

## Product Summary

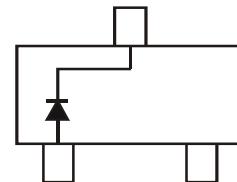
$V_R$ (V)	$I_F$ (mA)	$V_F$ MAX (V) @ +25°C	$I_R$ MAX ( $\mu$ A) @ +25°C
70	1.0	0.41	0.1

## Description

70mA surface mount Schottky Barrier Diode in SOT23 package, offers low forward voltage drop and fast switching capability, designed with PN Junction Guard Ring for Transient and ESD Protection.



Top View



BAS70Q

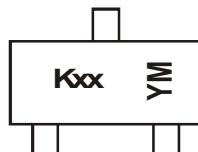
## Ordering Information (Note 5)

Part Number	Compliance	Case	Packaging
BAS70Q-7-F	Automotive	SOT23	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/quality/lead\\_free.html](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. Automotive products are AEC-Q101 qualified and are PPAP capable. Refer to [http://www.diodes.com/product\\_compliance\\_definitions.html](http://www.diodes.com/product_compliance_definitions.html).
5. For packaging details, go to our website at <http://www.diodes.com/products/packages.html>.

## Marking Information



K = SAT, Shanghai Assembly / Test Site  
 xx = Product Type Marking Code (ex: 7C = BAS70Q)  
 YM = Date Code Marking  
 Y = Year (ex: D = 2016)  
 M = Month (ex: 9 = September)

### Date Code Key

Year	2001	2002	2003	....	2011	2012	2013	2014	2015	2016	2017	2018	2019
Code	M	N	P	....	Y	Z	A	B	C	D	E	F	G
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
Peak Repetitive Reverse Voltage	$V_{RRM}$		
Working Peak Reverse Voltage	$V_{RWM}$	70	V
DC Blocking Voltage	$V_R$		
RMS Reverse Voltage	$V_R(\text{RMS})$	49	V
Maximum Forward Continuous Current (Note 6)	$I_{FM}$	70	mA
Non-Repetitive Peak Forward Surge Current @ $t \leq 1.0\text{s}$	$I_{FSM}$	100	mA

**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 6)	$P_D$	200	mW
Thermal Resistance Junction to Ambient Air (Note 6)	$R_{\theta JA}$	625	°C/W
Operating Junction Temperature Range	$T_J$	-55 to +125	°C
Storage Temperature Range	$T_{STG}$	-65 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 7)	$V_{(BR)R}$	70	—	V	$I_R = 10\mu\text{A}$
Forward Voltage	$V_F$	—	410 1000	mV	$t_p < 300\mu\text{s}$ , $I_F = 1.0\text{mA}$ $t_p < 300\mu\text{s}$ , $I_F = 15\text{mA}$
Reverse Current (Note 7)	$I_R$	—	100	nA	$t_p < 300\mu\text{s}$ , $V_R = 50\text{V}$
Total Capacitance	$C_T$	—	2.0	pF	$V_R = 0\text{V}$ , $f = 1.0\text{MHz}$

