

Surface Mount Schottky Barrier Diodes

 Lead(Pb)-Free

Features:

- * Low forward current
- * Guard ring protected
- * Low diode capacitance.

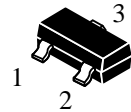
Applications:

- * Ultra high-speed switching
- * Voltage clamping
- * Protection circuits.
- * Blocking diodes.

Description:

Planar Schottky barrier diodes with an integrated guard ring for stress protection.
We declare that the material of product compliance with RoHS requirements.

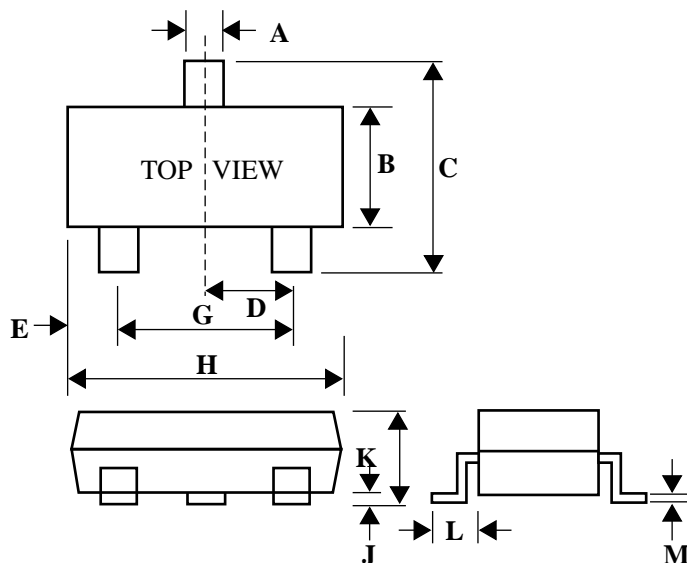
**SMALL SIGNAL
SCHOTTKY DIODES**
200m AMPERES
40 VOLTS



SOT-23

SOT-23 Outline Dimensions

Unit:mm



Dim	Min	Max
A	0.35	0.51
B	1.19	1.40
C	2.10	3.00
D	0.85	1.05
E	0.46	1.00
G	1.70	2.10
H	2.70	3.10
J	0.01	0.13
K	0.89	1.10
L	0.30	0.61
M	0.076	0.25

Maximum Ratings ($T_J=125\text{ }^{\circ}\text{C}$ Unless otherwise noted)

Characteristic	Symbol	Value	Unit
Continuous reverse voltage	V_R	40	Volts
Continuous forward current	I_F	120	mA
Repetitive Peak forward surge current @ $t_p \leq 1\text{s}$; $\delta \leq 0.5$	I_{FSM}	120	mA
Non-repetitive peak forward current @ $t_p < 10\text{ms}$	I_{FSM}	200	mA
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	-65 to +150	$^{\circ}\text{C}$
Operating ambient temperature	T_{amb}	-65 to +150	$^{\circ}\text{C}$

Electrical Characteristics ($T_A=25\text{ }^{\circ}\text{C}$ Unless otherwise noted)


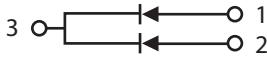


Characteristic	Symbol	Min	Max	Unit
Forward Voltage $I_F=1.0\text{mA}$ $I_F=10\text{mA}$ $I_F=40\text{mA}$	V_F		0.40 0.56 1.0	Volts
Diode capacitance ($V_R=0\text{V}$, $f=1.0\text{MHz}$)	C_d		5	pF
Reverse Leakage(Note 1) $V_R=30\text{V}$ $V_R=40\text{V}$	I_R		1 10	μA

1. Pulse test : $t_p = 300\mu\text{s}$; $\delta = 0.02$.

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Thermal resistance from junction to ambient	$R_{\theta JA}$	500	k/w

Device Marking

Item	Marking	Equivalent Circuit diagram
BAS40	B1	
BAS40-05	45	
BAS40-06	L2	
BAS40-04	CB	

Electrical characteristic curves(TA = 25°C)

