



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



MBRS360T3G, MBRS360BT3G, NRVBS360T3G, NRVBS360BT3G



ON Semiconductor®

www.onsemi.com

Surface Mount Schottky Power Rectifier

This device employs the Schottky Barrier principle in a large area metal-to-silicon power diode. State-of-the-art geometry features epitaxial construction with oxide passivation and metal overlay contact. Ideally suited for low voltage, high frequency rectification, or as free wheeling and polarity protection diodes, in surface mount applications where compact size and weight are critical to the system.

Features

- Small Compact Surface Mountable Package with J-Bend Leads
- Rectangular Package for Automated Handling
- Highly Stable Oxide Passivated Junction
- Excellent Ability to Withstand Reverse Avalanche Energy Transients
- Guard-Ring for Stress Protection
- NRVBS Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable*
- These Devices are Pb-Free, Halogen Free/BFR Free and are RoHS Compliant

Mechanical Characteristics

- Case: Epoxy, Molded, Epoxy Meets UL 94 V-0
- Weight: 217 mg (Approximately), SMC 2-LEAD
95 mg (Approximately), SMB
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead and Mounting Surface Temperature for Soldering Purposes: 260°C Max. for 10 Seconds
- Polarity: Notch in Plastic Body Indicates Cathode Lead
- Device Meets MSL 1 Requirements
- ESD Ratings:
 - ◆ Machine Model, C
 - ◆ Human Body Model, 3B

SCHOTTKY BARRIER RECTIFIERS 3.0 AMPERES, 60 VOLTS

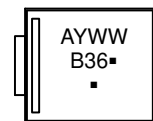


SMC 2-LEAD
CASE 403AC



SMB
CASE 403A

MARKING DIAGRAMS



- B36 = Specific Device Code
- A = Assembly Location**
- Y = Year
- WW = Work Week
- = Pb-Free Package

(Note: Microdot may be in either location)

** The Assembly Location code (A) is front side optional. In cases where the Assembly Location is stamped in the package, the front side assembly code may be blank.

ORDERING INFORMATION

| Device | Package | Shipping† |
|--------------------|----------------------|---------------------|
| MBRS360T3G | SMC 2-Lead (Pb-Free) | 2,500 / Tape & Reel |
| NRVBS360T3G* | SMC 2-Lead (Pb-Free) | 2,500 / Tape & Reel |
| MBRS360BT3G | SMB (Pb-Free) | 2,500 / Tape & Reel |
| NRVBS360BT3G* | SMB (Pb-Free) | 2,500 / Tape & Reel |
| NRVBS360BT3G-VF01* | SMB (Pb-Free) | 2,500 / Tape & Reel |

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

MBRS360T3G, MBRS360BT3G, NRVBS360T3G, NRVBS360BT3G

MAXIMUM RATINGS

| Rating | Symbol | Value | Unit |
|--|---------------------------------|--|------------------|
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage | V_{RRM} V_{RWM} V_R | 60 | V |
| Average Rectified Forward Current | $I_{F(AV)}$ | 3.0 @ $T_L = 137^\circ\text{C}$ 4.0 @ $T_L = 127^\circ\text{C}$ | A |
| Nonrepetitive Peak Surge Current (Surge applied at rated load conditions halfwave, single phase, 60 Hz) | I_{FSM} | 125 | A |
| Storage Temperature Range | T_{stg} | - 65 to +175 | $^\circ\text{C}$ |
| Operating Junction Temperature (Note 1) | T_J | - 65 to +175 | $^\circ\text{C}$ |

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.

1. The heat generated must be less than the thermal conductivity from Junction-to-Ambient: $dP_D/dT_J < 1/R_{\theta JA}$.

