

## 200mA, 40V Schottky Barrier Diode

### FEATURES

- Fast switching device
- Surface mount device type
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

### APPLICATIONS

- Adapters
- For switching power supply
- Low stored charge
- Inverter

### MECHANICAL DATA

- Case: SOD-523F
- Molding compound meets UL 94 V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Polarity: Indicated by cathode band
- Weight: 1.60 mg (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_F$	200	mA
$V_{RRM}$	40	V
$V_F$ at $I_F=40mA$	1.0	V
$T_{J\ MAX}$	125	°C
Package	SOD-523F	



### ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	BAS40M5	UNIT
Marking code on the device		40	
Power dissipation	$P_D$	200	mW
Repetitive peak reverse voltage	$V_{RRM}$	40	V
Non-repetitive peak reverse voltage	$V_{RM}$	40	V
Forward current	$I_F$	200	mA
Non-repetitive peak forward surge current @ $t=8.3ms$	$I_{FSM}$	0.5	A
Junction temperature range	$T_J$	-50 to +125	°C
Storage temperature range	$T_{STG}$	-50 to +125	°C

<b>ELECTRICAL SPECIFICATIONS</b> ( $T_A = 25^\circ\text{C}$ unless otherwise noted)					
PARAMETER	CONDITIONS	SYMBOL	MIN	MAX	UNIT
Forward voltage <sup>(1)</sup>	$I_F = 1\text{mA}, T_J = 25^\circ\text{C}$	$V_F$	-	0.38	V
	$I_F = 10\text{mA}, T_J = 25^\circ\text{C}$			0.50	
	$I_F = 40\text{mA}, T_J = 25^\circ\text{C}$			1.00	
Reverse voltage <sup>(2)</sup>	$I_R = 10\mu\text{A}, T_J = 25^\circ\text{C}$	$V_R$	40	-	V
Reverse current <sup>(2)</sup>	$V_R = 25\text{V}, T_J = 25^\circ\text{C}$	$I_R$	-	1	$\mu\text{A}$
Capacitance	$f = 1\text{MHz}, V_R = 0\text{V}$	C	-	5	pF
Reverse recovery time	$I_F = I_R = 10\text{mA}$ $I_{RR} = 1\text{mA}, R_L = 100\Omega$	$t_{rr}$	-	5	ns

**Notes:**

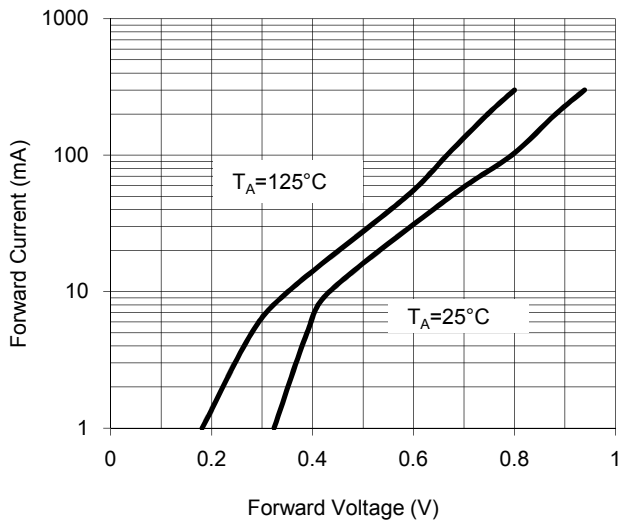
1. Pulse test with  $PW=0.3\text{ ms}$
2. Pulse test with  $PW=30\text{ ms}$

<b>ORDERING INFORMATION</b>		
ORDERING CODE	PACKAGE	PACKING
BAS40M5 RSG	SOD-523F	8K / 7" Reel

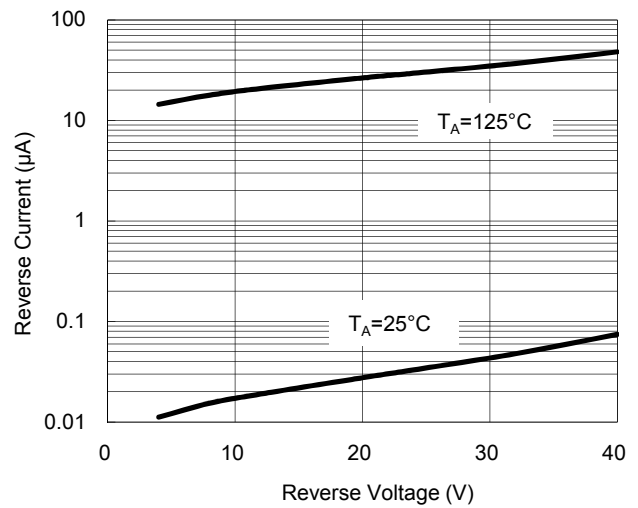
## CHARACTERISTICS CURVES

( $T_A = 25^\circ\text{C}$  unless otherwise noted)

