

MR2835S

Overvoltage Transient Suppressor

...designed for applications requiring a diode with reverse avalanche characteristics for use as reverse power transient suppressor.

Developed to suppress transients in the automotive system, this device operates in reverse mode as power zener diode and will protect expensive modules such as ignition, injection and autoblocking systems from overvoltage conditions.

- High Power Capability
- Economical

Mechanical Characteristics

- Finish: All External Surfaces are Corrosion Resistant
- Polarity: Cathode to Terminal
- Weight: 1.78 Grams (Approximately)
- Maximum Temperature for Soldering Purposes:
260°C for 10 s using a Belt Furnace
- Marking: MR2835S

MAXIMUM RATINGS

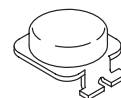
Rating	Symbol	Value	Unit
DC Blocking Voltage	V_R	23	Volts
Peak Repetitive Reverse Surge Current (Time Constant = 10 ms, $T_C = 25^\circ\text{C}$)	I_{RSM}	62	Amps
Non-Repetitive Peak Surge Current (Halfwave, Single Phase, 50 Hz)	I_{FSM}	400	Amps
Storage Temperature Range	T_{stg}	-40 to +150	°C
Operating Junction Temperature Range	T_J	-40 to +150	°C



ON Semiconductor

Formerly a Division of Motorola

<http://onsemi.com>



CASE 460

ORDERING INFORMATION

Device	Package	Shipping
MR2835S	Topcan	500/Tape & Reel

MR2835S

THERMAL CHARACTERISTICS

Characteristic	Symbol	Value	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	1.0	$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_C = 25^{\circ}\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
Instantaneous Forward Voltage ($I_F = 100\text{ A}$) ⁽¹⁾	V_F	—	1.1	Volts
Reverse Current ($V_R = 20\text{ V}$) ⁽¹⁾	I_R	—	5.0	μA
Breakdown Voltage ($I_Z = 100\text{ mA}$) ⁽¹⁾	$V_{(BR)}$	24	32	Volts
Breakdown Voltage ($I_Z = 80\text{ A}$, $T_C = 85^{\circ}\text{C}$, $PW = 80\text{ }\mu\text{s}$)	$V_{(BR)}$	—	40	Volts
Breakdown Voltage Temperature Coefficient	$V_{(BR)TC}$	—	0.09	$\%/^{\circ}\text{C}$
Forward Voltage Temperature Coefficient ($I_F = 10\text{ mA}$)	V_{FTC}	—	-2.0*	$\text{mV}/^{\circ}\text{C}$

(1) Pulse Test: Pulse Width < 300 μs , Duty Cycle < 2%.