THERMAL CHARACTERISTICS

| Characteristic | Symbol | Value | Unit |
|---|-----------------|------------|--------------------|
| Thermal Resistance, Junction-to-Lead (Note 2) SMC Package SMB Package | $R_{\theta JL}$ | 11 15 | $^\circ\text{C/W}$ |
| Thermal Resistance, Junction-to-Ambient (Note 2) SMC Package SMB Package | $R_{\theta JA}$ | 136 145 | $^\circ\text{C/W}$ |
| Thermal Resistance, Junction-to-Ambient (Note 3) SMC Package SMB Package (Note 4) | $R_{\theta JA}$ | 71 73 | $^\circ\text{C/W}$ |

ELECTRICAL CHARACTERISTICS

| | | | |
|---|-------|-------------|----|
| Maximum Instantaneous Forward Voltage (Note 5) ($i_F = 3.0\text{ A}$, $T_J = 25^\circ\text{C}$) | V_F | 0.63 | V |
| Maximum Instantaneous Reverse Current (Note 5) (Rated dc Voltage, $T_J = 25^\circ\text{C}$) (Rated dc Voltage, $T_J = 100^\circ\text{C}$) | i_R | 0.03 3.0 | mA |

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.

- Mounted with minimum recommended pad size, PC Board FR4.
- 1 inch square pad size (1 x 0.5 inch for each lead) on FR4 board.
- Typical Value; 1 inch square pad size (1 x 0.5 inch for each lead) on FR4 board.
- Pulse Test: Pulse Width = 300 μs , Duty Cycle $\leq 2.0\%$.

