MBRD835L

Preferred Device

SWITCHMODE™ Power Rectifier

DPAK Surface Mount Package

This SWITCHMODE power rectifier which uses the Schottky Barrier principle with a proprietary barrier metal, is designed for use as output rectifiers, free wheeling, protection and steering diodes in switching power supplies, inverters and other inductive switching circuits. This state of the art device has the following features:

- Low Forward Voltage
- 125°C Operating Junction Temperature
- Epoxy Meets UL94, VO at 1/8″
- Compact Size
- Lead Formed for Surface Mount
- Pb−Free Package May be Available. The G−Suffix Denotes a Pb−Free Lead Finish

Mechanical Characteristics

- Case: Epoxy, Molded
- Weight: 0.4 gram (approximately)
- 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
- Shipped 75 units per plastic tube
- Available in 16 mm Tape and Reel, 2500 units per 13″ reel, by adding a “T4” suffix to the part number
- Marking: B835L

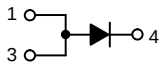
MAXIMUM RATINGS

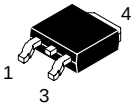
Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	35	V
Average Rectified Forward Current (At Rated V_R, T_C = 88°C)	$I_{F(AV)}$	8.0	A
Peak Repetitive Forward Current (At Rated V_R, Square Wave, 20 kHz, T_C = 80°C)	I_{FRM}	16	A
Non−Repetitive Peak Surge Current (Surge Applied at Rated Load Conditions Halfwave, Single Phase, 60 Hz)	I_{FSM}	75	A
Repetitive Avalanche Current (Current Decaying Linearly to Zero in 1 μs, Frequency Limited by T_{Jmax})	I_{AR}	2.0	A
Storage Temperature Range	T_{stg}	−65 to +150	°C
Operating Junction Temperature	T_J	−65 to +125	°C
Voltage Rate of Change (Rated V_R)	dv/dt	10,000	V/μs

ON Semiconductor®

http://onsemi.com

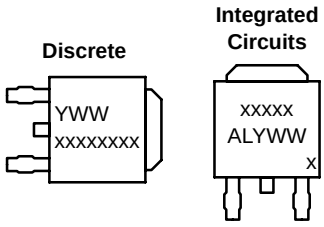
SCHOTTKY BARRIER RECTIFIER 8.0 AMPERES 35 VOLTS





DPAK
CASE 369A
STYLE 3

MARKING DIAGRAMS



xxxxxxxxx = Device Code
A = Assembly Location
IL = Wafer Lot
Y = Year
WW = Work Week

ORDERING INFORMATION

Device	Package	Shipping†
MBRD835L	DPAK	75 Units/Rail
MBRD835LT4	DPAK	2500/Tape & Reel
MBRD835LT4G	DPAK (Pb−Free)	2500/Tape & Reel

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

Preferred devices are recommended choices for future use and best overall value.

THERMAL CHARACTERISTICS

Rating	Symbol	Value	Unit
Thermal Resistance — Junction to Case	$R_{\theta JC}$	6	°C/W
Thermal Resistance — Junction to Ambient (Note 1.)	$R_{\theta JA}$	80	°C/W

ELECTRICAL CHARACTERISTICS

Maximum Instantaneous Forward Voltage (Note 2.) (i_F = 8 Amps, T_C = +25°C) (i_F = 8 Amps, T_C = +125°C)	V_F	0.51 0.41	Volts
Maximum Instantaneous Reverse Current (Note 2.) (Rated dc Voltage, T_C = +25°C) (Rated dc Voltage, T_C = +100°C)	I_R	1.4 35	mA

1. Rating applies when surface mounted on the minimum pad size recommended.
2. Pulse Test: Pulse Width = 300 μs, Duty Cycle ≤ 2%.

