



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Features

- Fast Switching Speed
- High Reverse Breakdown Voltage
- Low Leakage Current
- Low Capacitance
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **Qualified to AEC-Q101 Standards for High Reliability**
- **An Automotive-Compliant Part is Available Under Separate Datasheet ([BAS16HTWQ](#))**

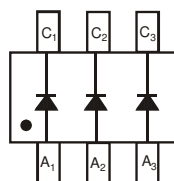
Mechanical Data

- Case: SOT363
- 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 Alloy 42 Leadframe.
(Lead-Free Plating). Solderable per MIL-STD-202, Method 208@3
- Polarity: See Diagram
- Weight: 0.006 grams (Approximate)

SOT363



Top View



Top View
Internal Schematic

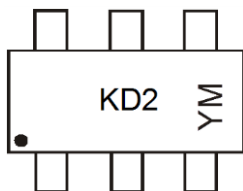
Ordering Information (Note 4)

Part Number	Qualification	Case	Packaging
BAS16HTW-13	AEC-Q101	SOT363	10,000/Tape & Reel
BAS16HTW-13R	AEC-Q101	SOT363	10,000/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/quality/lead_free.html 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. The "-13R" suffix indicates that the devices are rotated 180° in the carrier tape as compared with the standard "-13" suffix devices. For exact packaging details, go to our website at <http://www.diodes.com/products/packages.html>.

Marking Information

SOT363



KD2 = Product Type Marking Code
YM = Date Code Marking
Y = Year (ex: C = 2015)
M = Month (ex: 9 = September)

Date Code Key

Year	2015	2016	2017	2018	2019	2020	2021	2022
Code	C	D	E	F	G	H	I	J

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°C, unless otherwise specified.)

Characteristic		Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage		V _{RRM}	100	V
		V _{RWM}		
		V _R		
RMS Reverse Voltage		V _{R(RMS)}	71	V
Forward Continuous Current (Note 5)		I _{FM}	200	mA
Repetitive Peak Forward Current		I _{FRM}	500	mA
Non-Repetitive Peak Forward Surge Current	@ t = 1.0μs	I _{FSM}	4	A
	@ t = 1.0ms		1.0	
	@ t = 1.0s		0.5	

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P _D	250	mW
Thermal Resistance Junction to Ambient Air (Note 5)	R _{θJA}	500	°C/W
Thermal Resistance Junction to Solder Point (Note 6)	R _{θJSP}	260	°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 7)	V _{(BR)R}	100	—	V	I _R = 2.5μA
Forward Voltage	V _F	—	0.715	V	I _F = 1.0mA
		—	0.855		I _F = 10mA
		—	1.0		I _F = 50mA
		—	1.25		I _F = 150mA
		—	0.5		V _R = 80V
Reverse Current (Note 7)	I _R	—	50	μA	V _R = 80V, T _J = +150°C
		—	30	μA	V _R = 25V, T _J = +150°C
		—	30	nA	V _R = 25V
		—	1.5	pF	V _R = 0, f = 1.0MHz
Total Capacitance	C _T	—	1.5	pF	V _R = 0, f = 1.0MHz
Reverse Recovery Time	t _{RR}	—	4.0	ns	I _F = I _R = 10mA, I _{RR} = 0.1 × I _R , R _L = 100Ω
Forward Recovery Voltage	V _{FR}	—	1.75	V	I _F = 10mA; t _R = 20ns

- Notes:
5. Part mounted on FR-4 PC board with recommended pad layout, please see <http://www.diodes.com/package-outlines.html> for the latest version.
 6. Soldering points at pins C₁, C₂ and C₃.
 7. Short duration pulse test used to minimize self-heating effect.

