

Features

- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automated Insertion
- For General Purpose Switching Applications
- High Conductance
- **Lead Free By Design/RoHS Compliant (Note 3)**
- **"Green" Device (Note 4 and 5)**

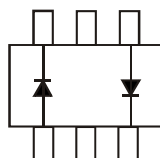
Mechanical Data

- Case: SOT-363
- 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 2
- BAS21DW Marking: KT3 - See Page 2
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 0.003 grams (approximate)



TOP VIEW

SOT-363


 TOP VIEW
 Internal Schematic

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	V _{RWM}	150	200	V
DC Blocking Voltage	V _R			
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	I _{FSM}	2.5		A
@ t = 1.0s		0.5		
Repetitive Peak Forward Surge Current	I _{FRM}	625		mA

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 1)	P _d	200	mW
Thermal Resistance Junction to Ambient Air (Note 1)	R _{θJA}	625	°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	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 2)	V _{(BR)R}	200	—	V	I _R = 100μA
		250	—		
Forward Voltage	V _F	—	1.0 1.25	V	I _F = 100mA I _F = 200mA
Reverse Current	I _R	—	100	nA	T _j = 25°C
@ Rated DC Blocking Voltage (Note 2)			15	μA	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 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.
 5. 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.

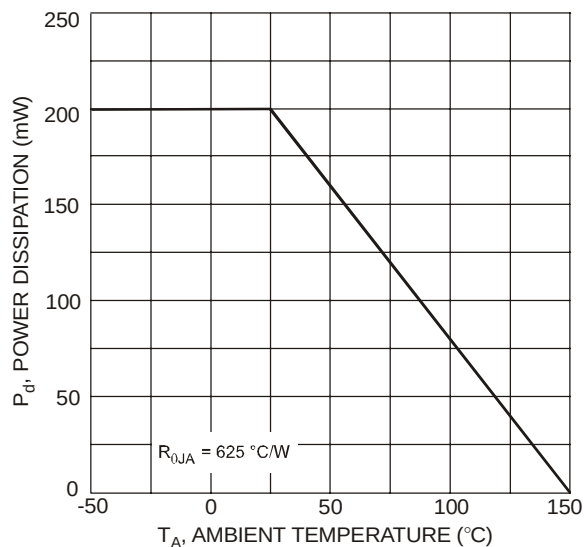


Fig. 1 Derating Curve - Total

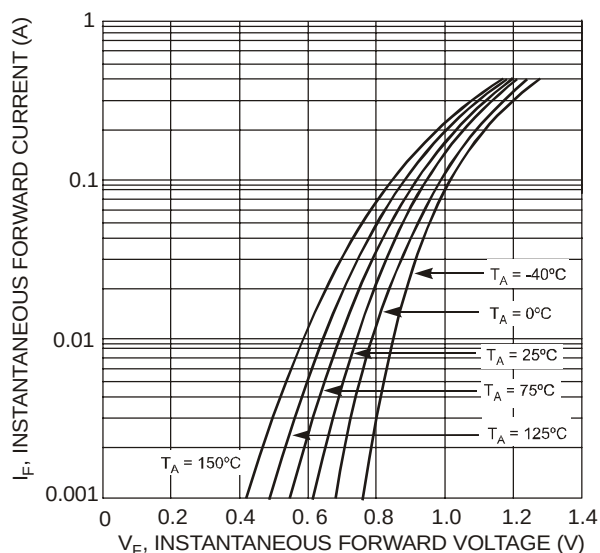


Fig. 2 Typical Forward Characteristics

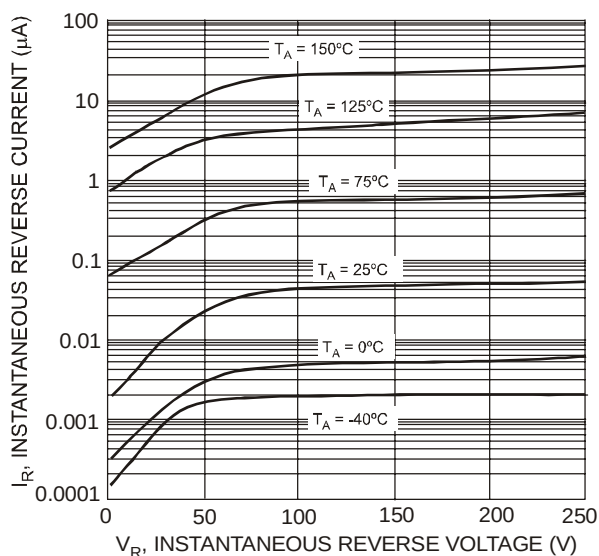


Fig. 3 Typical Reverse Characteristics

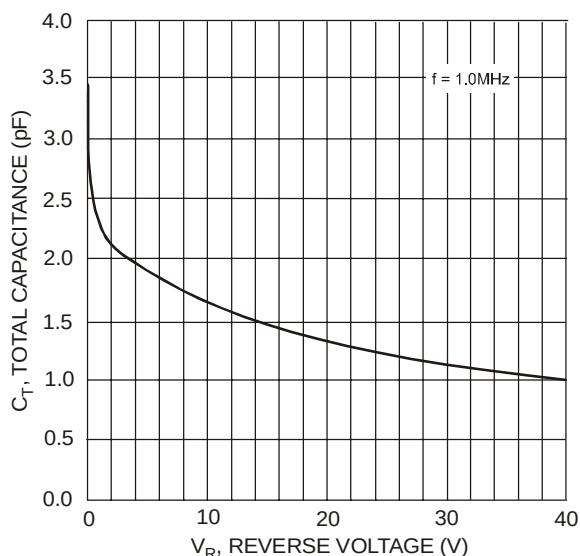


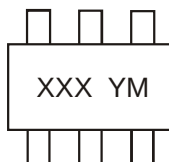
Fig. 4 Typical Capacitance vs. Reverse Voltage

Ordering Information (Notes 5 & 6)

Part Number	Case	Packaging
BAS20DW-7	SOT-363	3000/Tape & Reel
BAS21DW-7	SOT-363	3000/Tape & Reel

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

Marking Information



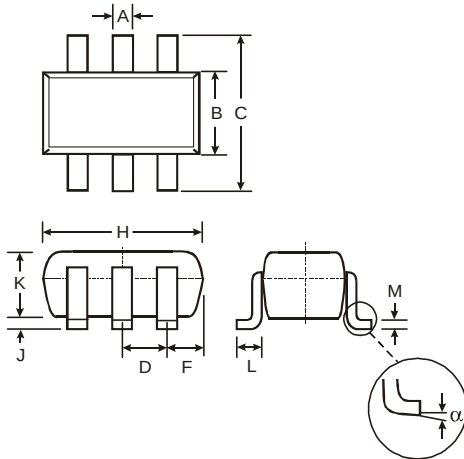
XXX= Product Type Marking Code (See Page 1)
 YM = Date Code Marking
 Y = Year (ex: S = 2005)
 M = Month (ex: 9 = September)

Date Code Key

Year	2005	2006	2007	2008	2009	2010	2011	2012
Code	S	T	U	V	W	X	Y	Z

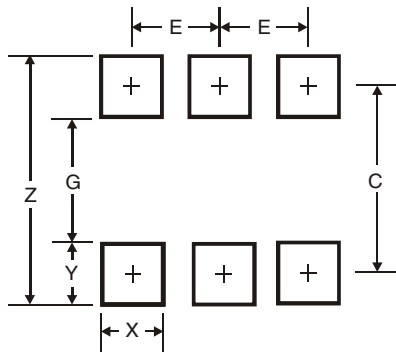
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

Package Outline Dimensions



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		

Suggested Pad Layout



Dimensions	Value (in mm)
Z	2.5
G	1.3
X	0.42
Y	0.6
C	1.9
E	0.65

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