*Typical

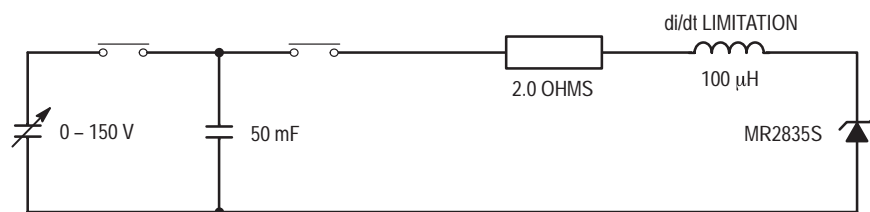


Figure 1. Load Dump Test Circuit

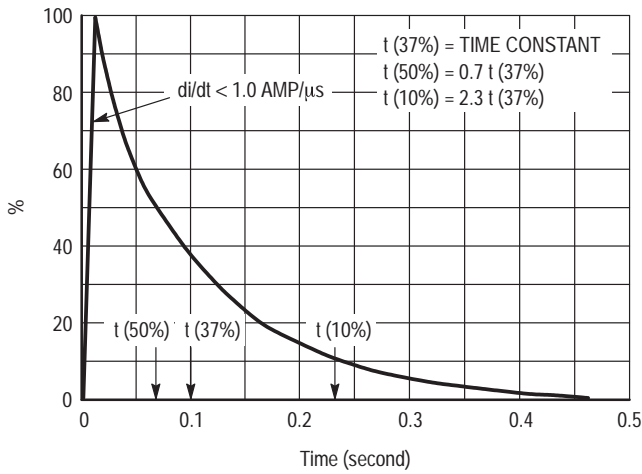


Figure 2. Load Dump Pulse Current

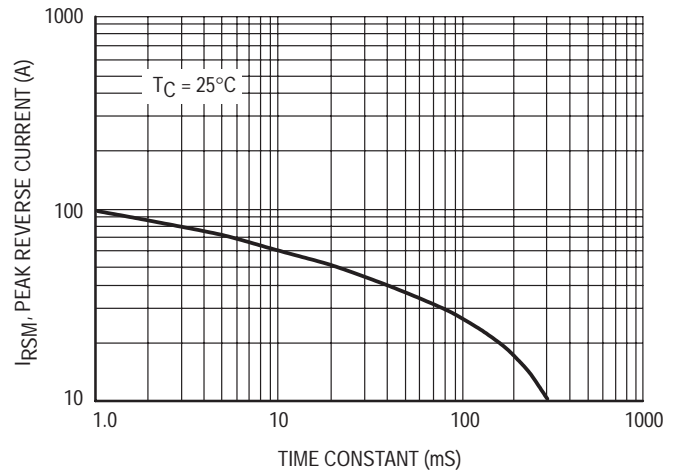


Figure 3. Maximum Peak Reverse Current

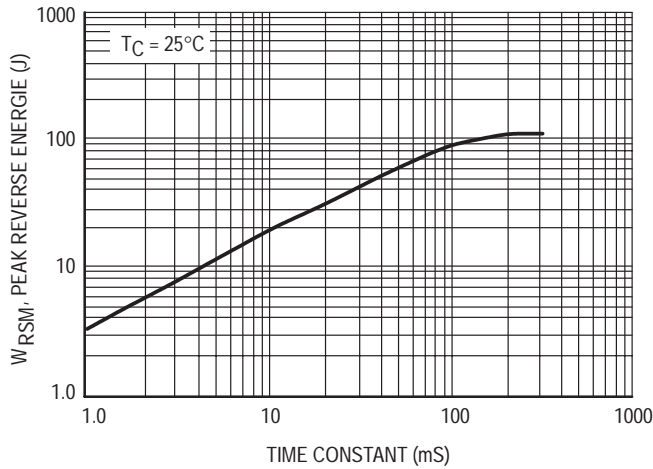