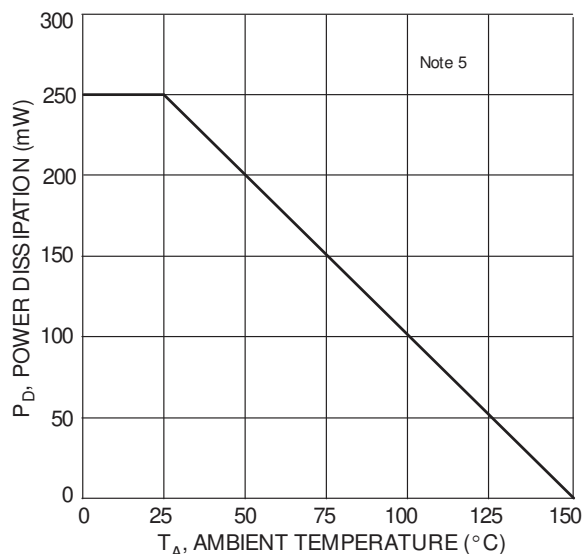


Fig. 1 Power Derating Curve, Total Package

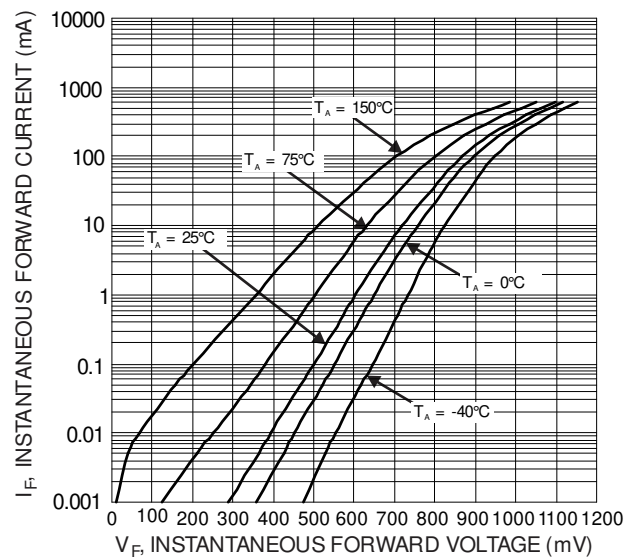


Fig. 2 Typical Forward Characteristics, Per Element

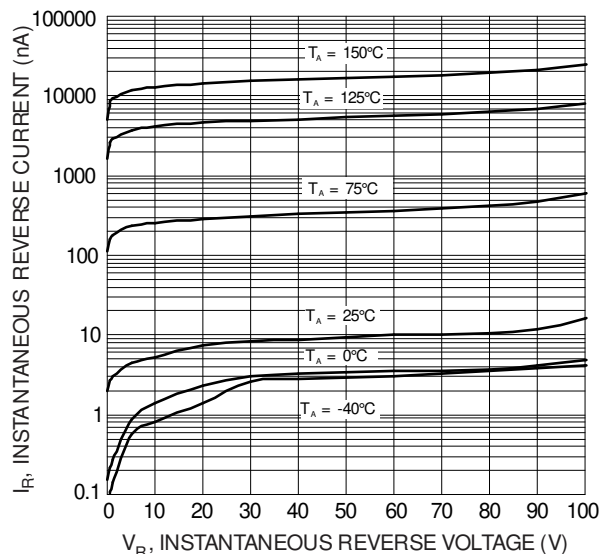


Fig. 3 Typical Reverse Characteristics, Per Element

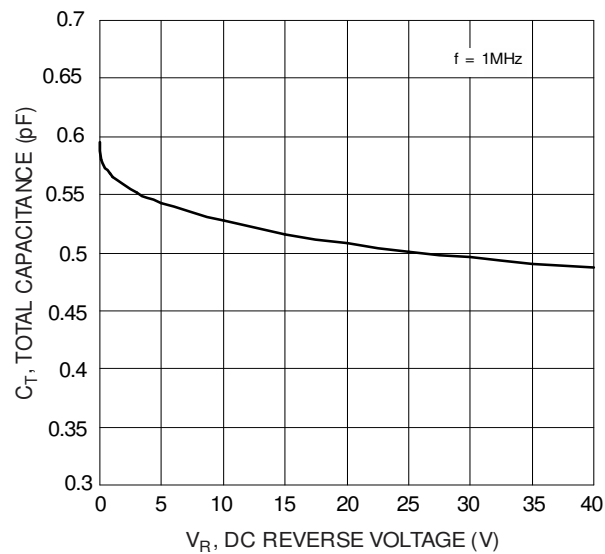
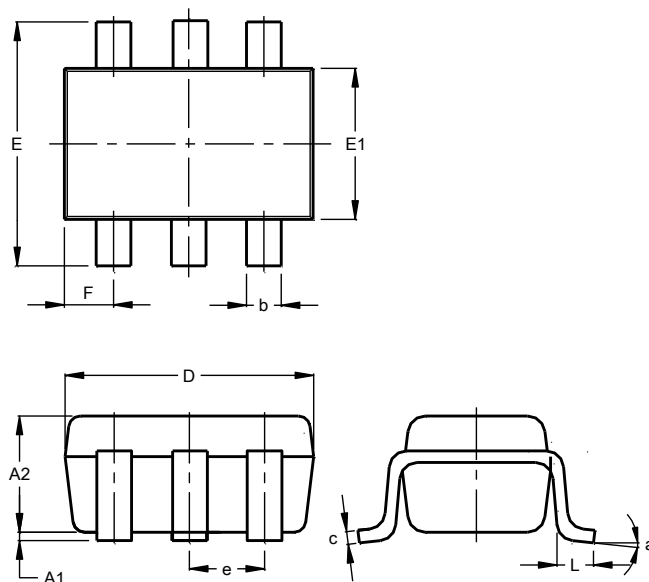


Fig. 4 Total Capacitance vs.
Reverse Voltage, Per Element

Package Outline Dimensions

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

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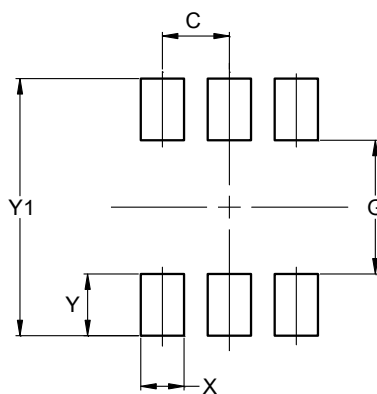


SOT363			
Dim	Min	Max	Typ
A1	0.00	0.10	0.05
A2	0.90	1.00	1.00
b	0.10	0.30	0.25
c	0.10	0.22	0.11
D	1.80	2.20	2.15
E	2.00	2.20	2.10
E1	1.15	1.35	1.30
e	0.650 BSC		
F	0.40	0.45	0.425
L	0.25	0.40	0.30
a	0°	8°	—
All Dimensions in mm			

Suggested Pad Layout

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

SOT363



Dimensions	Value (in mm)
C	0.650
G	1.300
X	0.420
Y	0.600
Y1	2.500

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