NEW PRODUCT

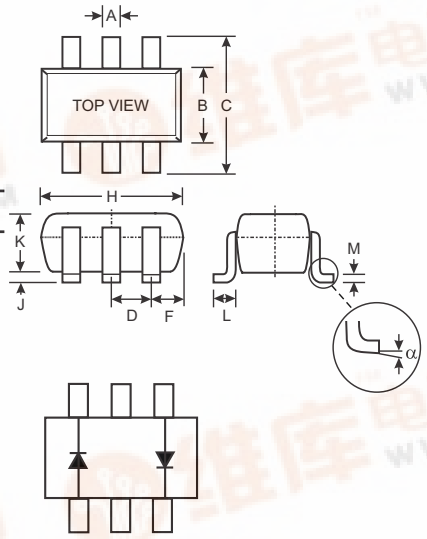
BAS20DW-BAS21DW

SURFACE MOUNT LOW LEAKAGE DIODE

Lead-free Green

Features

- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automatic Insertion
- For General Purpose Switching Applications
- High Conductance
- **Lead Free By Design/RoHS Compliant (Note 3)**
- **"Green Device" (Note 4)**



SOT-363		
Dim	**Min**	**Max**
A	0.10	0.30
B	1.15	1.35
C	2.00	2.20
D	0.65 Nominal	
F	0.30	0.40
H	1.80	2.20
J	—	0.10
K	0.90	1.00
L	0.25	0.40
M	0.10	0.25
α	0°	8°
All Dimensions in mm		

Mechanical Data

- Case: SOT-363, Molded Plastic
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture sensitivity: Level 1 per J-STD-020C
- Terminal Connections: See Diagram
- Terminals: Finish — Matte Tin annealed over Alloy 42 leadframe. Solderable per MIL-STD-202, Method 208
- BAS20DW Marking: KT2 or KT3 (See Page 3)
- BAS21DW Marking: KT3 (See Page 3)
- Marking & Type Code Information: See Page 3
- Ordering Information: See Page 3
- Weight: 0.003 grams (approx.)

Maximum Ratings @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	BAS20DW	BAS21DW	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	200	250	V
Working Peak Reverse Voltage DC Blocking Voltage	V_{RWM} V_R	150	200	V
RMS Reverse Voltage	$V_{R(RMS)}$	106	141	V
Forward Continuous Current	I_{FM}	400		mA
Average Rectified Output Current	I_O	200		mA
Non-Repetitive Peak Forward Surge Current @ t = 1.0μs @ t = 1.0s	I_{FSM}	2.5 0.5		A
Repetitive Peak Forward Surge Current	I_{FRM}	625		mA
Operating and Storage Temperature Range	T_j , T_{STG}	-65 to +150		°C

Thermal Characteristics, Total Package @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 1)	P_d	200	mW
Thermal Resistance Junction to Ambient Air (Note 1)	$R_{\theta JA}$	625	°C/W

Electrical Characteristics @ T_A = 25°C unless otherwise specified

Characteristic		Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 2)	BAS20DW BAS21DW	$V_{(BR)R}$	200 250	— —	V	I_R = 100μA
Forward Voltage (Note 2)		V_F	—	1.0 1.25	V	I_F = 100mA I_F = 200mA
Reverse Current @ Rated DC Blocking Voltage (Note 2)		I_R	—	100 15	nA μA	T_j = 25°C T_j = 100°C
Total Capacitance		C_T	—	5.0	pF	V_R = 0, f = 1.0MHz
Reverse Recovery Time		t_{rr}	—	50	ns	I_F = I_R = 30mA, I_{rr} = 0.1 x I_R, R_L = 100Ω

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.
2. Short duration test pulse 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

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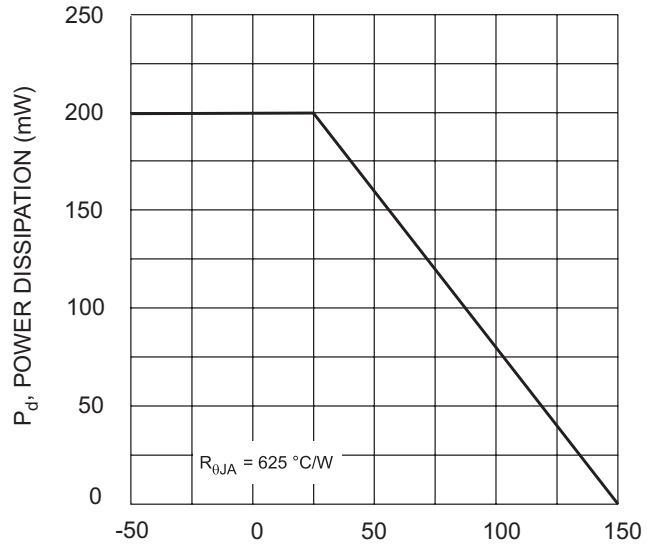

