
В	1.40	1.70						
С	3.55	3.85						
Η	2.55	2.85						
J	0.00	0.10						
K	1.00	1.35						
L	0.25	0.40						
M	0.10	0.15						
α	0	8°						
All Di	All Dimensions in mm							

Suggested Pad Layout



Dimensions	Value (in mm)
Z	4.9
G	2.5
Х	0.7
Y	1.2
С	3.7

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