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 Rime (t_{rr} max = 10 ns)

Applications

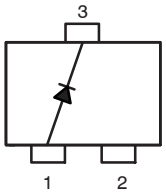
- High Frequency Rectification (Switching Regulators, Converters, Choppers)

SPECIFICATIONS
ABSOLUTE MAXIMUM RATINGS at Ta = 25°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	°C
Storage Temperature	T_{stg}	–	– 55 to +125	°C

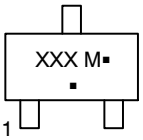
Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

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 Ta = 25°C)

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

trr Test Circuit

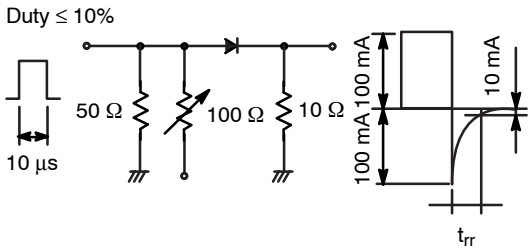


Figure 1. t_{rr} Test Circuit

TYPICAL CHARACTERISTICS

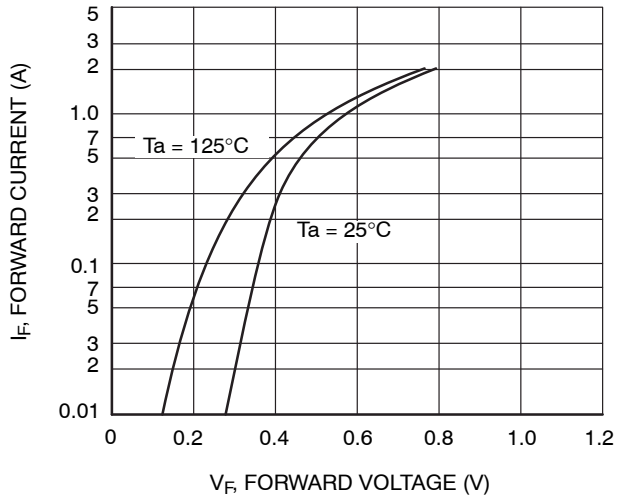


Figure 2. I_F – V_F

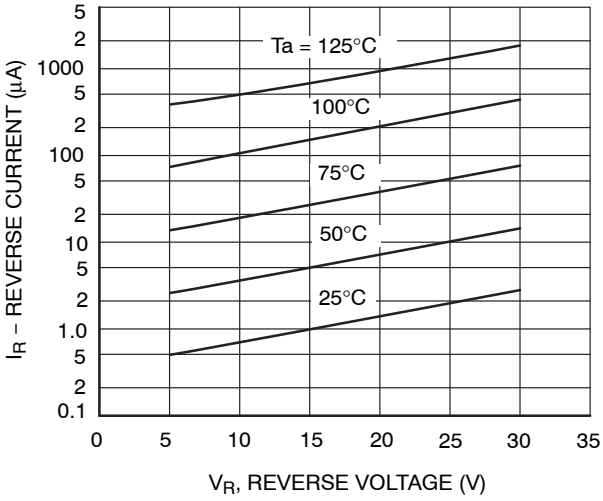


Figure 3. I_R – V_R

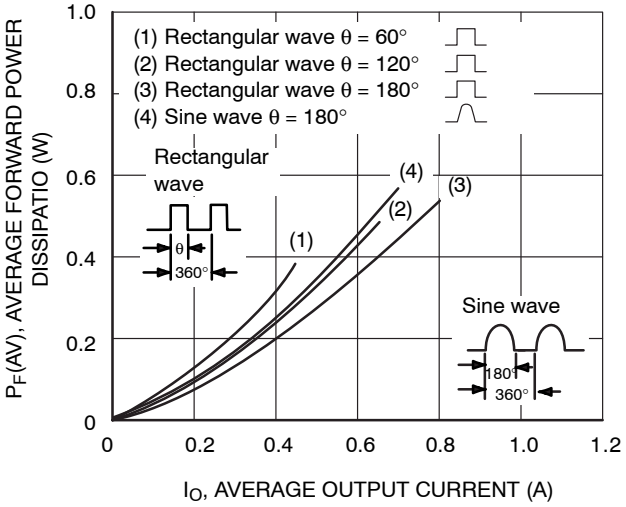


Figure 4. $P_F(AV)$ – I_O

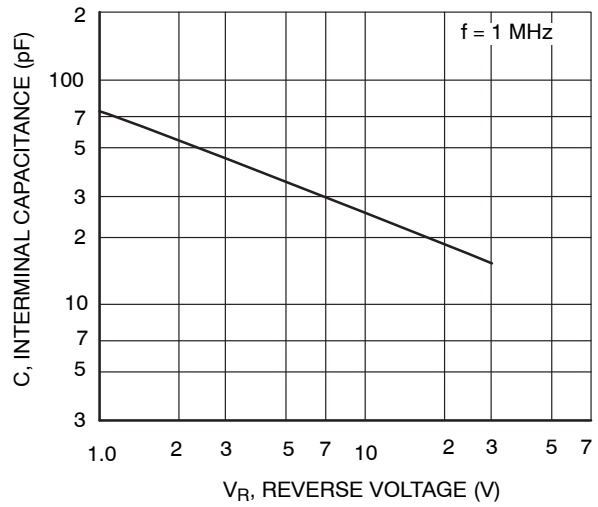