Figure 4. Maximum Reverse Energy

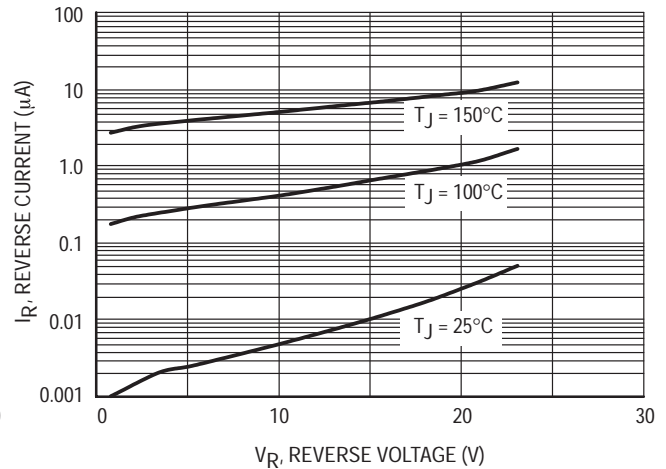


Figure 5. Typical Reverse Current

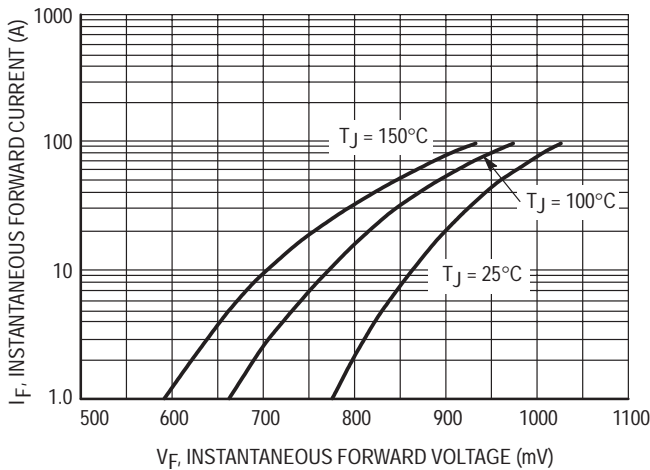


Figure 6. Typical Forward Voltage

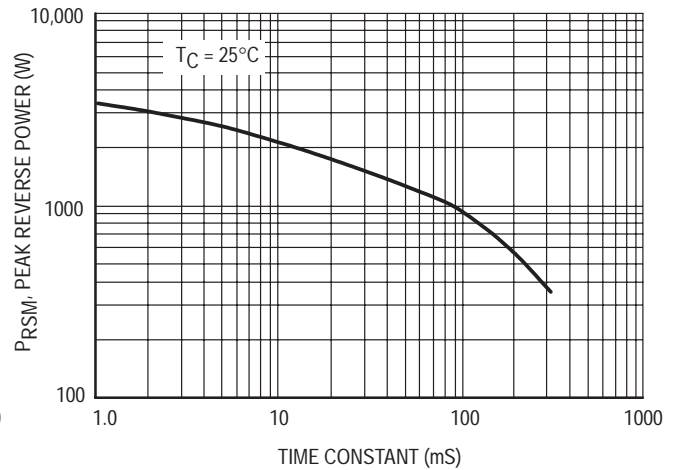


Figure 7. Maximum Peak Reverse Power

