

Schottky Barrier Diode

30 V, 0.7 A, Low IR, Single CP

SB07-03C

Features

- Low Forward Voltage (V_F max = 0.55 V)
- Low Switching Noise
- Low Leakage Current and High Reliability Due to Highly Reliable Planar Structure
- Fast Reverse Recovery Time (t_{rr} max = 10 ns)

Applications

- High Frequency Rectification (Switching Regulators, Converters, Choppers)

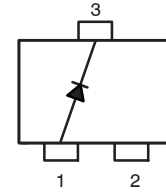
SPECIFICATIONS

ABSOLUTE MAXIMUM RATINGS at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	–	30	V
Nonrepetitive Peak Reverse Surge Voltage	V_{RSM}	–	35	V
Average Output Current	I_O	–	700	mA
Surge Forward Current	I_{FSM}	50 Hz sine wave, 1 cycle	5	A
Junction Temperature	T_j	–	– 55 to +125	$^\circ\text{C}$
Storage Temperature	T_{stg}	–	– 55 to +125	$^\circ\text{C}$

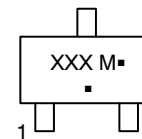
Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

ELECTRICAL CONNECTION



SC-59 / CP3
CASE 318BJ
ISSUE O

MARKING DIAGRAM



XXX = Specific Device Code
M = Date Code
■ = Pb-Free Package

ORDERING INFORMATION

Device	Package	Shipping†
SB07-03C-TB-E	SC-59 / CP3 (Pb free)	3000 / Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

ELECTRICAL CHARACTERISTICS (at $T_a = 25^\circ\text{C}$)

Parameter	Symbol	Conditions	Ratings			Unit
			Min	Typ	Max	
Reverse Voltage	V_R	$I_R = 300\ \mu\text{A}$	30	–	–	V
Forward Voltage	V_F	$I_F = 700\ \text{mA}$	–	–	0.55	V
Reverse Current	I_R	$V_R = 15\ \text{V}$	–	–	80	μA
Interterminal Capacitance	C	$V_R = 10\ \text{V}, f = 1\ \text{MHz}$	–	25	–	pF
Reverse Recovery Time	t_{rr}	$I_F = I_R = 100\ \text{mA}$, See specified Test Circuit.	–	–	10	ns
Thermal Resistance	$R_{th(j-a)1}$		–	420	–	$^\circ\text{C/W}$
	$R_{th(j-a)2}$	Mounted in Cu-foiled area of 16mm ² x 0.2mm on glass epoxy board	–	330	–	$^\circ\text{C/W}$