TYPICAL CHARACTERISTICS

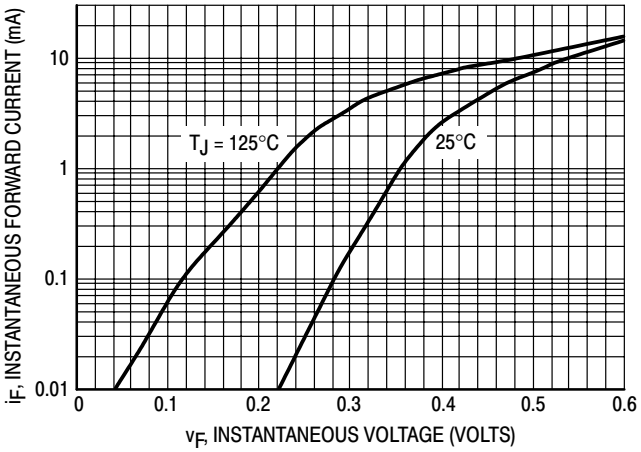


Figure 1. Maximum Forward Voltage

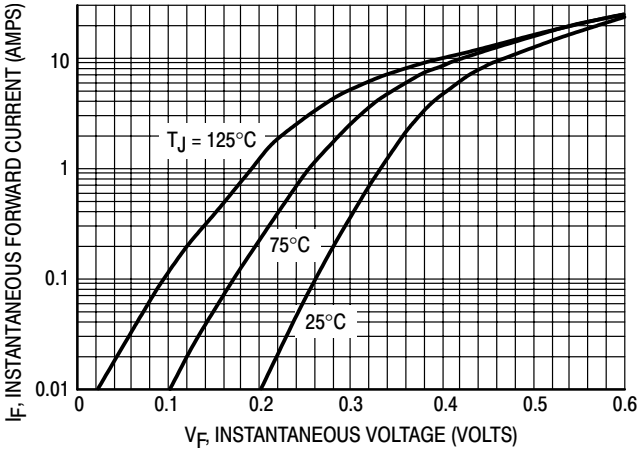


Figure 2. Typical Forward Voltage

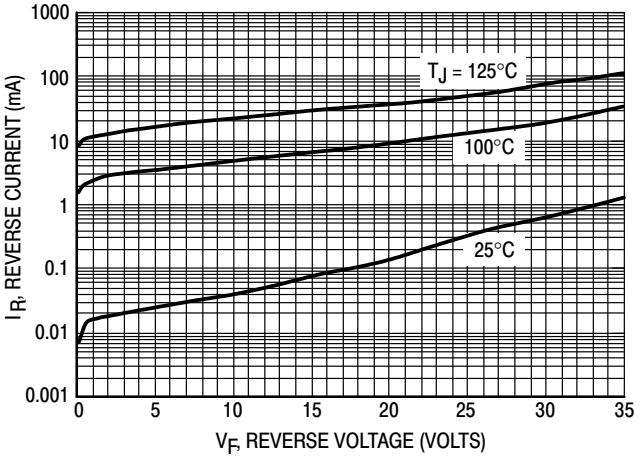


Figure 3. Maximum Reverse Current

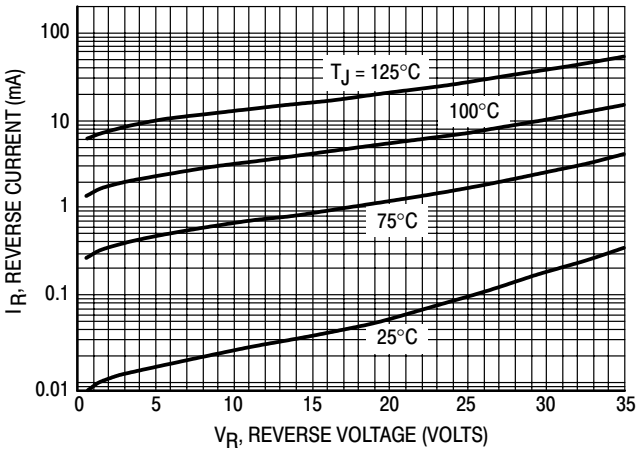


Figure 4. Typical Reverse Current

TYPICAL CHARACTERISTICS

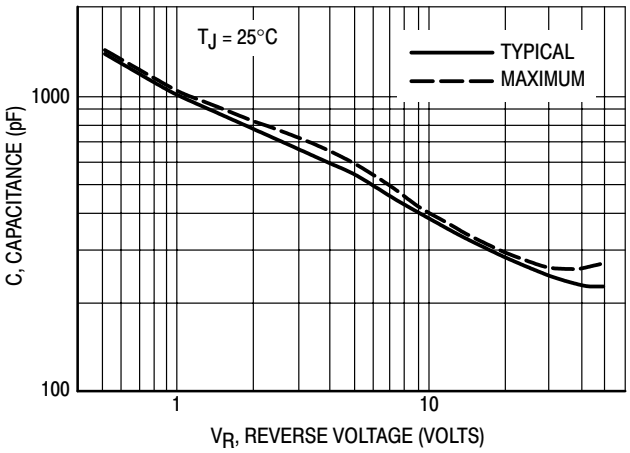


Figure 5. Maximum and Typical Capacitance

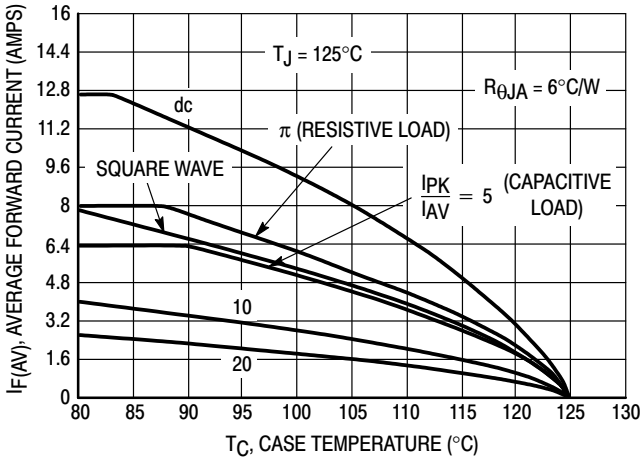


Figure 6. Current Derating, Infinite Heatsink