MBRS360T3G, MBRS360BT3G, NRVBS360T3G, NRVBS360BT3G

TYPICAL ELECTRICAL CHARACTERISTICS

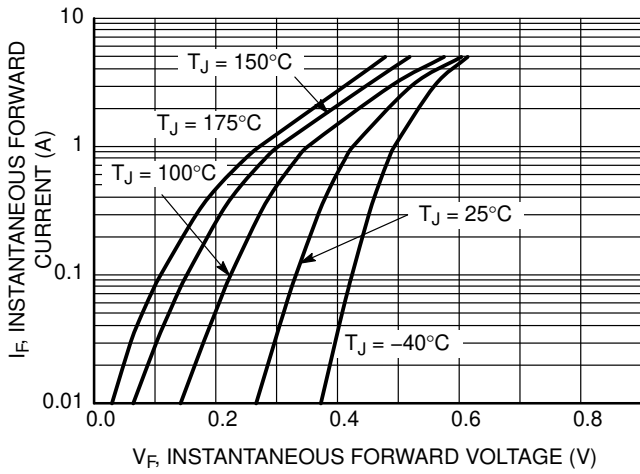


Figure 1. Typical Forward Voltage

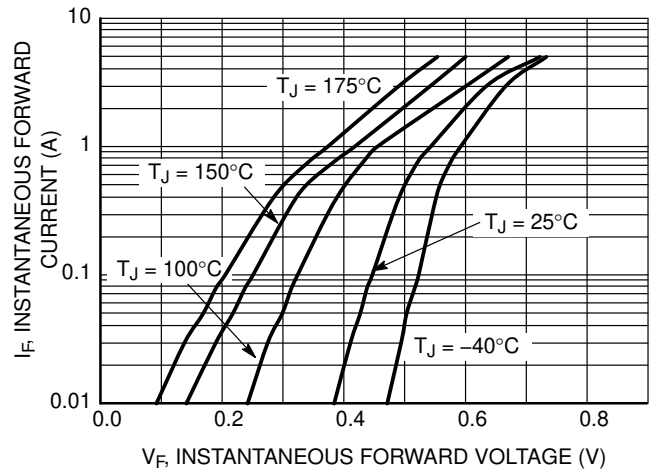


Figure 2. Maximum Forward Voltage

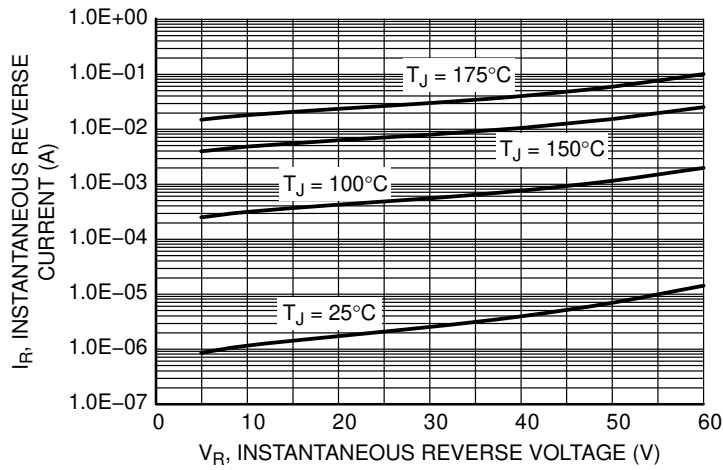


Figure 3. Typical Reverse Current

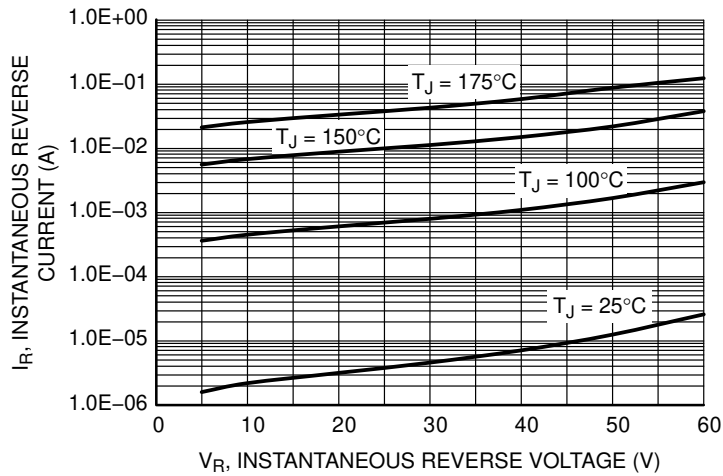


Figure 4. Maximum Reverse Current

MBRS360T3G, MBRS360BT3G, NRVBS360T3G, NRVBS360BT3G