Fig. 1, Derating Curve - Total

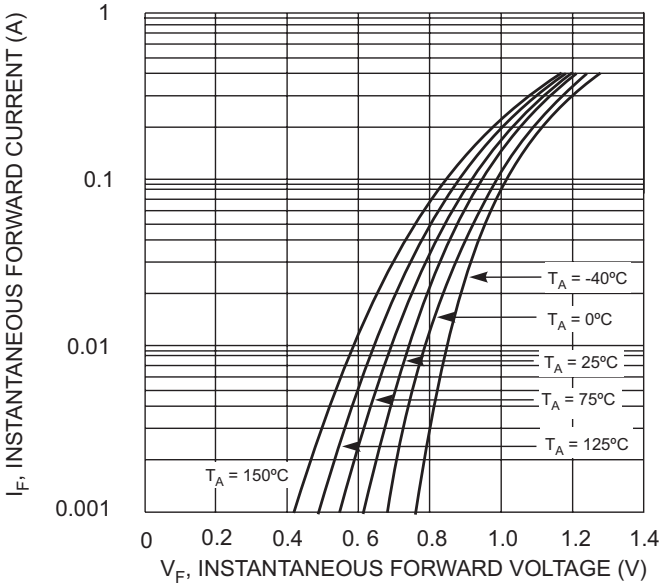

Fig. 2 Typical Forward Characteristics

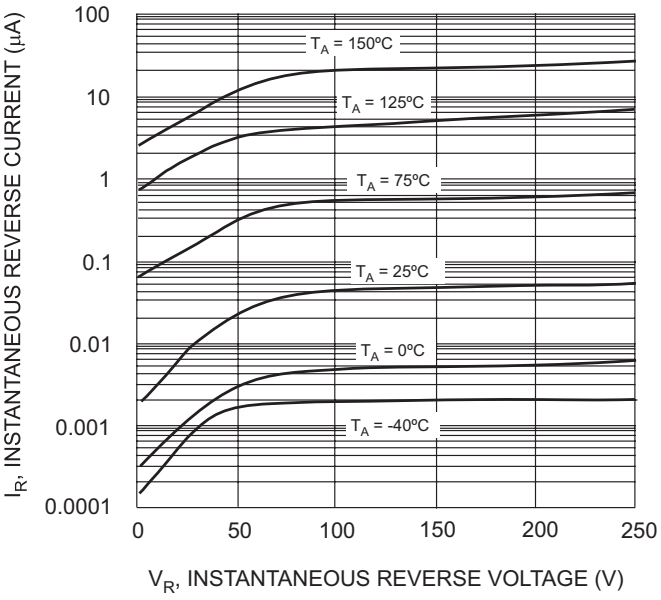

Fig. 3 Typical Reverse Characteristics

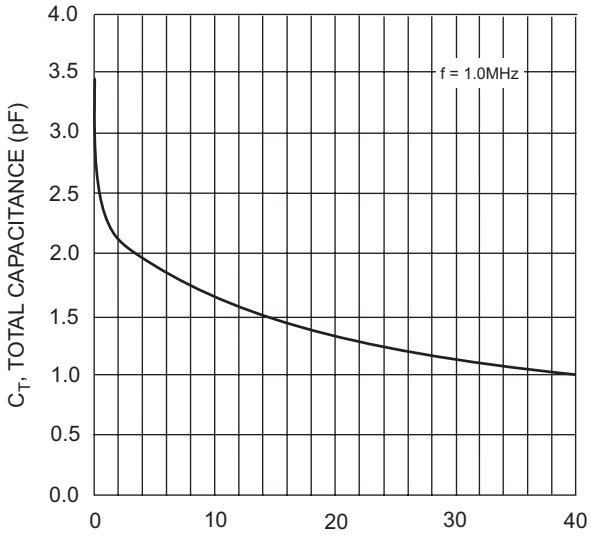

Fig. 4 Typical Capacitance vs. Reverse Voltage

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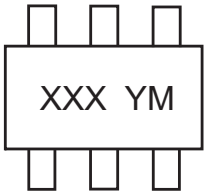
Ordering Information (Note 5)

Device	Packaging	Shipping
BAS20DW-7	SOT-363	3000/Tape & Reel
BAS21DW-7	SOT-363	3000/Tape & Reel

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

Marking Information



XXX= Product Type Marking Code (See Page 1)
YM = Date Code Marking
Y = Year (ex: S = 2005)
M = Month (ex: 9 = September)

Date Code Key

Year	2005	2006	2007	2008	2009
Code	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