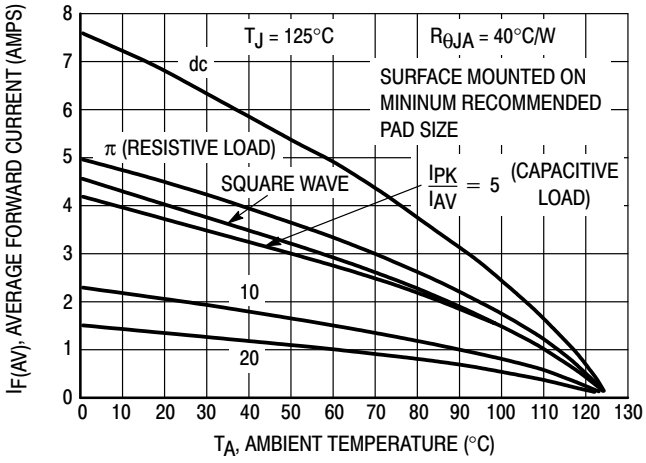


Figure 7. Current Derating

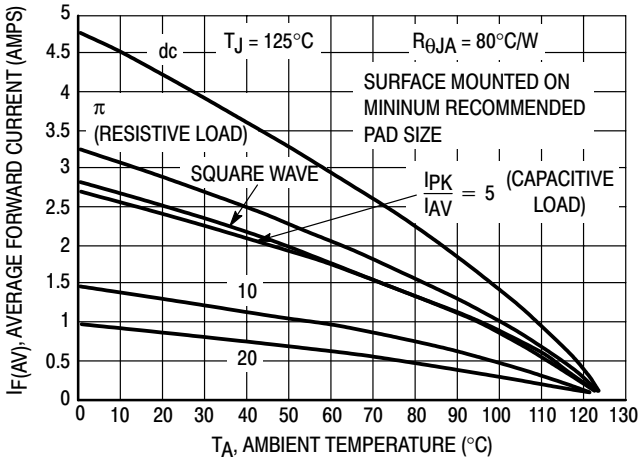


Figure 8. Current Derating, Free Air

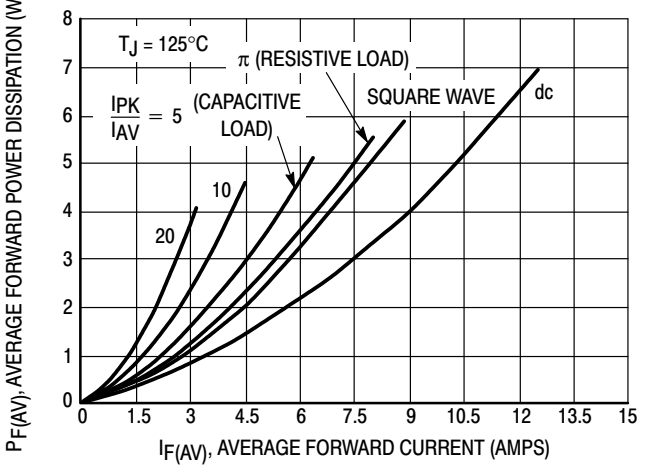
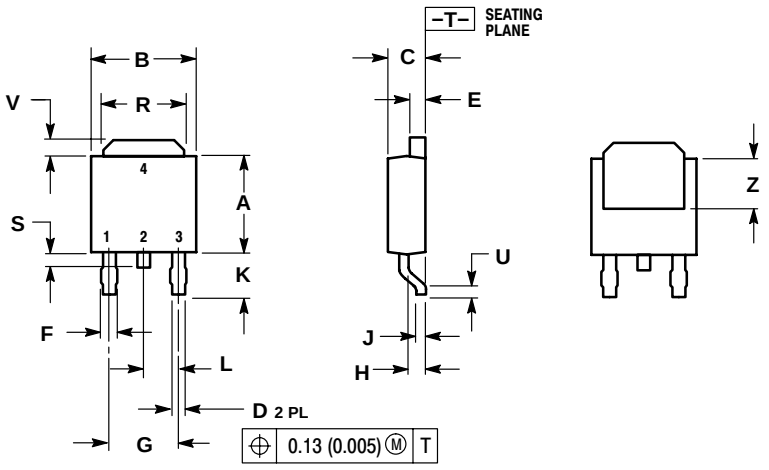


Figure 9. Forward Power Dissipation

PACKAGE DIMENSIONS

DPAK
PLASTIC
CASE 369A−13
ISSUE AB



DIM	INCHES MIN	INCHES MAX	MILLIMETERS MIN	MILLIMETERS MAX
A	0.235	0.250	5.97	6.35
B	0.250	0.265	6.35	6.73
C	0.086	0.094	2.19	2.38
D	0.027	0.035	0.69	0.88
E	0.033	0.040	0.84	1.01
F	0.037	0.047	0.94	1.19
G	0.180 BSC		4.58 BSC	
H	0.034	0.040	0.87	1.01
J	0.018	0.023	0.46	0.58
K	0.102	0.114	2.60	2.89
L	0.090 BSC		2.29 BSC	
R	0.175	0.215	4.45	5.46
S	0.020	0.050	0.51	1.27
U	0.020	---	0.51	---
V	0.030	0.050	0.77	1.27
Z	0.138	---	3.51	---

STYLE 3:
PIN 1. ANODE
2. CATHODE
3. ANODE
4. CATHODE

SOLDERING FOOTPRINT*

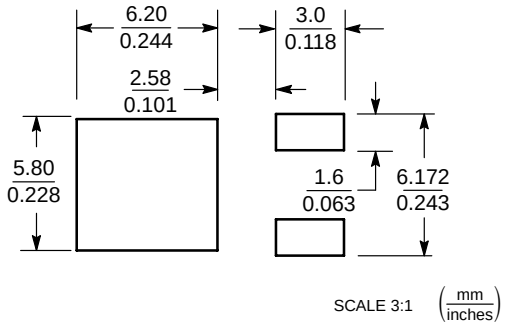


Figure 10. DPAK

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

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PUBLICATION ORDERING INFORMATION

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