Data Sheet

FMR2835S

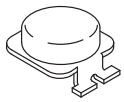
Overvoltage Transient Suppressor

. . . 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

OVERVOLTAGE TRANSIENT SUPPRESSOR 24 V – 32 V



MAXIMUM RATINGS

Parameters	Symbol	Value	Unit
DC Blocking Voltage	V_R	23	V
Peak Repetitive Reverse Surge Current (Time Constant = 10 ms, T_C = 25°C)	I_{RSM}	62	A
Non Repetitive Peak Surge Current (Halfwave, Single Phase, 50 Hz)	I_{FSM}	400	A
Storage Temperature	Tstg	–40 to +150	°C
Maximum Operating Junction Temperature	T_J	–40 to +150	°C

THERMAL CHARACTERISTICS

Parameters	Symbol	Value	Unit
Thermal Resistance Junction to Case	$R_{\theta JC}$	1.0	°C/W

ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise noted)

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

MECHANICAL CHARACTERISTICS

Finish	All External Surfaces are Corrosion Resistant
Polarity	Cathode to Terminal
Weight	1.78 g*
Maximum Temperature for Soldering	260°C for 10 s Using Belt Furnace

1. Pulse Test: Pulse Width < 300 μs, Duty Cycle < 2%.
* Typical

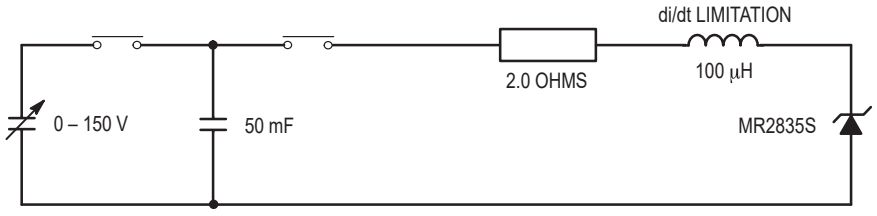


Figure 1. Load Dump Test Circuit

Designer's Data for "Worst Case" Conditions — The Designer's Data Sheet permits the design of most circuits entirely from the information presented. SOA Limit curves — representing boundaries on device characteristics — are given to facilitate "worst case" design.

