

## Features

- Fast Switching Speed
- Low Forward Voltage: Maximum of 0.715V at 1mA
- Fast Reverse Recovery: Maximum of 4ns
- Low Capacitance: Maximum of 1.5pF
- Low Leakage Current
- Ultra-Small Surface Mount Package
- Thermally Efficient Copper Alloy leadframe for High Power Dissipation
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

## Mechanical Data

- Case: SOT563
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish annealed over Copper Alloy leadframe (Lead Free Plating). Solderable per MIL-STD-202, Method 208 (E3)
- Weight: 0.003 grams (approximate)



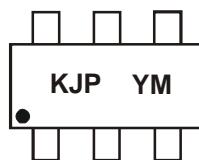
## Ordering Information (Note 4)

Part Number	Case	Packaging
BAS16V V-7	SOT563	3000/Tape & Reel

Notes:

1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
2. See <http://www.diodes.com> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
4. For Packaging Details, go to our website at <http://www.diodes.com>.

## Marking Information



KJP = Product Type Marking Code

YM = Date Code Marking

Y = Year (ex: Z = 2012)

M = Month (ex: 9 = September)

### Date Code Key

Year	2012	2013	2014	2015	2016	2017	2018					
Code	Z	A	B	C	D	E	F					
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

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

Characteristic	Symbol	Value	Unit	
Non-Repetitive Peak Reverse Voltage	$V_{RM}$	100	V	
Peak Repetitive Reverse Voltage	$V_{RRM}$			
Working Peak Reverse Voltage	$V_{RWM}$	100	V	
DC Blocking Voltage	$V_R$			
RMS Reverse Voltage	$V_{R(\text{RMS})}$	71	V	
Forward Continuous Current (Note 5)	$I_{FM}$	200	mA	
Non-Repetitive Peak Forward Surge Current	$I_{FSM}$	4.0		
@ $t = 1.0\mu\text{s}$		1.0		
		0.5		

**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	$P_D$	350	mW
Thermal Resistance Junction to Ambient Air (Note 5)	$R_{\theta JA}$	357	°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	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	$V_{(BR)R}$	100	—	V	$I_R = 100\mu\text{A}$
Forward Voltage	$V_F$	—	0.715	V	$I_F = 1.0\text{mA}$
		—	0.855		$I_F = 10\text{mA}$
		—	1.0		$I_F = 50\text{mA}$
		—	1.25		$I_F = 150\text{mA}$
		—	0.5		$V_R = 80\text{V}$
Leakage Current (Note 6)	$I_R$	—	50	$\mu\text{A}$	$V_R = 80\text{V}, T_J = 150^\circ\text{C}$
		—	30	$\mu\text{A}$	$V_R = 25\text{V}, T_J = 150^\circ\text{C}$
		—	30	nA	$V_R = 25\text{V}$
		—	1.5	pF	$V_R = 0, f = 1.0\text{MHz}$
Reverse Recovery Time	$t_{rr}$	—	4.0	ns	$I_F = I_R = 10\text{mA}$ , $I_{rr} = 0.1 \times I_R, R_L = 100\Omega$

Notes: 5. Device mounted on FR-4 PCB, on minimum recommended, 2oz copper pad layout.  
 6. Short duration pulse test used to minimize self-heating effect.

