Ordering number : EN8371C

SB2003M

Schottky Barrier Diode
30V, 2A, Low I_R, Single MCPH6

ON Semiconductor®
http://onsemi.com

Applications

- High frequency rectification (switching regulators, converters, choppers)

Features

- Low switching noise
- Halogen free compliance
- Low leakage current and high reliability due to highly reliable planar structure
- Ultrasmall package permitting applied sets to be small and slim (mounting height 0.85mm)

Specifications

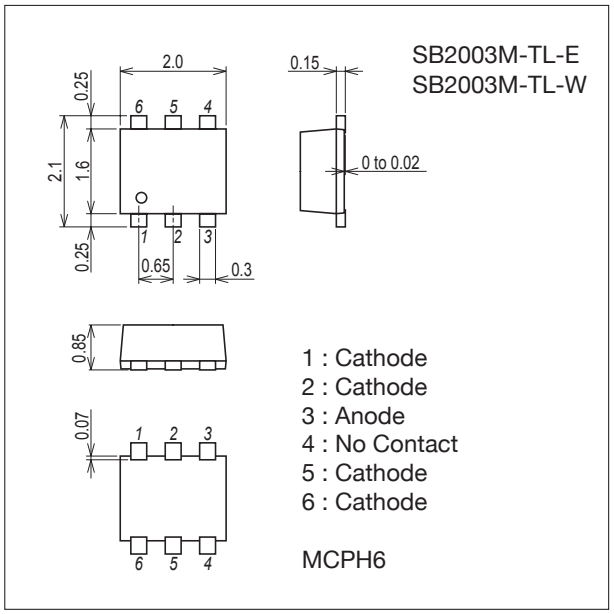
Absolute Maximum Ratings at Ta=25°C

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		2.0	A
Surge Forward Current	I_{FSM}	50Hz sine wave, 1 cycle	10	A
Junction Temperature	Tj		−55 to +125	°C
Storage Temperature	Tstg		−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.

Package Dimensions

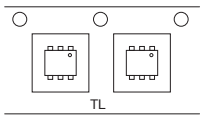
unit : mm (typ)
7022A-014



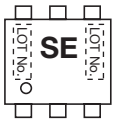
Product & Package Information

- Package : MCPH6
- JEITA, JEDEC : SC-88, SC-70-6, SOT-363
- Minimum Packing Quantity : 3,000 pcs./reel

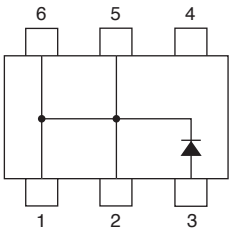
Packing Type : TL



Marking



Electrical Connection



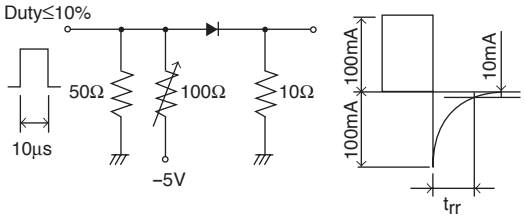
ORDERING INFORMATION
See detailed ordering and shipping information on page 2 of this data sheet.

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Reverse Voltage	V_R	I_R=0.2mA	30			V
Forward Voltage	V_F	I_F=1.0A		0.40	0.45	V
		I_F=2.0A		0.45	0.50	V
Reverse Current	I_R	V_R=15V			30	μA
Interterminal Capacitance	C	V_R=10V, f=1MHz		75		pF
Reverse Recovery Time	t_{rr}	I_F=I_R=100mA, See specified Test Circuit.			20	ns
Thermal Resistance	Rth(j-a)1	When mounted in Cu-foiled area of 1.44mm^2×0.03mm on glass epoxy substrate		93.4		°C / W
	Rth(j-a)2	When mounted on ceramic substrate (500mm^2×0.8mm)		71.4		°C / W

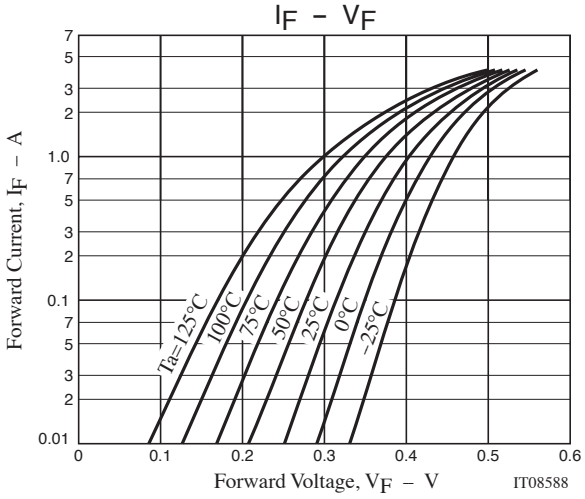
Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

