



BAS20DW-BAS21DW

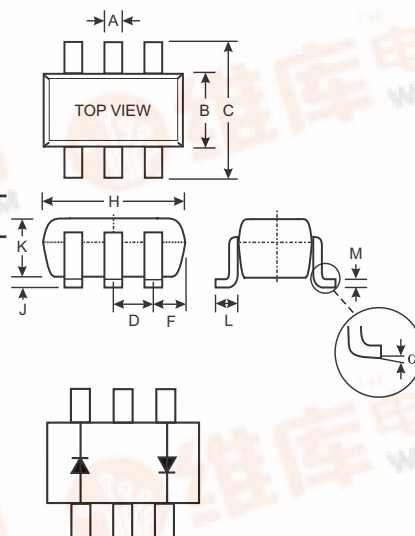
SURFACE MOUNT LOW LEAKAGE DIODE

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)**

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.)



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		

Maximum Ratings @ $T_A = 25^\circ\text{C}$ 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 @ $t = 1.0\mu\text{s}$ @ $t = 1.0\text{s}$	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		$^\circ\text{C}$

Thermal Characteristics, Total Package @ $T_A = 25^\circ\text{C}$ 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	$^\circ\text{C/W}$

Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

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

Note 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>.

Note 2. Short duration test pulse used to minimize self-heating effect.

Note 3. No purposefully added lead.

Note 4. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php



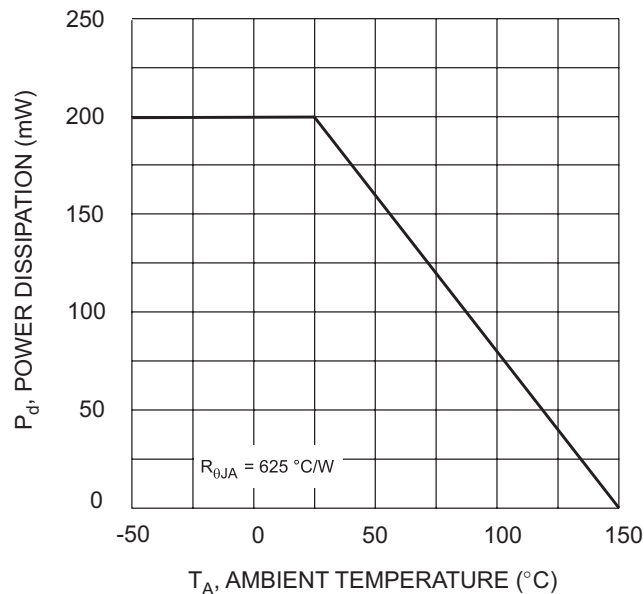


Fig. 1, Derating Curve - Total

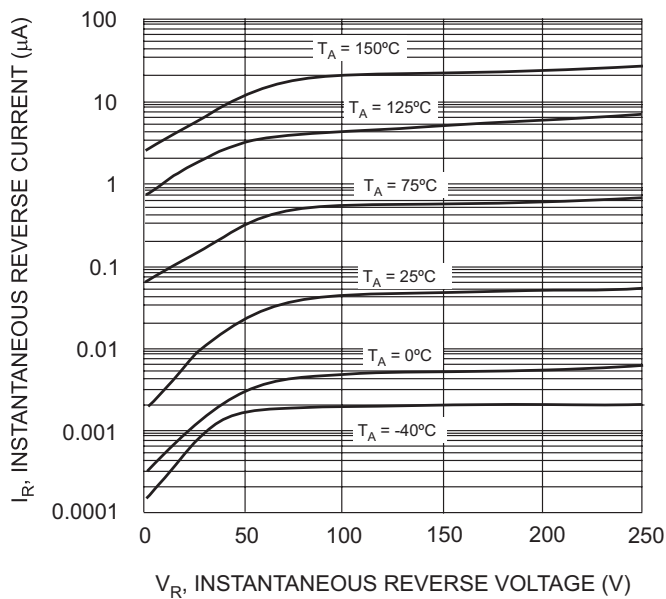


Fig. 3 Typical Reverse Characteristics

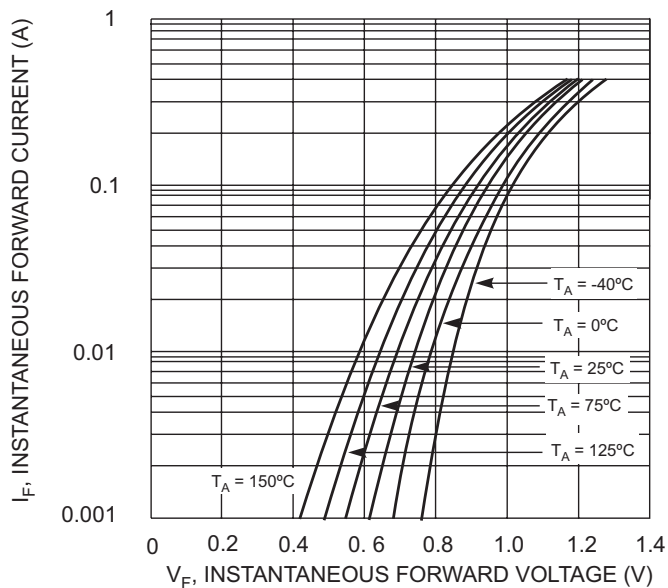


Fig. 2 Typical Forward Characteristics

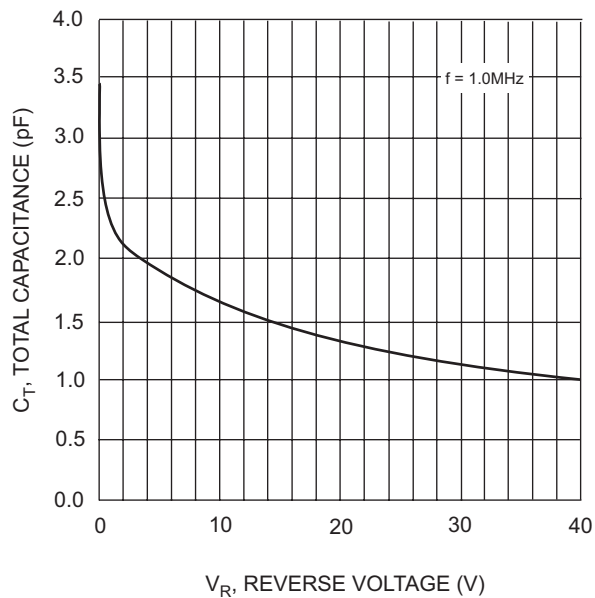


Fig. 4 Typical Capacitance vs. Reverse Voltage

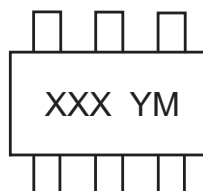


Ordering Information (Note 5)

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

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