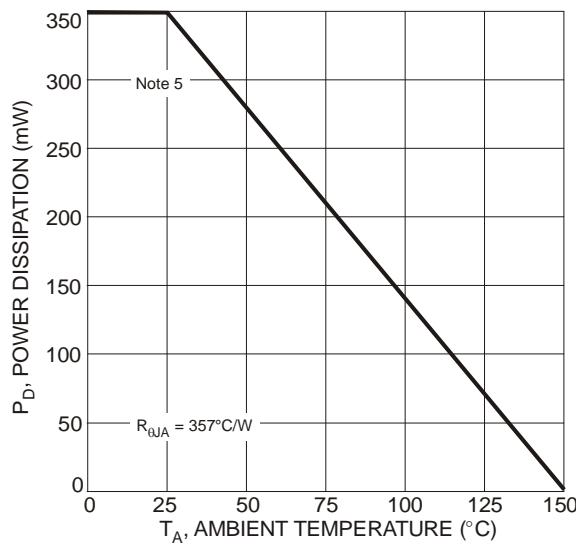


Fig. 1 Power Derating Curve, Total Package

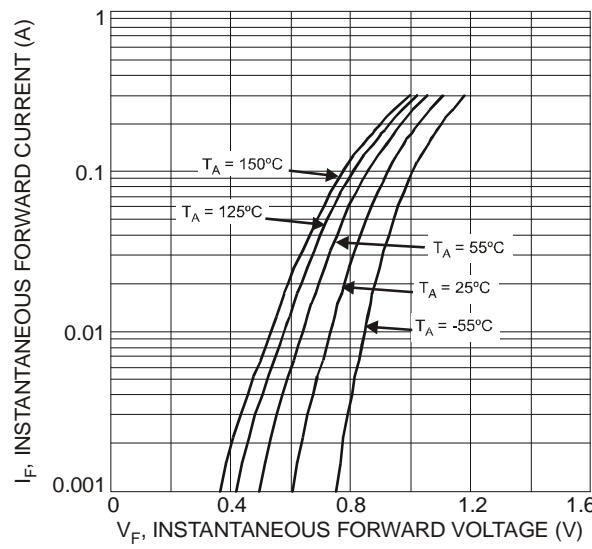
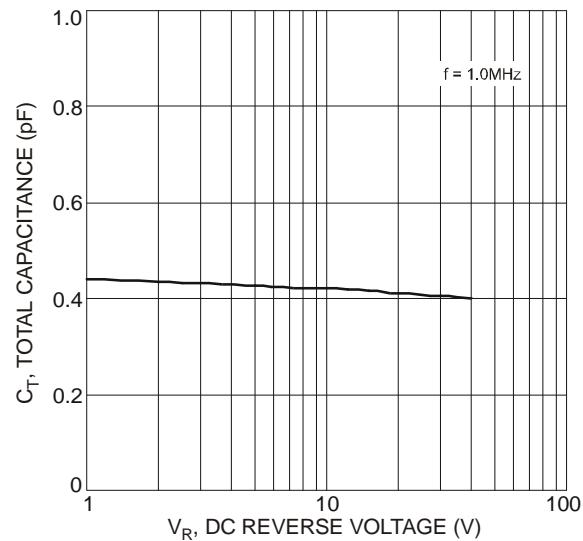
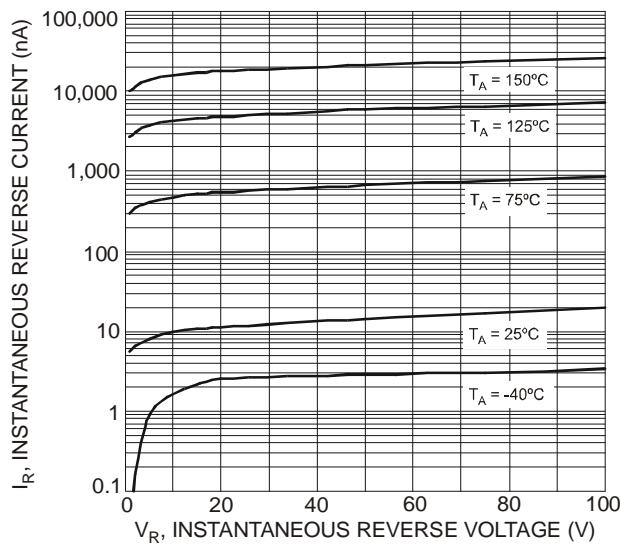
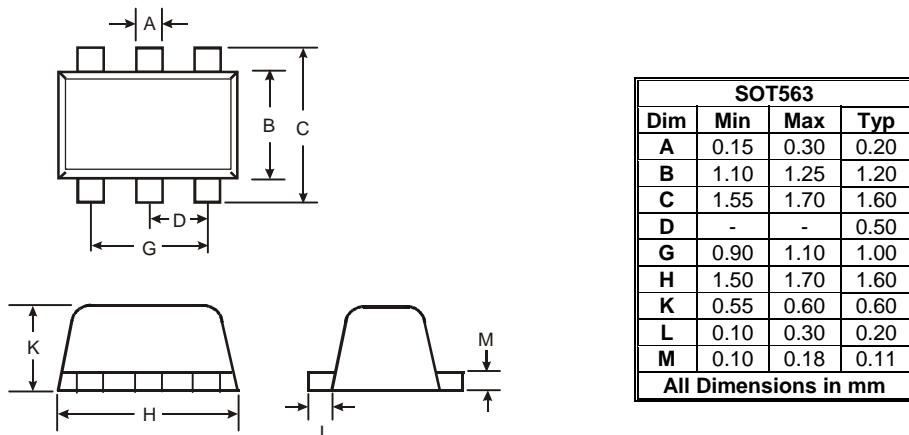


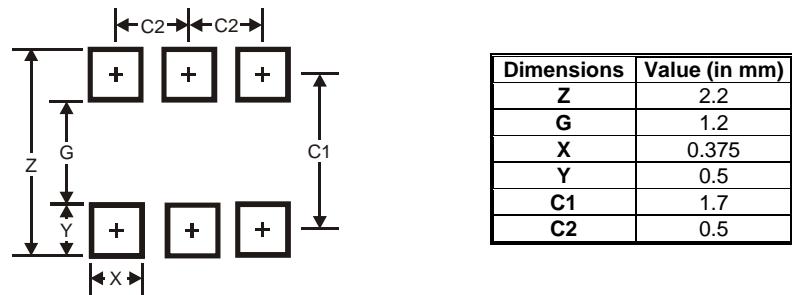
Fig. 2 Typical Forward Characteristics, Per Element



## Package Outline Dimensions



## Suggested Pad Layout



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