

Features

- Ultra-Small Surface Mount Package (1.0 x 0.8mm)
- Ultra-Low Profile Package (0.45mm)
- Ultra Low Leakage Current (5nA @ $V_R = 75V$)
- Low Capacitance
- Ideal for Battery Powered Portable Applications
- Lead Free By Design/RoHS Compliant (Note 1)
- Halogen and Antimony Free "Green" Device (Notes 2 & 3)

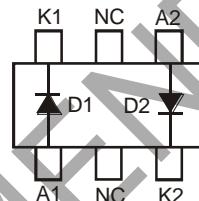
Mechanical Data

- Case: SOT963
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminal Connections: See Diagram
- Terminals: Finish – Matte Tin Annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208
- Weight: 0.003 grams (Approximate)

SOT963



Top View



Internal Schematic

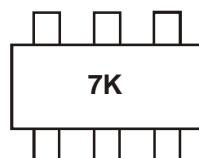
Ordering Information (Note 4)

Part Number	Case	Packaging
BAS116UDJ-7	SOT963	10,000/Tape & Reel

Notes:

1. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. No purposely added lead.
2. Halogen and Antimony free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
3. Diodes Inc.'s "Green" policy can be found on our website at <http://www.diodes.com>.
4. For packaging details, go to our website at <http://www.diodes.com>.

Marking Information



7K = Product Type Marking Code

Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V_{RRM}		
Working Peak Reverse Voltage	V_{RWM}	85	V
DC Blocking Voltage	V_R		
RMS Reverse Voltage	$V_{R(\text{RMS})}$	60	V
Forward Continuous Current (Note 5)	I_{FM}	215	mA
Repetitive Peak Forward Current	I_{FRM}	500	mA
Non-Repetitive Peak Forward Surge Current @ $t = 1.0\mu\text{s}$	I_{FSM}	4.0	
@ $t = 1.0\text{ms}$		1.0	
@ $t = 1.0\text{s}$		0.5	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P_D	250	mW
Thermal Resistance Junction to Ambient Air (Note 5)	$R_{\theta JA}$	500	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	°C

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	$V_{(BR)R}$	85	—	—	V	$I_R = 100\mu\text{A}$
Forward Voltage	V_F	—	—	0.95 1.05 1.15 1.35	V	$I_F = 1.0\text{mA}$ $I_F = 10\text{mA}$ $I_F = 50\text{mA}$ $I_F = 150\text{mA}$
Leakage Current (Note 6)	I_R	—	0.9 16	5.0 500	nA nA	$V_R = 75\text{V}$ $V_R = 75\text{V}, T_J = 150^\circ\text{C}$
Total Capacitance	C_T	—	2	—	pF	$V_R = 0, f = 1.0\text{MHz}$
Reverse Recovery Time	t_{rr}	—	0.12	3.0	μs	$I_F = I_R = 10\text{mA},$ $I_{rr} = 0.1 \times I_R, R_L = 100\Omega$

Notes:
 5. Part mounted on FR-4 PC board with recommended pad layout, which can be found on our website at <http://www.diodes.com>.
 6. Short duration pulse test used to minimize self-heating effect.