REV 1

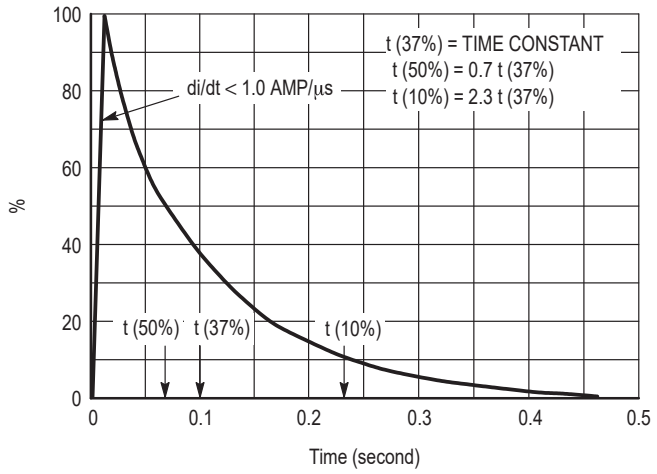


Figure 2. Load Dump Pulse Current

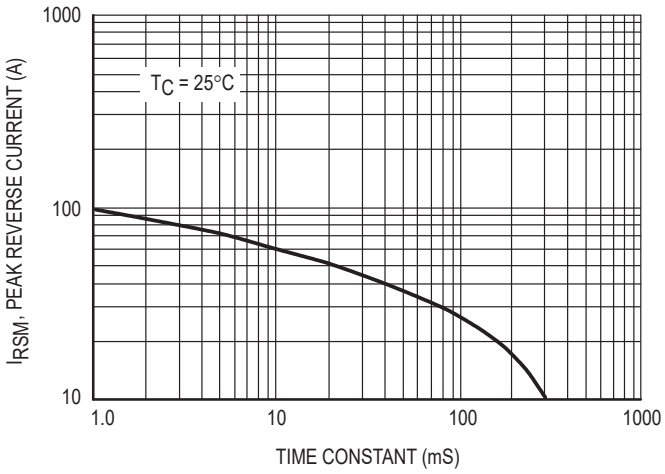


Figure 3. Maximum Peak Reverse Current

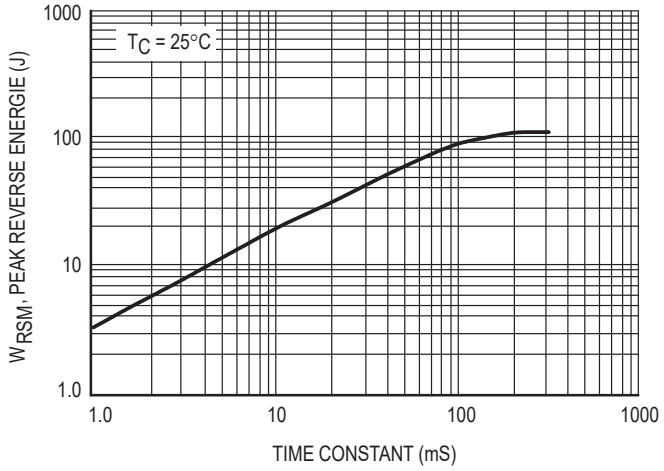


Figure 4. Maximum Reverse Energie

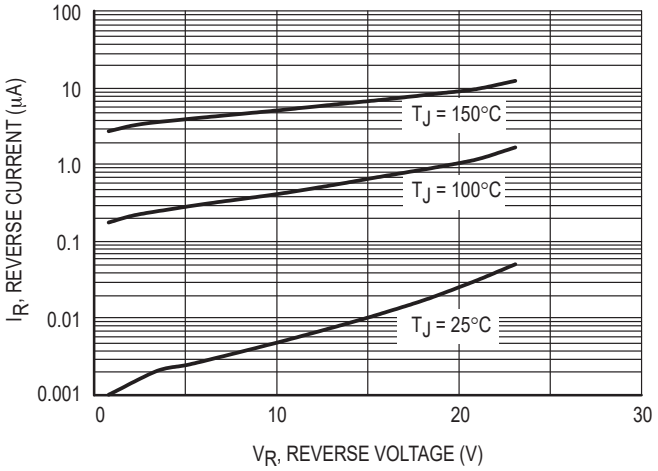


Figure 5. Typical Reverse Current

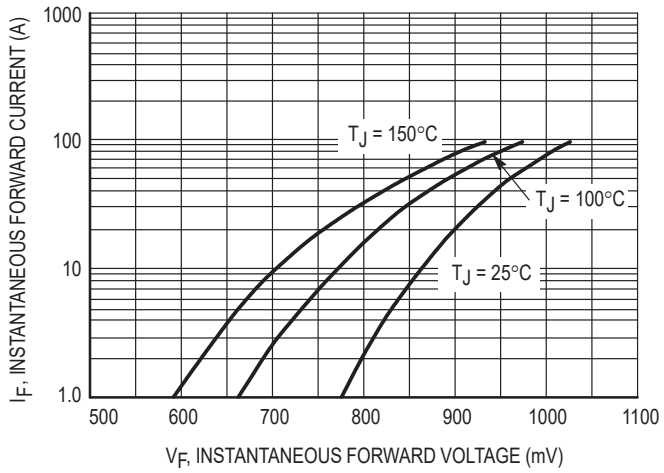


Figure 6. Typical Forward Voltage

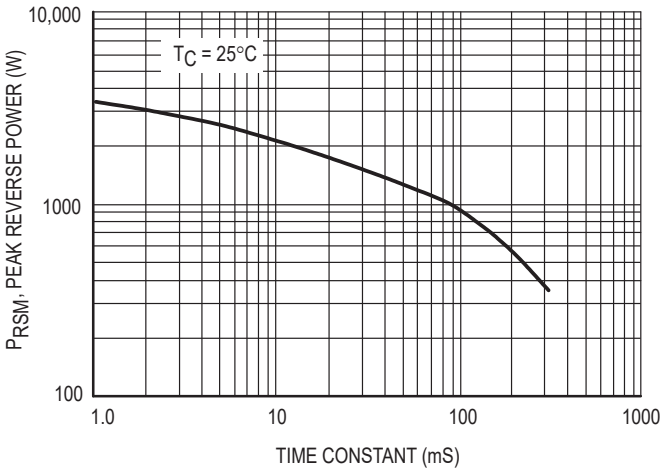


Figure 7. Maximum Peak Reverse Power