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

t_{rr} Test Circuit

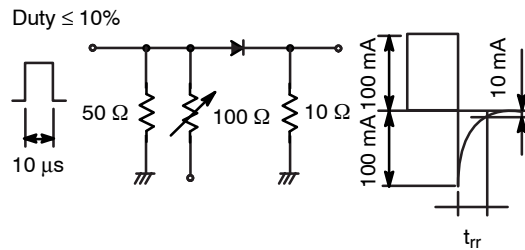


Figure 1. t_{rr} Test Circuit

TYPICAL CHARACTERISTICS

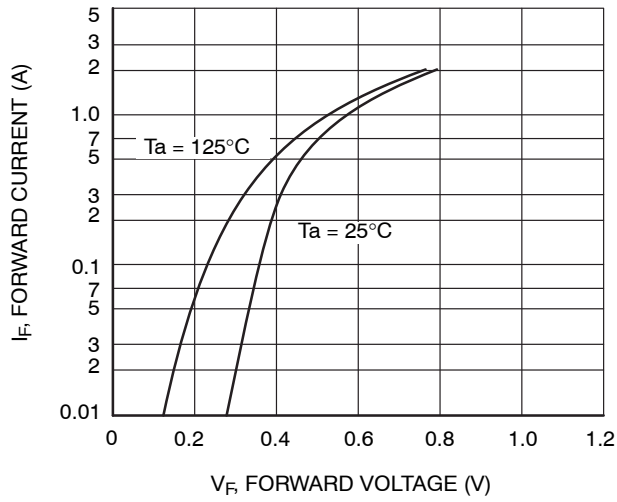


Figure 2. $I_F - V_F$

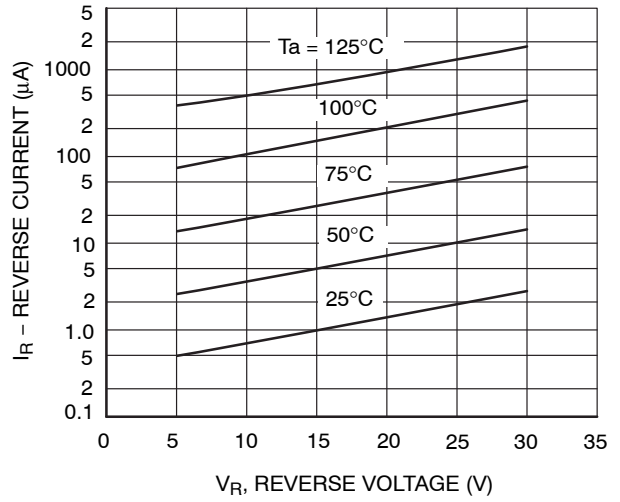


Figure 3. $I_R - V_R$

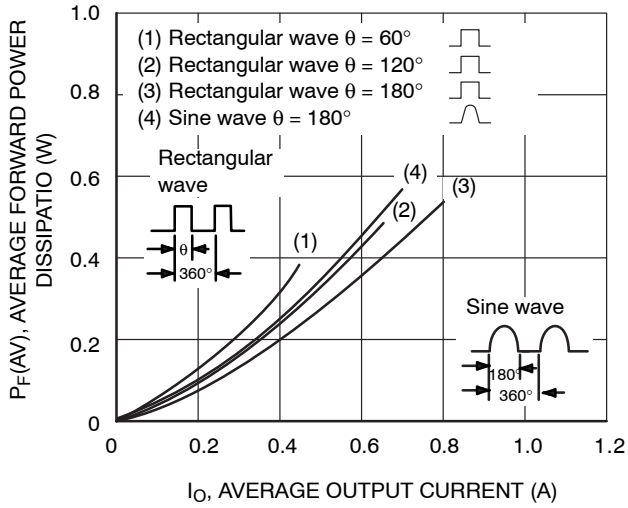


Figure 4. $P_F(AV) - I_O$

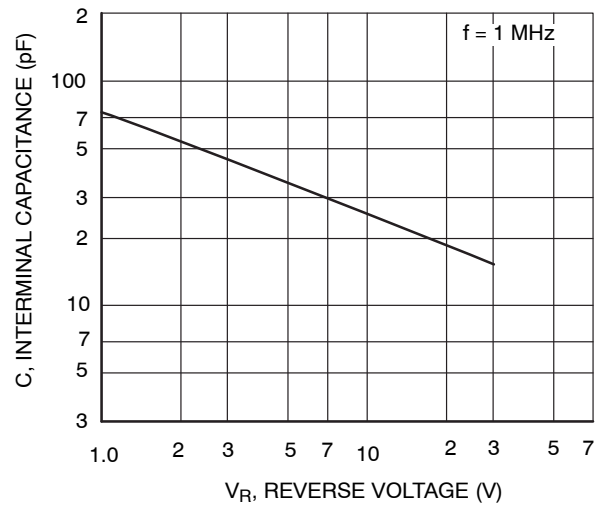


Figure 5. $C - V_R$

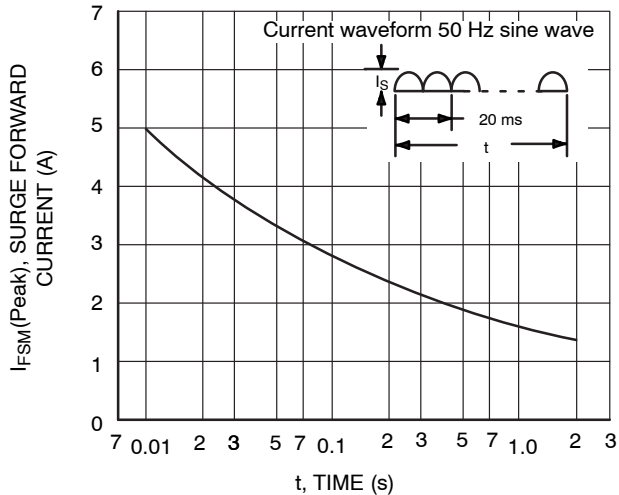


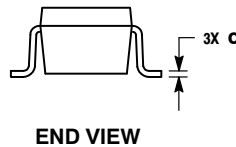
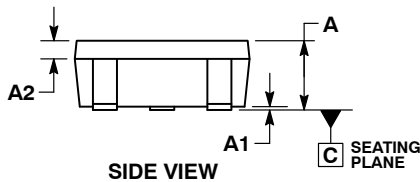
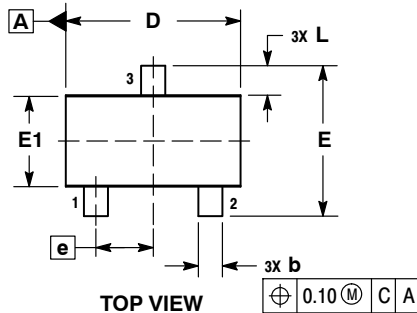
Figure 6. $I_{FSM} - t$



SCALE 2:1

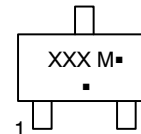
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NOTES:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. DIMENSIONS D AND E1 DO NOT INCLUDE MOLD FLASH, PROTRUSIONS, OR GATE BURRS. MOLD FLASH, PROTRUSIONS, OR GATE BURRS SHALL NOT EXCEED 0.20 PER SIDE.
4. DIMENSIONS D AND E1 ARE MEASURED AT THE OUTERMOST EXTREME OF THE PLASTIC BODY.
5. DIMENSIONS b AND c APPLY TO THE FLAT SECTION OF THE LEAD BETWEEN 0.10 AND 0.20 FROM THE TIP.

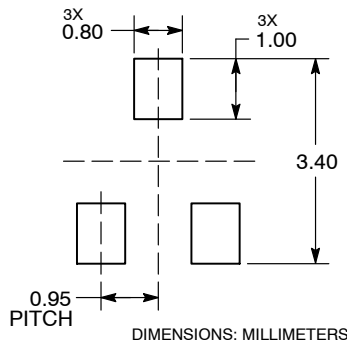
DIM	MILLIMETERS	
	MIN	MAX
A	0.95	1.35
A1	0.00	0.10
A2	0.20	0.40
b	0.35	0.50
c	0.10	0.20
D	2.75	3.05
E	2.30	2.70
E1	1.35	1.65
e	0.95 BSC	
L	0.35	0.75

GENERIC MARKING DIAGRAM


XXX = Specific Device Code
M = Date Code
▪ = Pb-Free Package

(Note: Microdot may be in either location)

*This information is generic. Please refer to device data sheet for actual part marking. Pb-Free indicator, "G" or microdot "▪", may or may not be present.

RECOMMENDED SOLDERING FOOTPRINT*


*For additional information on our Pb-Free strategy and soldering details, please download the **onsemi** Soldering and Mounting Techniques Reference Manual, [SOLDERRM/D](#).

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