Figure 5. C – V_R

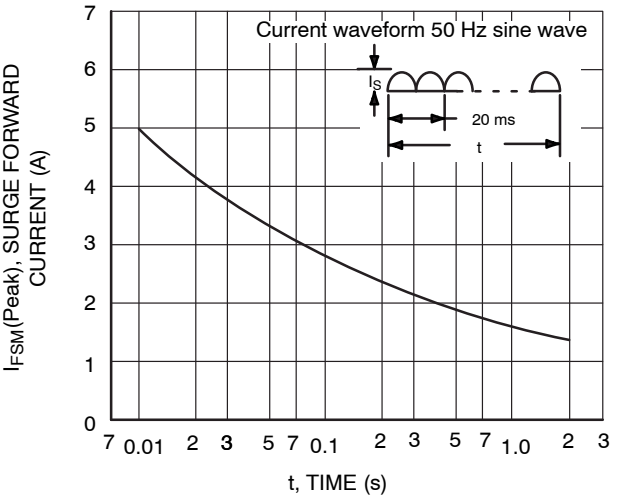


Figure 6. I_{FSM} – t

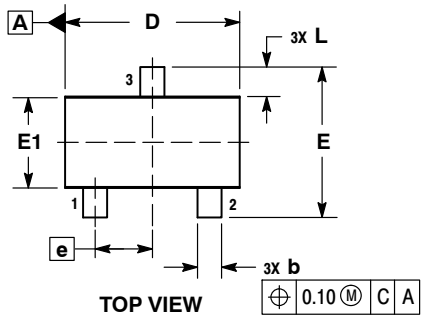
MECHANICAL CASE OUTLINE
PACKAGE DIMENSIONS

ON Semiconductor®

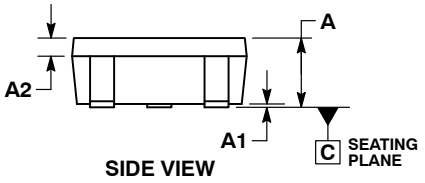
SCALE 2:1

SC−59 / CP3
CASE 318BJ
ISSUE O

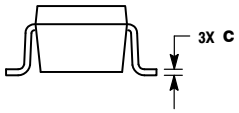
DATE 09 JAN 2015



TOP VIEW



SIDE VIEW

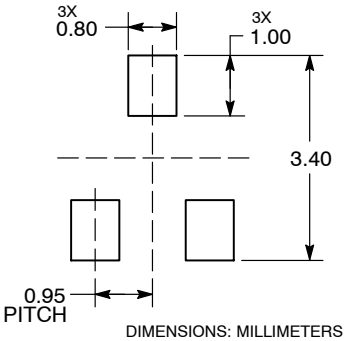


END VIEW

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.

	MILLIMETERS	
DIM	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

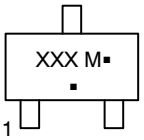
RECOMMENDED SOLDERING FOOTPRINT*



DIMENSIONS: MILLIMETERS

*For additional information on our Pb−Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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.

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DESCRIPTION:	SC−59 / CP3		PAGE 1 OF 1

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