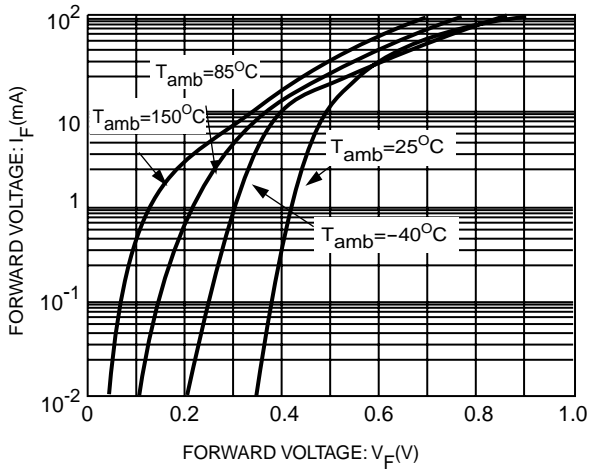


Fig.1 Forward current as a function of forward voltage; typical values.

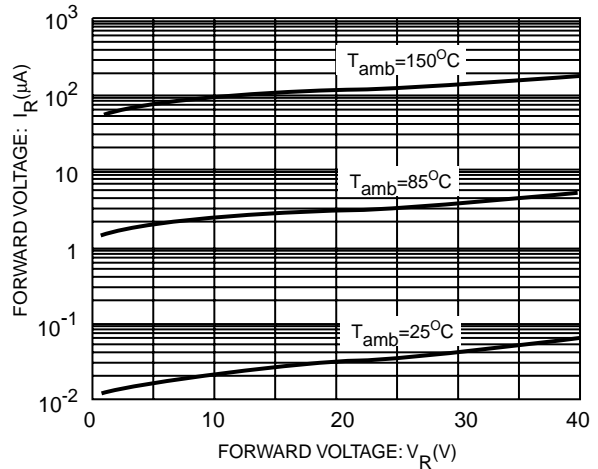


Fig.2 Reverse current as a function of reverse voltage; typical values.

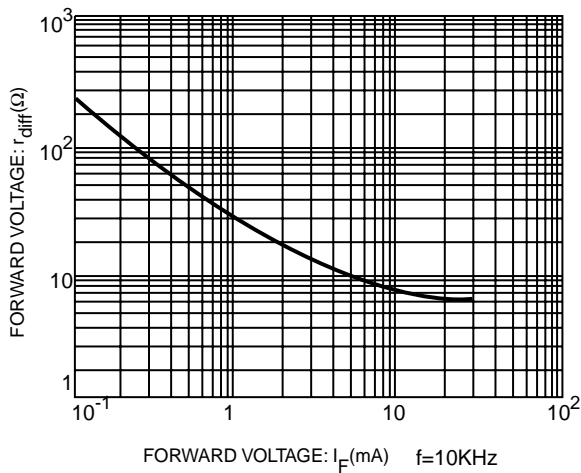


Fig.3 Differential forward resistance as a function of forward current; typical values.

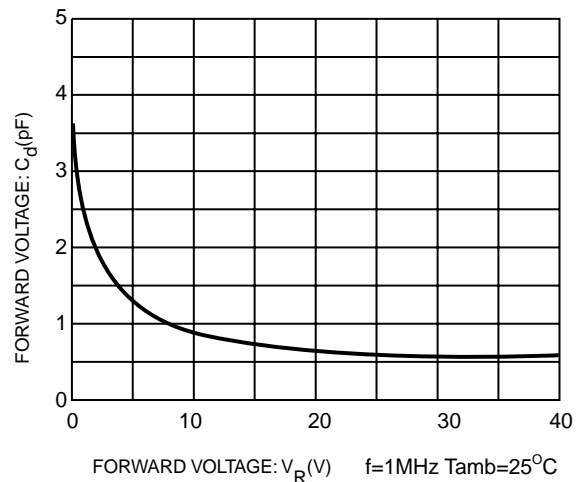


Fig.4 Diode capacitance as a function of reverse voltage; typical values.