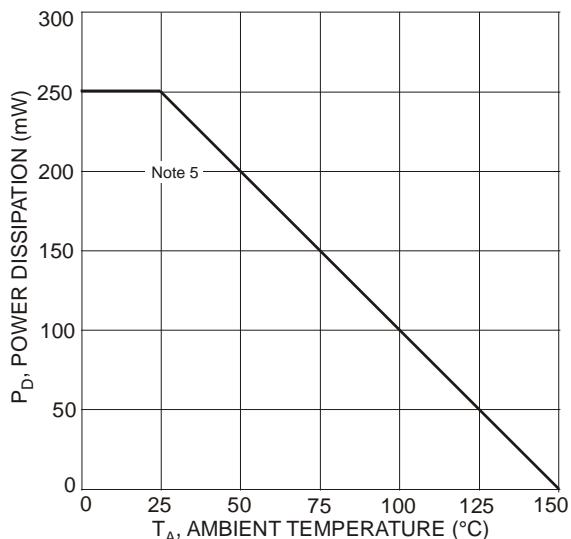


Fig. 1 Power Dissipation vs. Ambient Temperature

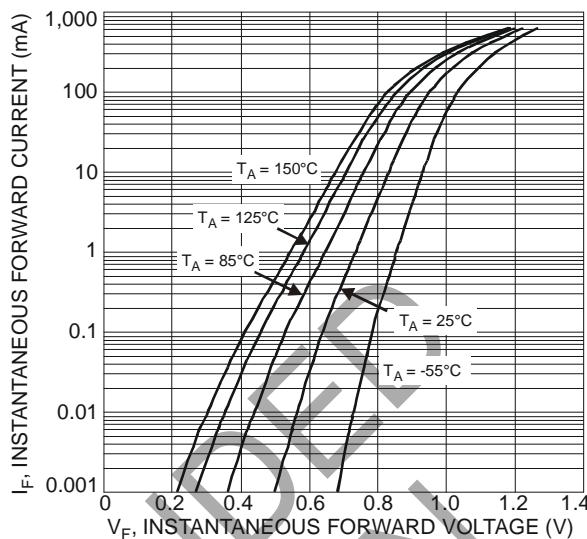


Fig. 2 Typical Forward Characteristics - Per Element

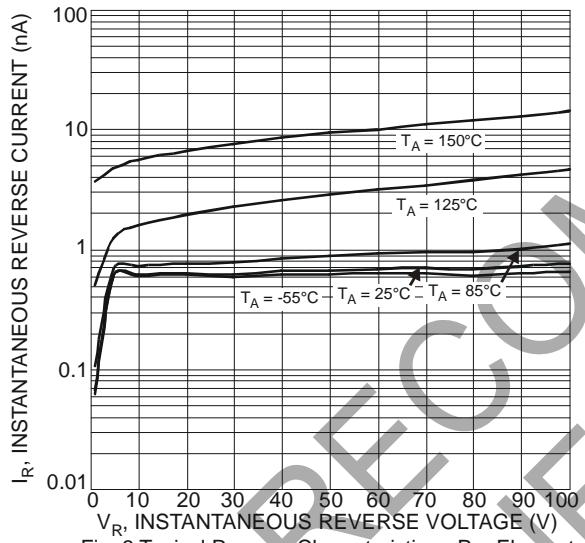


Fig. 3 Typical Reverse Characteristics - Per Element

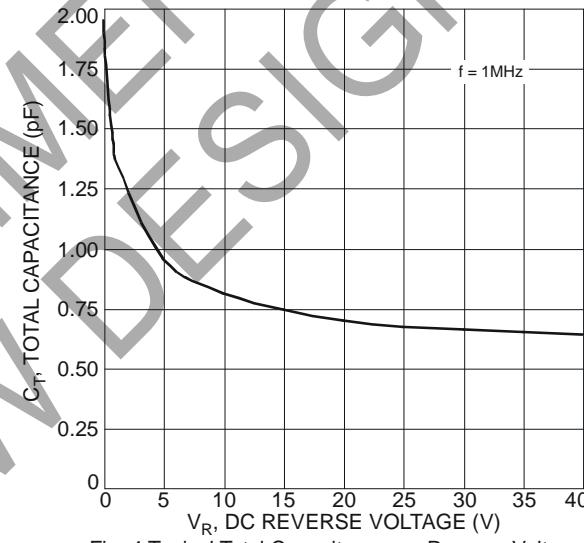
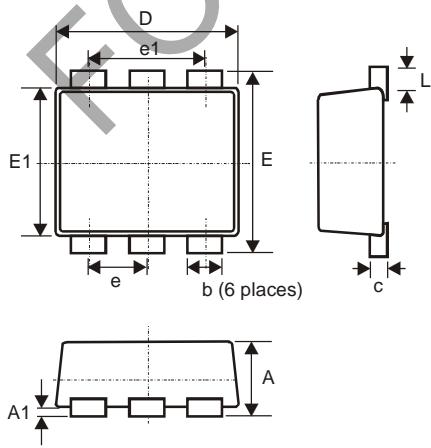


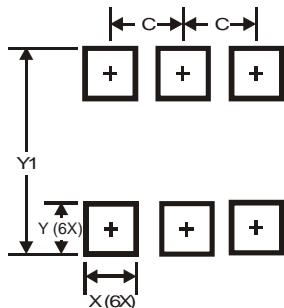
Fig. 4 Typical Total Capacitance vs. Reverse Voltage - Per Element

Package Outline Dimensions



SOT963			
Dim	Min	Max	Typ
A	0.40	0.50	0.45
A1	0	0.05	-
c	0.120	0.180	0.150
D	0.95	1.05	1.00
E	0.95	1.05	1.00
E1	0.75	0.85	0.80
L	0.05	0.15	0.10
b	0.10	0.20	0.15
e	0.35 Typ		
e1	0.70 Typ		
All Dimensions in mm			

Suggested Pad Layout



Dimensions	Value (in mm)
C	0.350
X	0.200
Y	0.200
Y1	1.100

NOT RECOMMENDED
FOR NEW DESIGN

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