

# MBR2535CTL

## SWITCHMODE™ Power Rectifier

... employing the Schottky Barrier principle in a large metal-to-silicon power diode. State-of-the-art geometry features epitaxial construction with oxide passivation and metal overlay contact. Ideally suited for use in low voltage, high frequency switching power supplies, free wheeling diodes, and polarity protection diodes.

- Very Low Forward Voltage (0.55 V Maximum @ 25 Amps)
- Matched Dual Die Construction  
(12.5 A per Leg or 25 A per Package)
- Guardring for Stress Protection
- Highly Stable Oxide Passivated Junction  
(125°C Operating Junction Temperature)
- Epoxy Meets UL94, VO at 1/8"

### Mechanical Characteristics

- Case: Epoxy, Molded
- Weight: 1.9 grams (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes:  
260°C Max. for 10 Seconds
- Shipped 50 units per plastic tube
- Marking: B2535L

### MAXIMUM RATINGS (Per Leg)

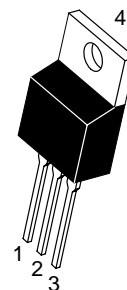
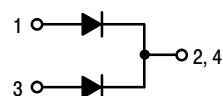
Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	35	V
Average Rectified Forward Current (Rated $V_R$ , $T_C = 110^\circ\text{C}$ )	$I_{F(AV)}$	12.5	A
Peak Repetitive Forward Current, per Leg (Rated $V_R$ , Square Wave, 20 kHz, $T_C = 95^\circ\text{C}$ )	$I_{FRM}$	25	A
Non-Repetitive Peak Surge Current (Surge Applied at Rated Load Conditions, Halfwave, Single Phase, 60 Hz)	$I_{FSM}$	150	A
Peak Repetitive Reverse Surge Current (2.0 $\mu\text{s}$ , 1.0 kHz)	$I_{RRM}$	1.0	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/ $\mu\text{s}$
Controlled Avalanche Energy	$W_{aval}$	20	mJ



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**SCHOTTKY BARRIER  
RECTIFIER  
25 AMPERES  
35 VOLTS**



TO-220AB  
CASE 221A  
PLASTIC

### MARKING DIAGRAM



B2535L = Device Code

### ORDERING INFORMATION

Device	Package	Shipping
MBR2535CTL	TO-220	50 Units/Rail

# MBR2535CTL

## THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance — Junction to Case	$R_{\theta JC}$	2.0	$^{\circ}C/W$

## ELECTRICAL CHARACTERISTICS (Per Leg)

Maximum Instantaneous Forward Voltage (Note 1.) ( $I_F = 25$ Amps, $T_J = 25^{\circ}C$ ) ( $I_F = 12.5$ Amps, $T_J = 25^{\circ}C$ ) ( $I_F = 12.5$ Amps, $T_J = 125^{\circ}C$ )	$V_F$	0.55 0.47 0.41	Volts
Maximum Instantaneous Reverse Current (Note 1.) (Rated dc Voltage, $T_J = 25^{\circ}C$ ) (Rated dc Voltage, $T_J = 125^{\circ}C$ )	$I_R$	5.0 500	mA