MR2835S

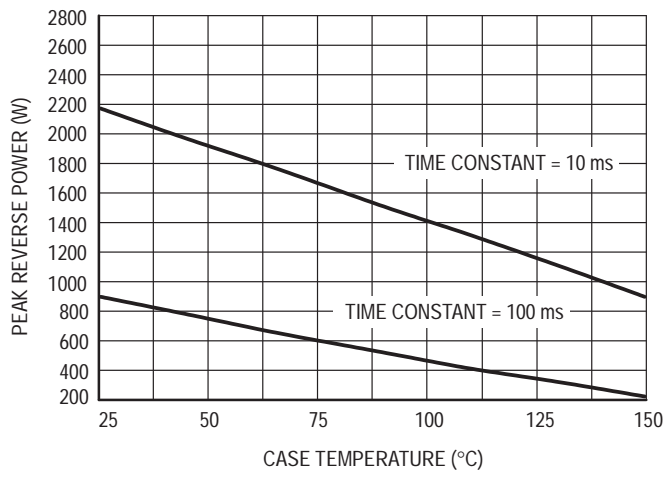


Figure 8. Reverse Power Derating

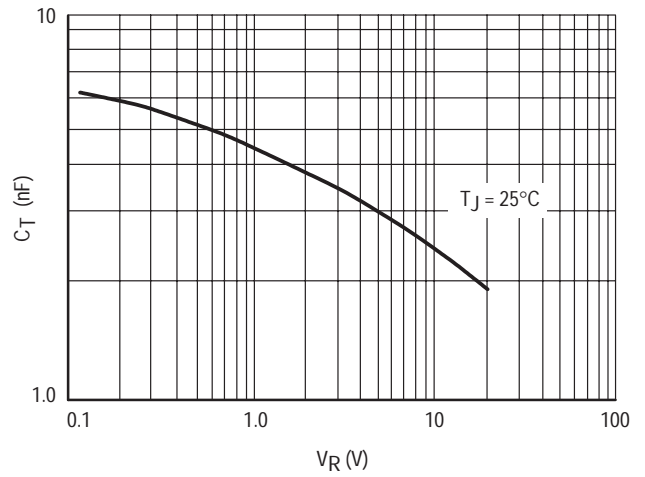


Figure 9. Typical Reverse Capacitance

MR2835S

Reel of 500 Units

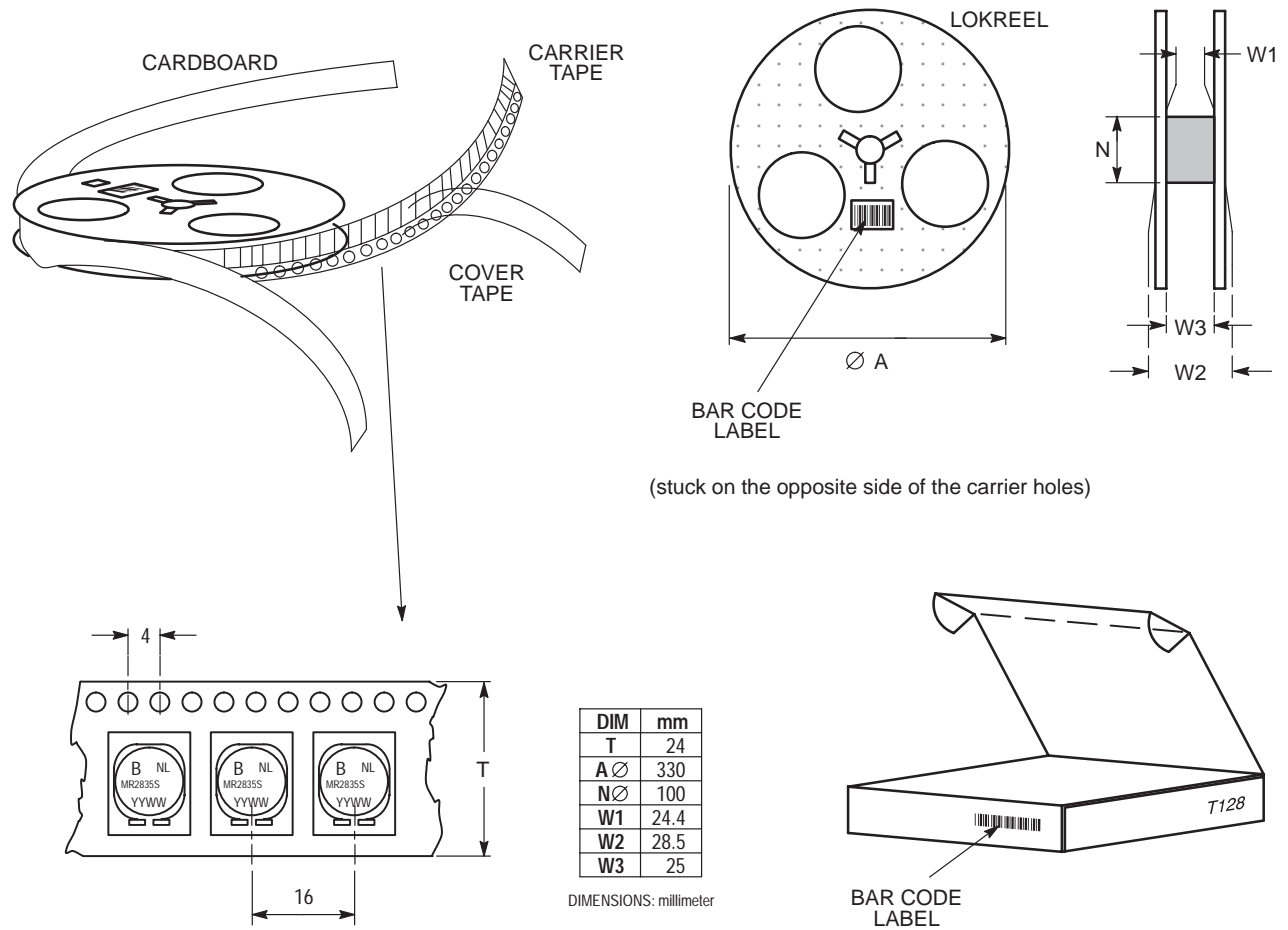
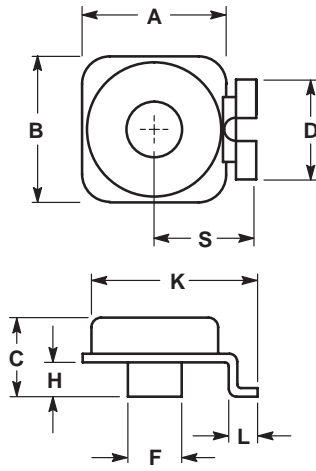