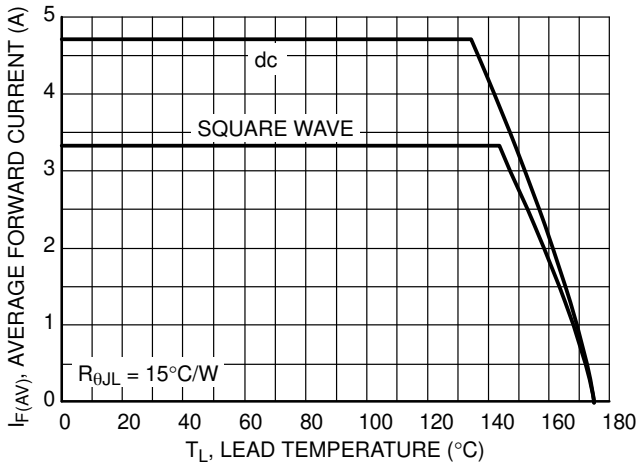


Figure 5. Current Derating

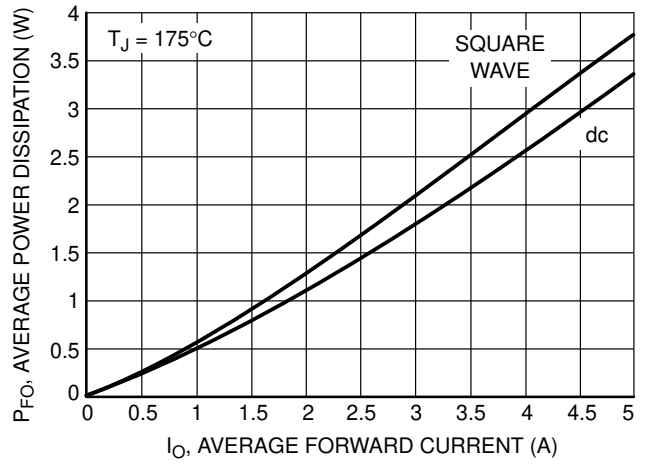


Figure 6. Forward Power Dissipation

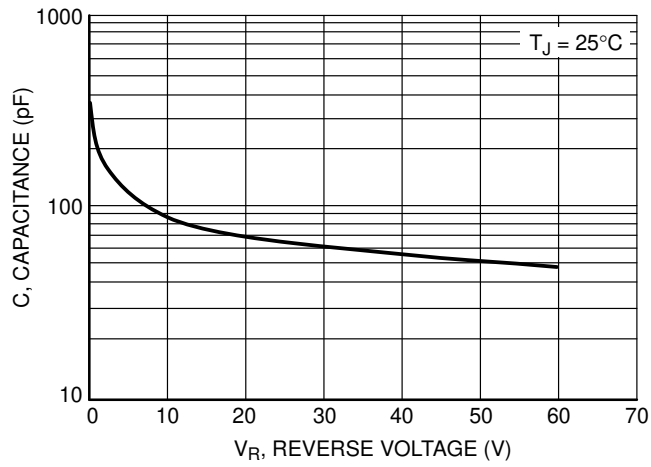


Figure 7. Typical Capacitance

MBRS360T3G, MBRS360BT3G, NRVBS360T3G, NRVBS360BT3G

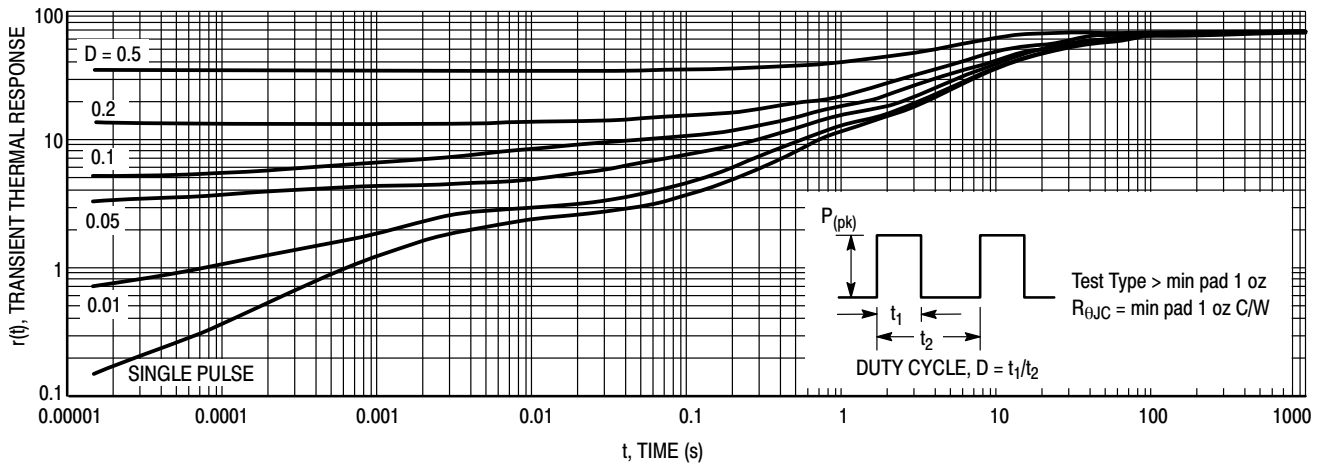


Figure 8. Thermal Response, Junction-to-Ambient, SMC Package

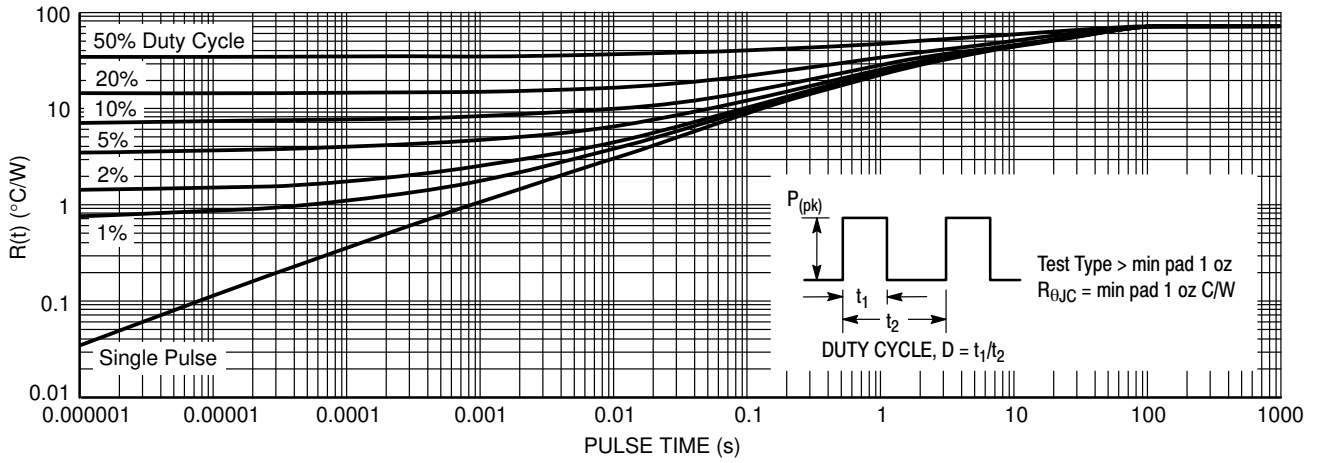
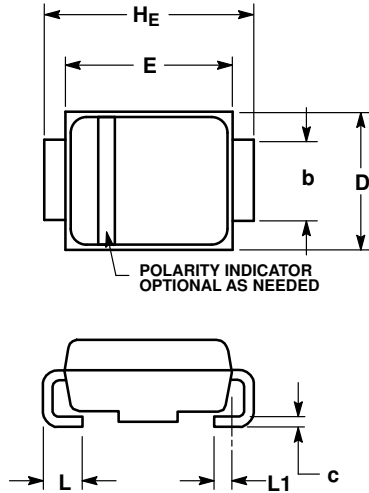