1. Pulse Test: Pulse Width = 300  $\mu s$ , Duty Cycle  $\leq 2.0\%$ .

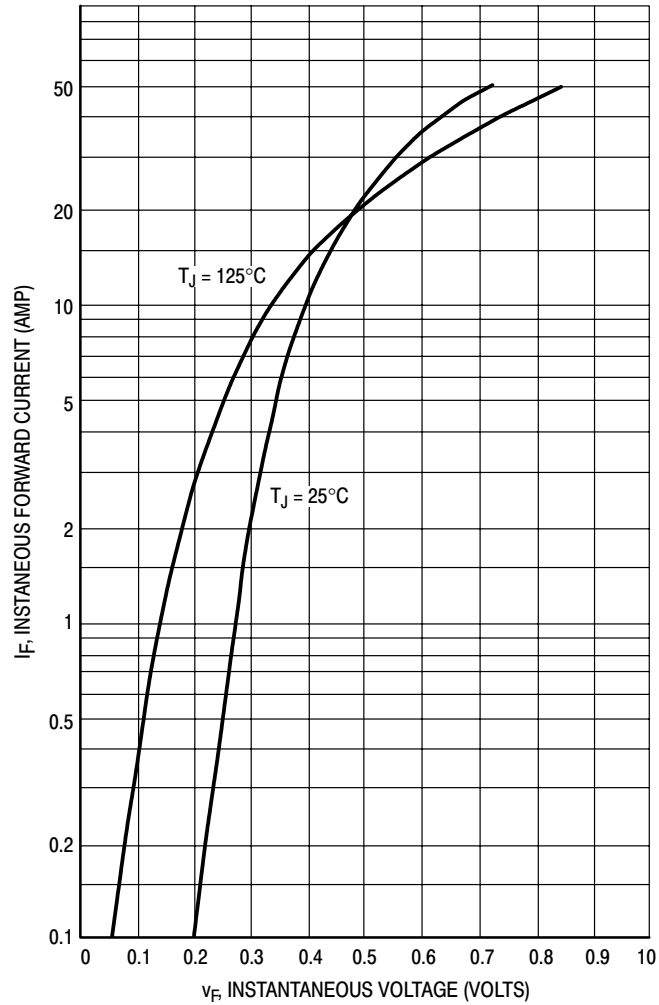


Figure 1. Typical Forward Voltage, Per Leg

# MBR2535CTL

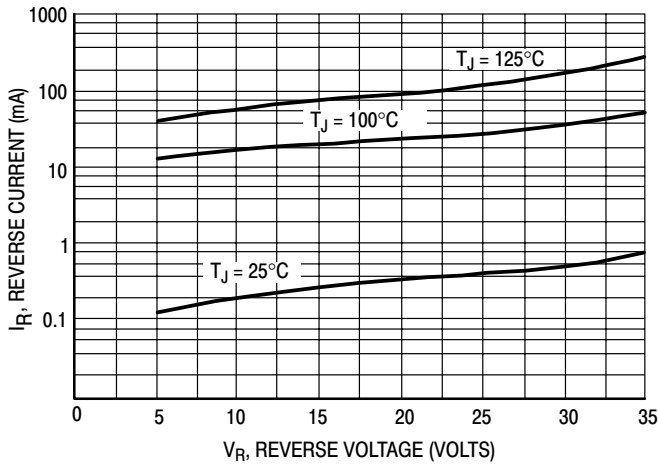


Figure 2. Typical Reverse Current, Per Leg

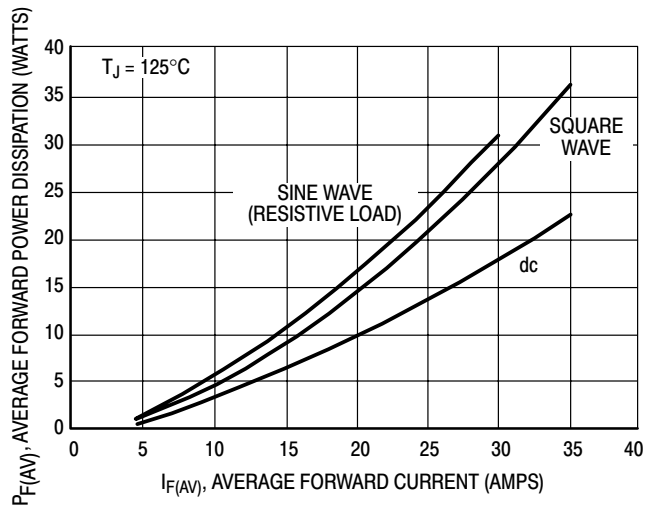


Figure 3. Forward Power Dissipation, Per Leg

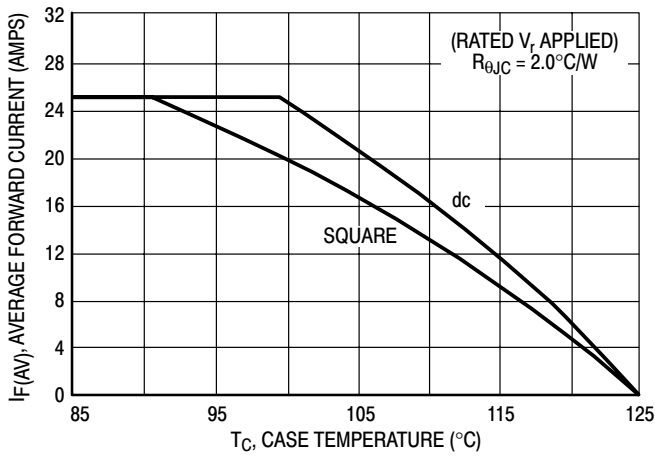


Figure 4. Current Derating

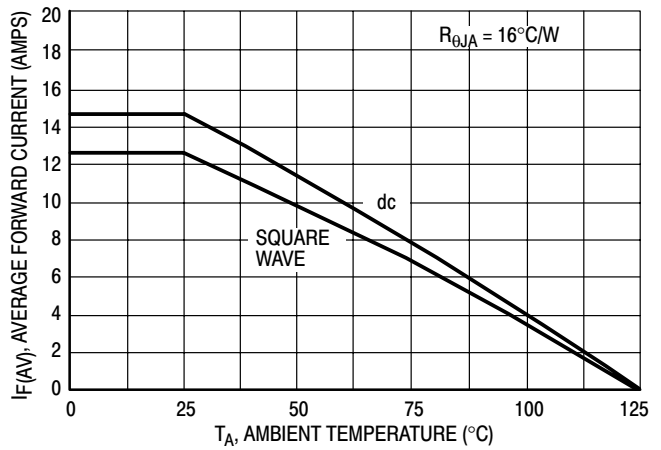
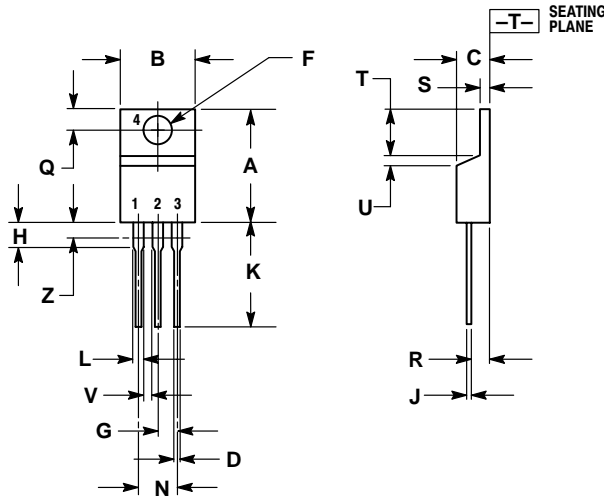


Figure 5. Current Derating Ambient, Per Leg

# MBR2535CTL

## PACKAGE DIMENSIONS

TO-220  
PLASTIC  
CASE 221A-09  
ISSUE AA




NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. DIMENSION Z DEFINES A ZONE WHERE ALL BODY AND LEAD IRREGULARITIES ARE ALLOWED.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.570	0.620	14.48	15.75
B	0.380	0.405	9.66	10.28
C	0.160	0.190	4.07	4.82
D	0.025	0.035	0.64	0.88
F	0.142	0.147	3.61	3.73
G	0.095	0.105	2.42	2.66
H	0.110	0.155	2.80	3.93
J	0.018	0.025	0.46	0.64
K	0.500	0.562	12.70	14.27
L	0.045	0.060	1.15	1.52
N	0.190	0.210	4.83	5.33
Q	0.100	0.120	2.54	3.04
R	0.080	0.110	2.04	2.79
S	0.045	0.055	1.15	1.39
T	0.235	0.255	5.97	6.47
U	0.000	0.050	0.00	1.27
V	0.045	---	1.15	---
Z	---	0.080	---	2.04

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