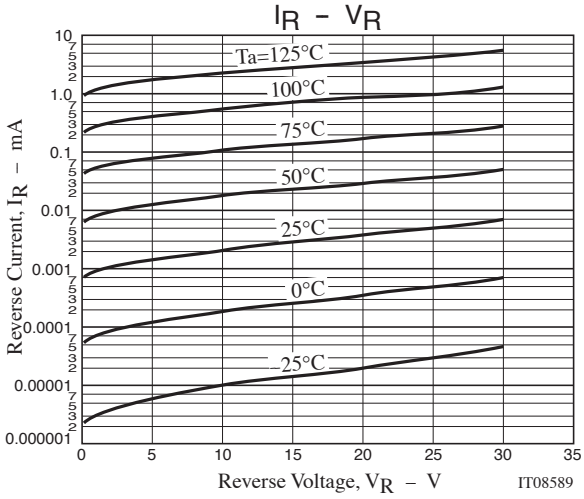
t_{rr} Test Cicuit

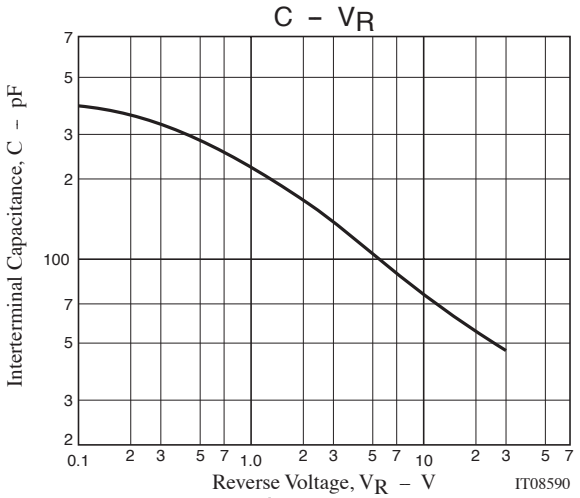


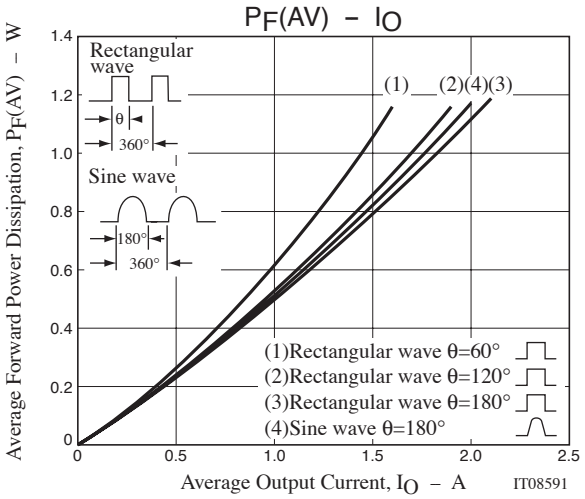
Ordering Information

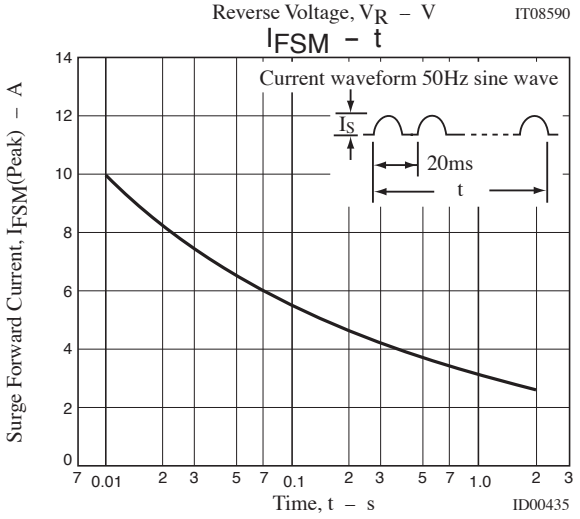
Device	Package	Shipping	memo
SB2003M-TL-E	MCPH6	3,000pcs./reel	Pb-Free
SB2003M-TL-W	MCPH6	3,000pcs./reel	Pb-Free and Halogen Free