Figure 9. Typical Thermal Response, Junction-to-Ambient, SMB Package

MBRS360T3G, MBRS360BT3G, NRVBS360T3G, NRVBS360BT3G

PACKAGE DIMENSIONS

SMB
CASE 403A-03
ISSUE J

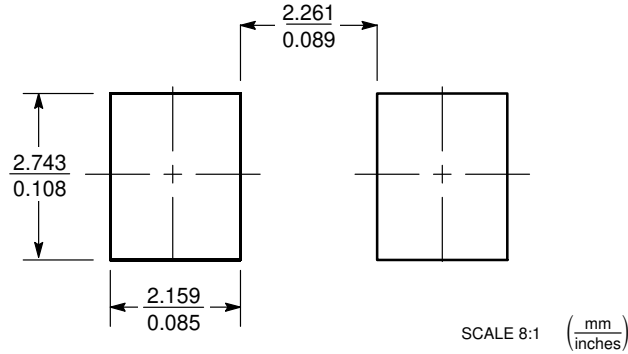


NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. DIMENSION b SHALL BE MEASURED WITHIN DIMENSION L1.

| DIM | MILLIMETERS | | | INCHES | | |
|----------------|-------------|------|------|-----------|-------|-------|
| | MIN | NOM | MAX | MIN | NOM | MAX |
| A | 1.95 | 2.30 | 2.47 | 0.077 | 0.091 | 0.097 |
| A1 | 0.05 | 0.10 | 0.20 | 0.002 | 0.004 | 0.008 |
| b | 1.96 | 2.03 | 2.20 | 0.077 | 0.080 | 0.087 |
| c | 0.15 | 0.23 | 0.31 | 0.006 | 0.009 | 0.012 |
| D | 3.30 | 3.56 | 3.95 | 0.130 | 0.140 | 0.156 |
| E | 4.06 | 4.32 | 4.60 | 0.160 | 0.170 | 0.181 |
| H _E | 5.21 | 5.44 | 5.60 | 0.205 | 0.214 | 0.220 |
| L | 0.76 | 1.02 | 1.60 | 0.030 | 0.040 | 0.063 |
| L1 | 0.51 REF | | | 0.020 REF | | |