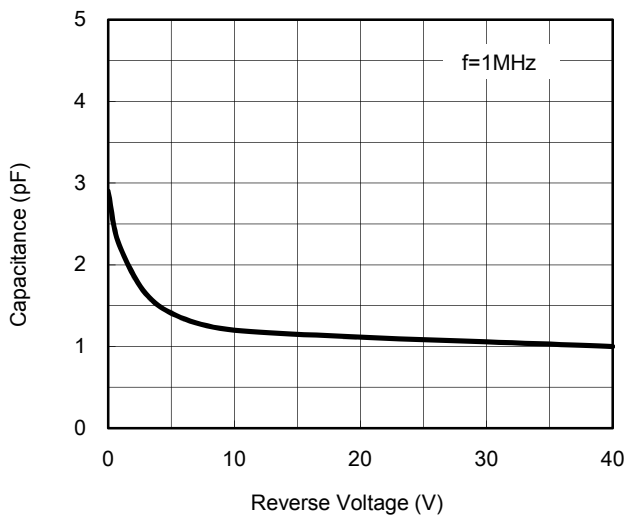
**Fig.1 Typical Forward Characteristics**



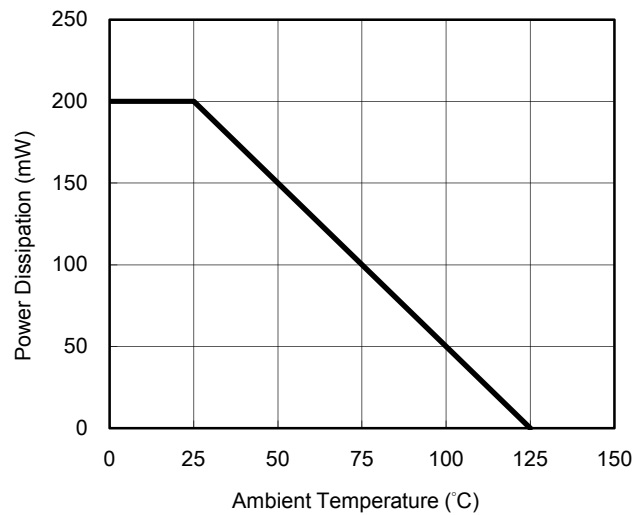
**Fig.2 Typical Reverse Characteristics**



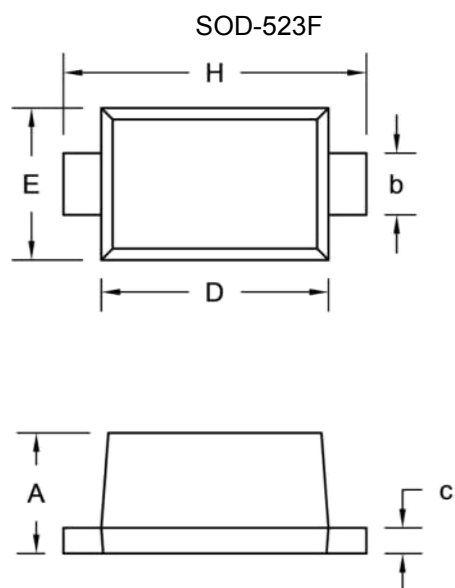
**Fig.3 Typical Capacitance Characteristics**



**Fig.4 Power Derating Curve**

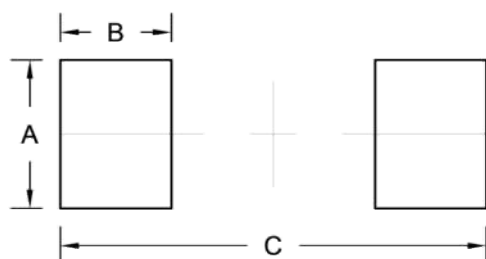


## PACKAGE OUTLINE DIMENSION



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	0.50	0.77	0.020	0.030
b	0.25	0.40	0.010	0.016
c	0.07	0.20	0.003	0.008
D	1.10	1.30	0.043	0.051
E	0.70	0.90	0.028	0.035
H	1.50	1.70	0.059	0.067

## SUGGEST PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
A	0.80	0.031
B	0.60	0.024
C	2.30	0.091



## Notice

Specifications of the products displayed herein are subject to change without notice. TSC or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Purchasers are solely responsible for the choice, selection, and use of TSC products and TSC assumes no liability for application assistance or the design of Purchasers' products.

Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in TSC's terms and conditions of sale for such products, TSC assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of TSC products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify TSC for any damages resulting from such improper use or sale.