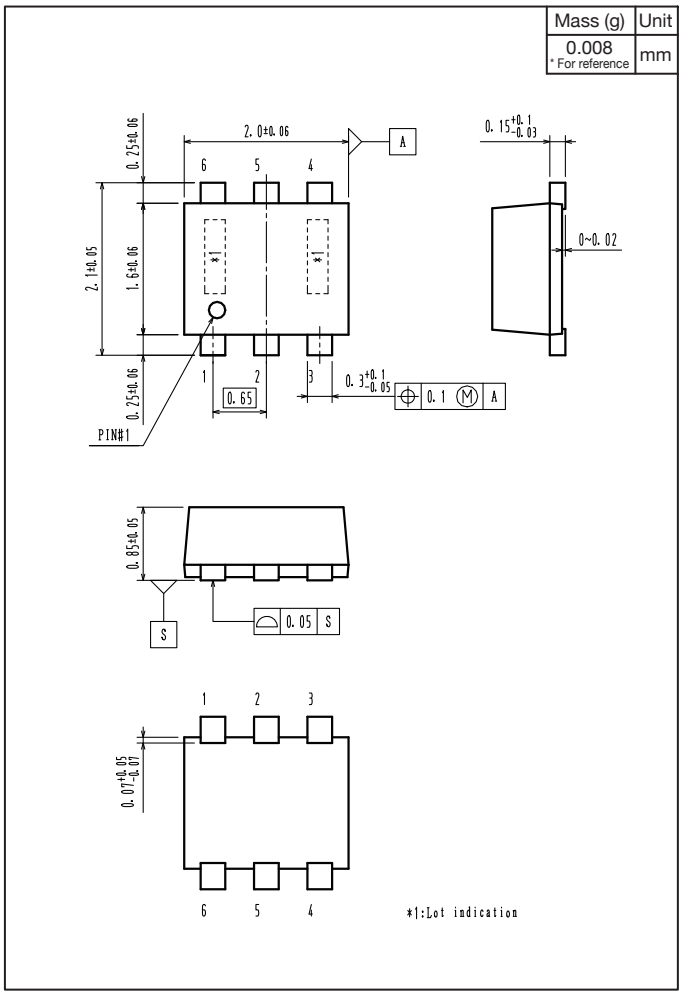

C – VR
Interterminal Capacitance, C – pF
Reverse Voltage, VR – V
IT08590


PF(AV) – IO
Average Forward Power Dissipation, PF(AV) – W
Rectangular wave
θ
360°
Sine wave
180°
360°
(1) (2)(4)(3)
(1)Rectangular wave θ=60°
(2)Rectangular wave θ=120°
(3)Rectangular wave θ=180°
(4)Sine wave θ=180°
Average Output Current, IO – A
IT08591

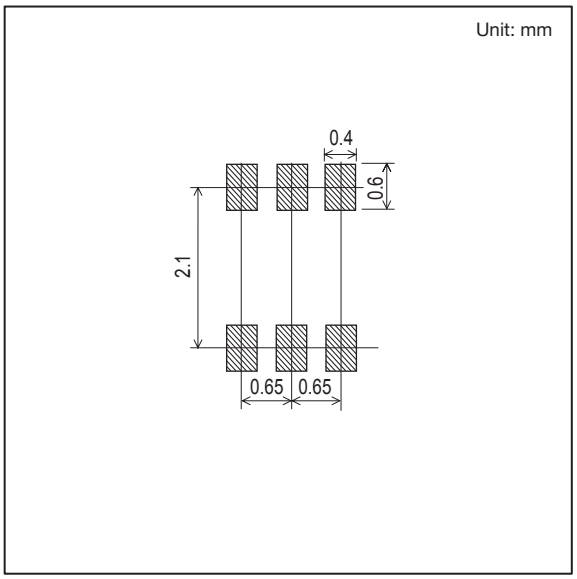

IFSM – t
Surge Forward Current, IFSM(Peak) – A
Current waveform 50Hz sine wave
IS
20ms
t
Time, t – s
ID00435

Outline Drawing

SB2003M-TL-E, SB2003M-TL-W



Land Pattern Example



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