SOLDERING FOOTPRINT*

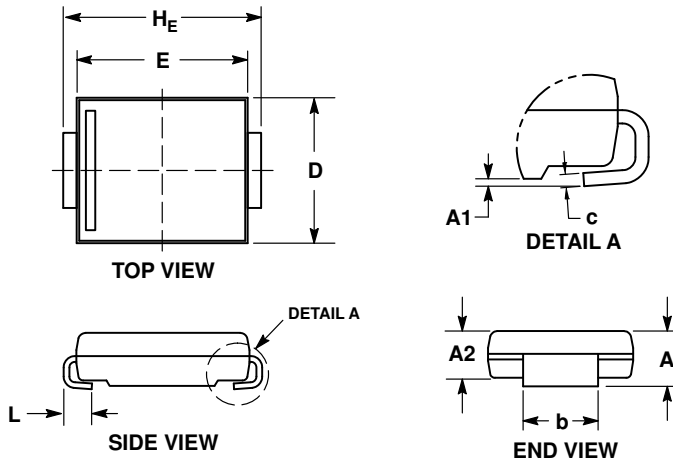


*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

MBRS360T3G, MBRS360BT3G, NRVBS360T3G, NRVBS360BT3G

PACKAGE DIMENSIONS

SMC 2-LEAD
CASE 403AC
ISSUE A

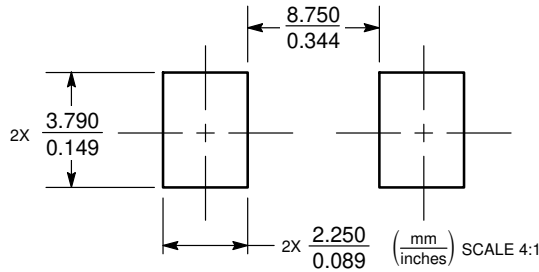


NOTES:

1. DIMENSIONING AND TOLERANCING PER ANME Y14.5M, 1994.
2. CONTROLLING DIMENSION: INCHES.
3. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH. MOLD FLASH SHALL NOT EXCEED 0.254mm PER SIDE.
4. DIMENSIONS D AND E TO BE DETERMINED AT DATUM H.
5. DIMENSION b SHALL BE MEASURED WITHIN THE AREA DETERMINED BY DIMENSION L.

| DIM | MILLIMETERS | | INCHES | |
|----------------|-------------|------|--------|-------|
| | MIN | MAX | MIN | MAX |
| A | 1.95 | 2.61 | 0.077 | 0.103 |
| A1 | 0.05 | 0.20 | 0.002 | 0.008 |
| A2 | 1.90 | 2.41 | 0.075 | 0.095 |
| b | 2.90 | 3.20 | 0.114 | 0.126 |
| c | 0.15 | 0.41 | 0.060 | 0.016 |
| D | 5.55 | 6.25 | 0.219 | 0.246 |
| E | 6.60 | 7.15 | 0.260 | 0.281 |
| H _E | 7.75 | 8.15 | 0.305 | 0.321 |
| L | 0.75 | 1.60 | 0.030 | 0.063 |

RECOMMENDED SOLDERING FOOTPRINT*



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

ON Semiconductor and are trademarks of Semiconductor Components Industries, LLC dba ON Semiconductor or its subsidiaries in the United States and/or other countries. ON Semiconductor owns the rights to a number of patents, trademarks, copyrights, trade secrets, and other intellectual property. A listing of ON Semiconductor's product/patent coverage may be accessed at www.onsemi.com/site/pdf/Patent-Marking.pdf. ON Semiconductor reserves the right to make changes without further notice to any products herein. ON Semiconductor makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does ON Semiconductor assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. Buyer is responsible for its products and applications using ON Semiconductor products, including compliance with all laws, regulations and safety requirements or standards, regardless of any support or applications information provided by ON Semiconductor. "Typical" parameters which may be provided in ON Semiconductor data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. ON Semiconductor does not convey any license under its patent rights nor the rights of others. ON Semiconductor products are not designed, intended, or authorized for use as a critical component in life support systems or any FDA Class 3 medical devices or medical devices with a same or similar classification in a foreign jurisdiction or any devices intended for implantation in the human body. Should Buyer purchase or use ON Semiconductor products for any such unintended or unauthorized application, Buyer shall indemnify and hold ON Semiconductor and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that ON Semiconductor was negligent regarding the design or manufacture of the part. ON Semiconductor is an Equal Opportunity/Affirmative Action Employer. This literature is subject to all applicable copyright laws and is not for resale in any manner.

PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:
Literature Distribution Center for ON Semiconductor
19521 E. 32nd Pkwy, Aurora, Colorado 80011 USA
Phone: 303-675-2175 or 800-344-3860 Toll Free USA/Canada
Fax: 303-675-2176 or 800-344-3867 Toll Free USA/Canada
Email: orderlit@onsemi.com

N. American Technical Support: 800-282-9855 Toll Free
USA/Canada
Europe, Middle East and Africa Technical Support:
Phone: 421 33 790 2910
Japan Customer Focus Center
Phone: 81-3-5817-1050

ON Semiconductor Website: www.onsemi.com
Order Literature: <http://www.onsemi.com/orderlit>

For additional information, please contact your local Sales Representative