Figure 10. Reel Packing of MR2835S — Top Can

MR2835S

PACKAGE DIMENSIONS

CASE 460-02
ISSUE A



NOTES:

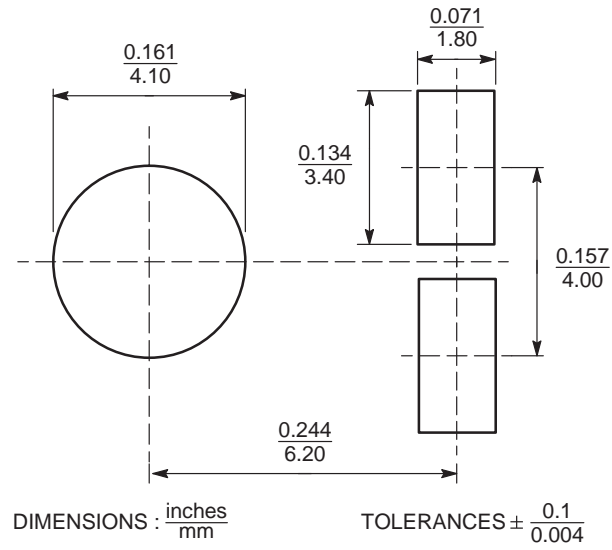
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETER.

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	9.1	9.5	0.358	0.374
B	9.5	9.9	0.374	0.390
C	5.2	5.6	0.205	0.220
D	6.4	6.8	0.252	0.268
F	3.4	3.8	0.134	0.149
H	2.0	2.4	0.079	0.095
K	11.3	11.7	0.445	0.460
L	1.7	2.1	0.067	0.083
S	6.5	6.9	0.256	0.272

MR2835S

FOOTPRINT

Minimum circuit board footprint
for Topcan Diode in Case 460-02



ON Semiconductor and  are trademarks of Semiconductor Components Industries, LLC (SCILLC). SCILLC reserves the right to make changes without further notice to any products herein. SCILLC makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does SCILLC 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. "Typical" parameters which may be provided in SCILLC 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. SCILLC does not convey any license under its patent rights nor the rights of others. SCILLC products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the SCILLC product could create a situation where personal injury or death may occur. Should Buyer purchase or use SCILLC products for any such unintended or unauthorized application, Buyer shall indemnify and hold SCILLC 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 SCILLC was negligent regarding the design or manufacture of the part. SCILLC is an Equal Opportunity/Affirmative Action Employer.

PUBLICATION ORDERING INFORMATION**North America Literature Fulfillment:**

Literature Distribution Center for ON Semiconductor
P.O. Box 5163, Denver, Colorado 80217 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: ONlit@hibbertco.com

N. American Technical Support: 800-282-9855 Toll Free USA/Canada

EUROPE: LDC for ON Semiconductor – European Support

German Phone: (+1) 303-308-7140 (M–F 2:30pm to 5:00pm Munich Time)
Email: ONlit-german@hibbertco.com
French Phone: (+1) 303-308-7141 (M–F 2:30pm to 5:00pm Toulouse Time)
Email: ONlit-french@hibbertco.com
English Phone: (+1) 303-308-7142 (M–F 1:30pm to 5:00pm UK Time)
Email: ONlit@hibbertco.com

ASIA/PACIFIC: LDC for ON Semiconductor – Asia Support

Phone: 303-675-2121 (Tue–Fri 9:00am to 1:00pm, Hong Kong Time)
Toll Free from Hong Kong 800-4422-3781
Email: ONlit-asia@hibbertco.com

JAPAN: ON Semiconductor, Japan Customer Focus Center
4-32-1 Nishi-Gotanda, Shinagawa-ku, Tokyo, Japan 141-8549

Phone: 81-3-5487-8345
Email: r14153@onsemi.com

Fax Response Line: 303-675-2167
800-344-3810 Toll Free USA/Canada

ON Semiconductor Website: <http://onsemi.com>

For additional information, please contact your local
Sales Representative.