



SB2003M

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

ON Semiconductor®

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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

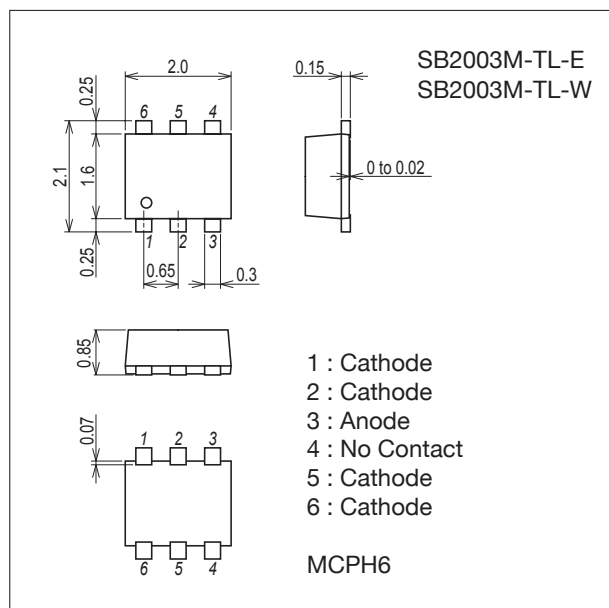
| Parameter | Symbol | Conditions | Ratings | Unit |
|--|------------------|-------------------------|-------------|------|
| Repetitive Peak Reverse Voltage | V _{RRM} | | 30 | V |
| Nonrepetitive Peak Reverse Surge Voltage | V _{RSM} | | 35 | V |
| Average Output Current | I _O | | 2.0 | A |
| Surge Forward Current | I _{FSM} | 50Hz sine wave, 1 cycle | 10 | A |
| Junction Temperature | 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.

Package Dimensions

unit : mm (typ)

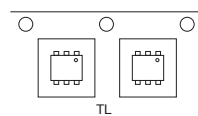
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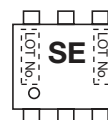
Product & Package Information

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

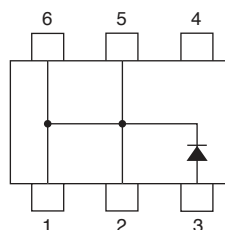
Packing Type : TL



Marking



Electrical Connection



ORDERING INFORMATION

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

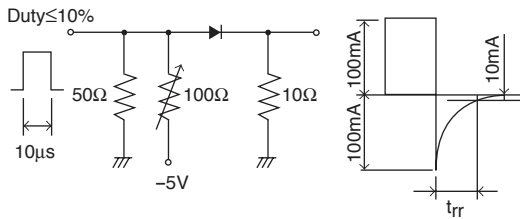
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Electrical Characteristics at $T_a=25^\circ\text{C}$

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

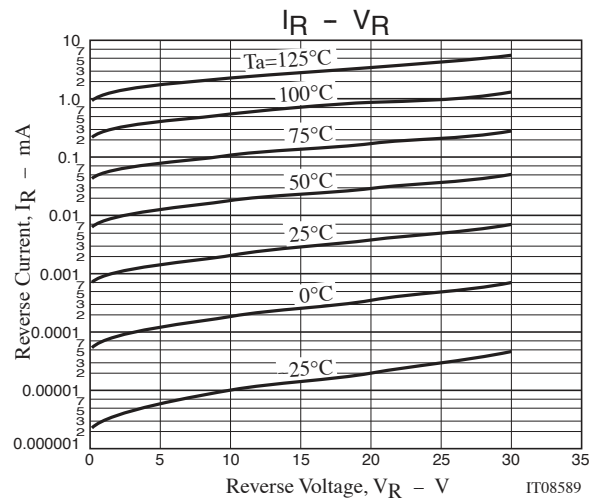
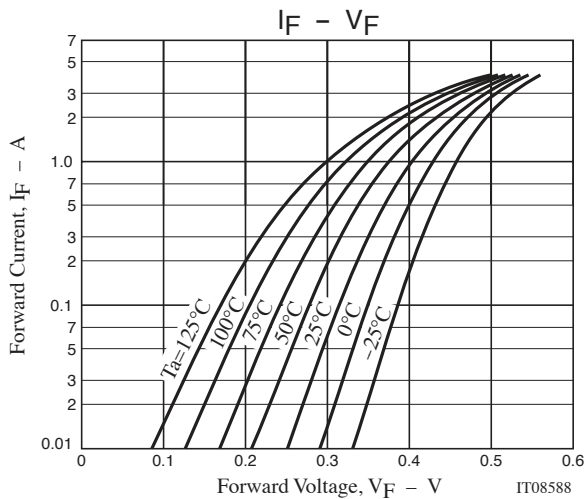
Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