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

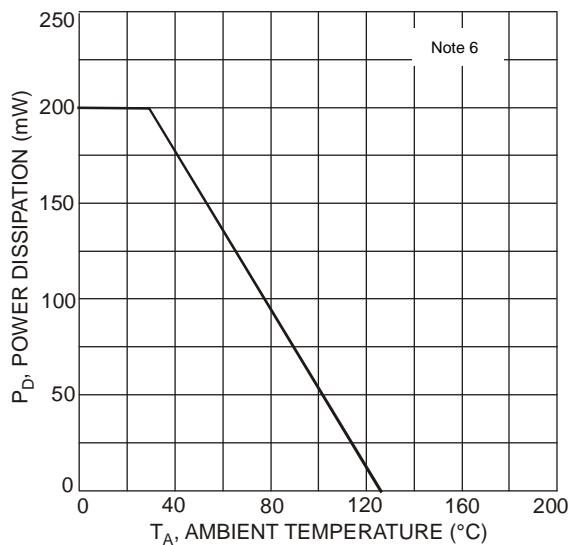


Figure 1 Power Derating Curve, Total Package

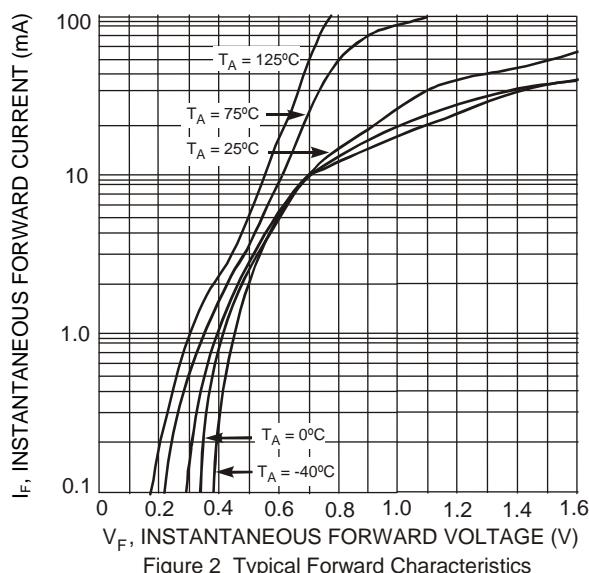


Figure 2 Typical Forward Characteristics

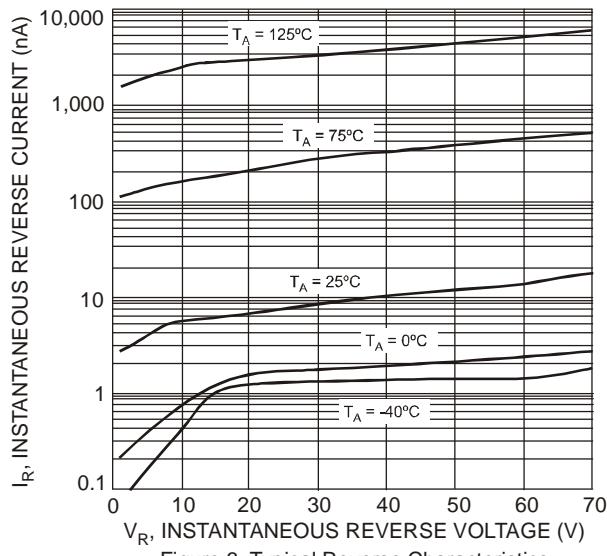


Figure 3 Typical Reverse Characteristics

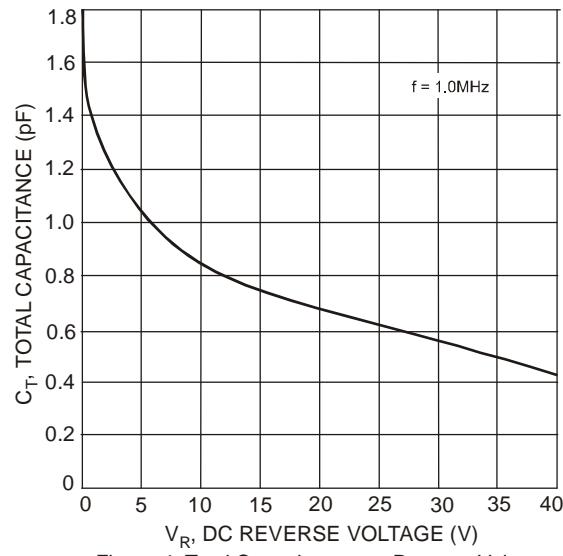
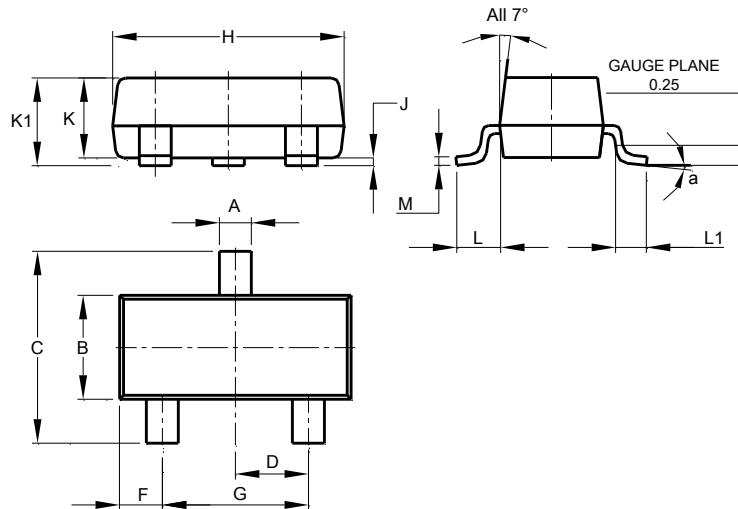


Figure 4 Total Capacitance vs. Reverse Voltage

## Package Outline Dimensions

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

SOT23



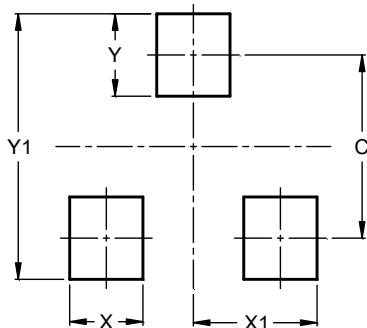
SOT23			
Dim	Min	Max	Typ
A	0.37	0.51	0.40
B	1.20	1.40	1.30
C	2.30	2.50	2.40
D	0.89	1.03	0.915
F	0.45	0.60	0.535
G	1.78	2.05	1.83
H	2.80	3.00	2.90
J	0.013	0.10	0.05
K	0.890	1.00	0.975
K1	0.903	1.10	1.025
L	0.45	0.61	0.55
L1	0.25	0.55	0.40
M	0.085	0.150	0.110
a	0°	8°	--

All Dimensions in mm

## Suggested Pad Layout

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

SOT23



Dimensions	Value (in mm)
C	2.0
X	0.8
X1	1.35
Y	0.9
Y1	2.9

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2. support or sustain life and whose failure to perform when properly used in accordance with instructions for use provided in the labeling can be reasonably expected to result in significant injury to the user.

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