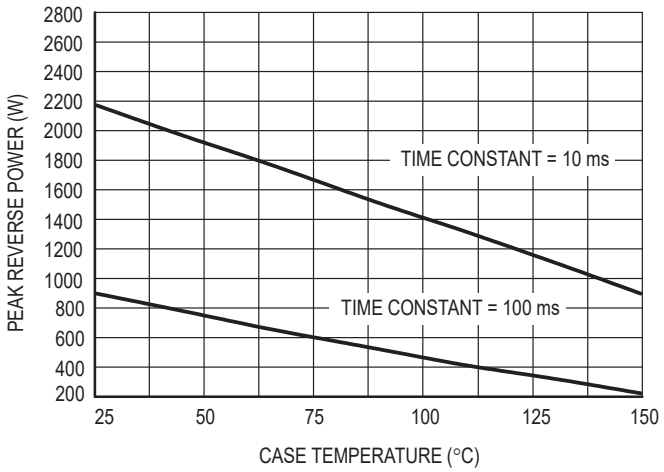


Figure 8. Reverse Power Derating

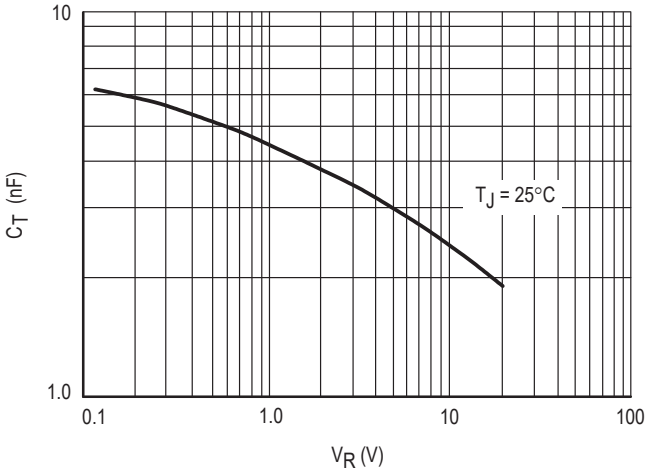
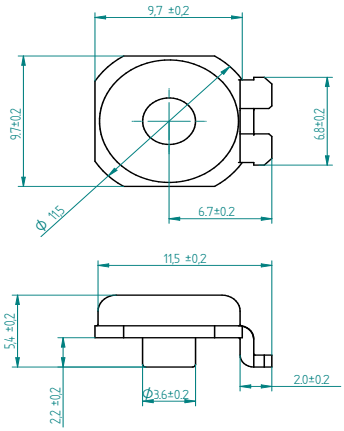


Figure 9. Typical Reverse Capacitance

PACKAGE DIMENSIONS

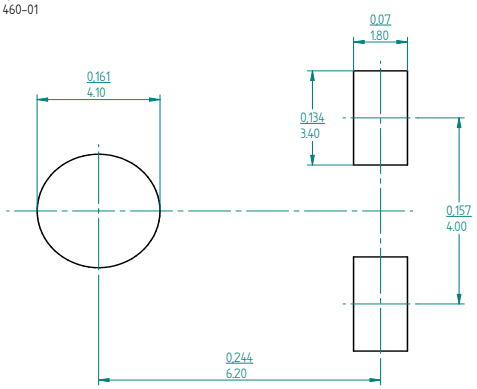


NOTES :
1 . DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982
2 . CONTROLLING DIMENSION : MILLIMETER

CASE 460-02
ISSUE A

FOOTPRINT

Minimum circuit board footprint
for Topcan Diode in Case 460-01



DIMENSION : inches / mm

TOLERANCES : ± 0.1 / 0.004