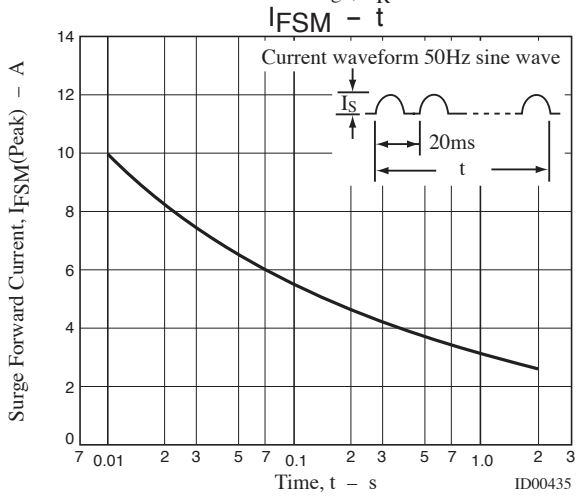
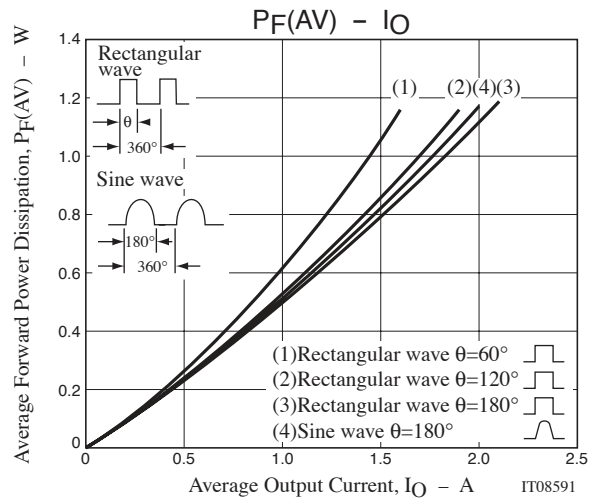
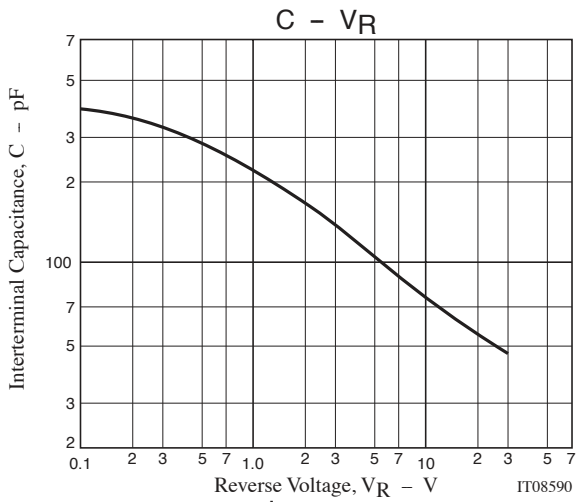
t_{rr} Test Circuit



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 |

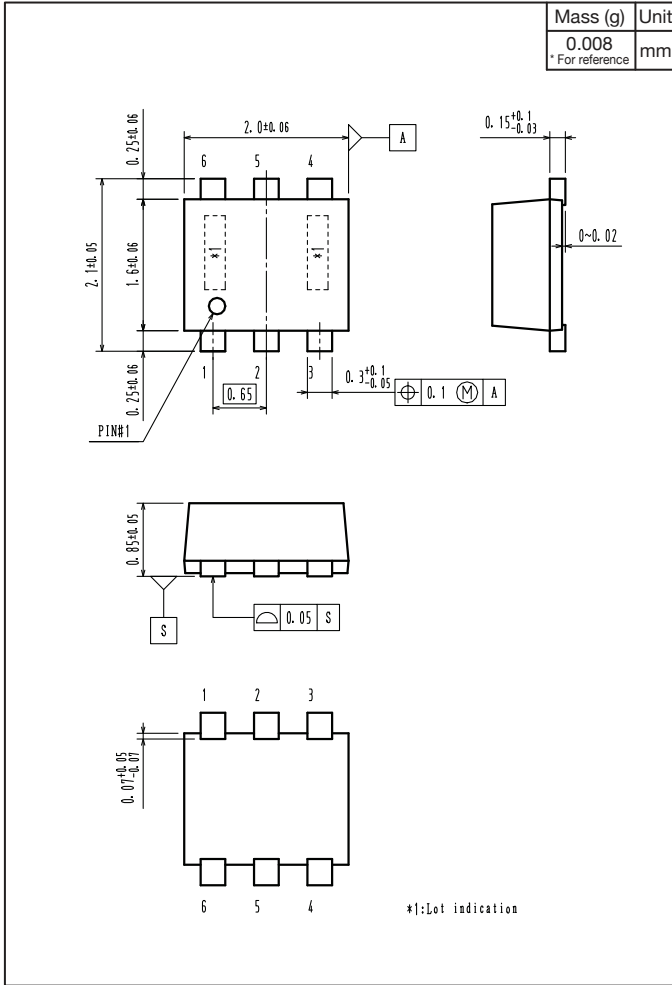




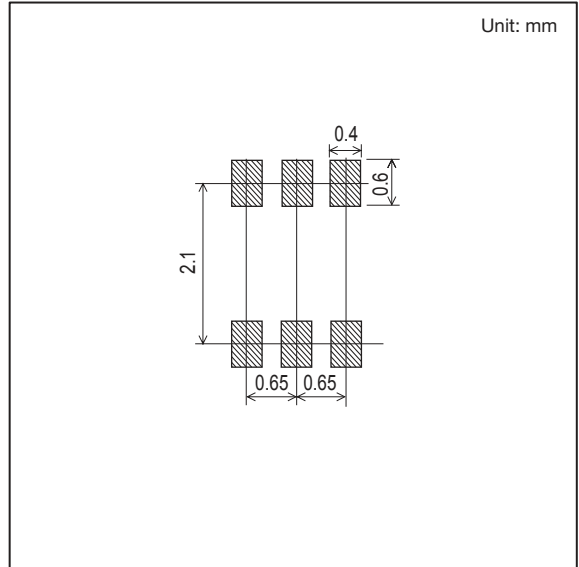
SB2003M

Outline Drawing

SB2003M-TL-E, SB2003M-TL-W



Land Pattern Example



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