

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)

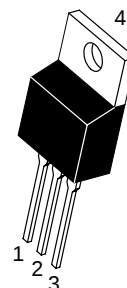
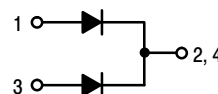
Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	35	V
Average Rectified Forward Current (Rated V_R , $T_C = 110^\circ\text{C}$)	$I_{F(AV)}$	12.5	A
Peak Repetitive Forward Current, per Leg (Rated V_R , Square Wave, 20 kHz, $T_C = 95^\circ\text{C}$)	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 μs , 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/ μs
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	$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS (Per Leg)

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

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

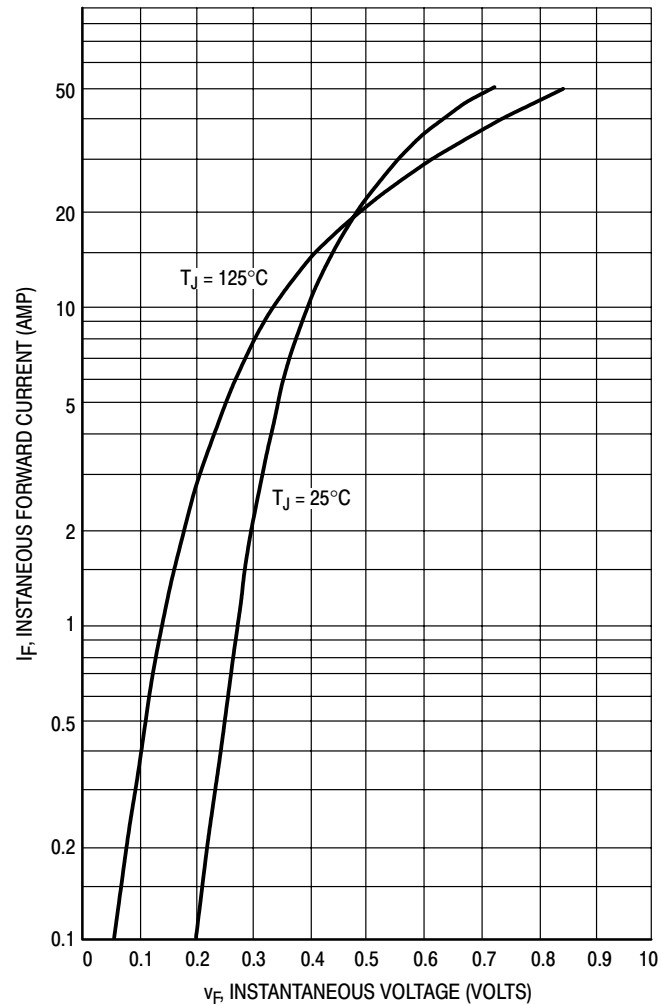


Figure 1. Typical Forward Voltage, Per Leg

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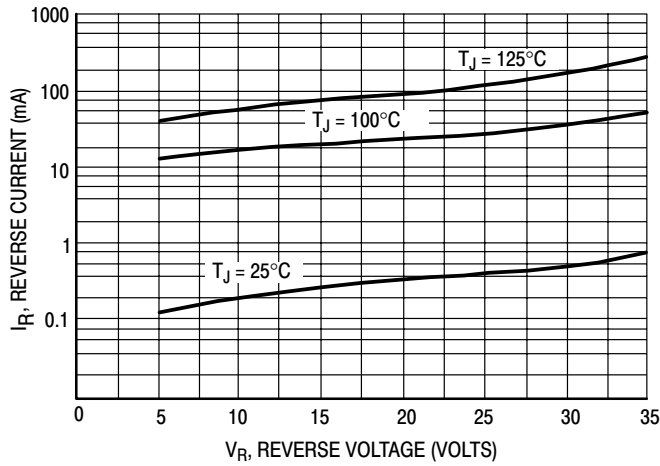


Figure 2. Typical Reverse Current, Per Leg

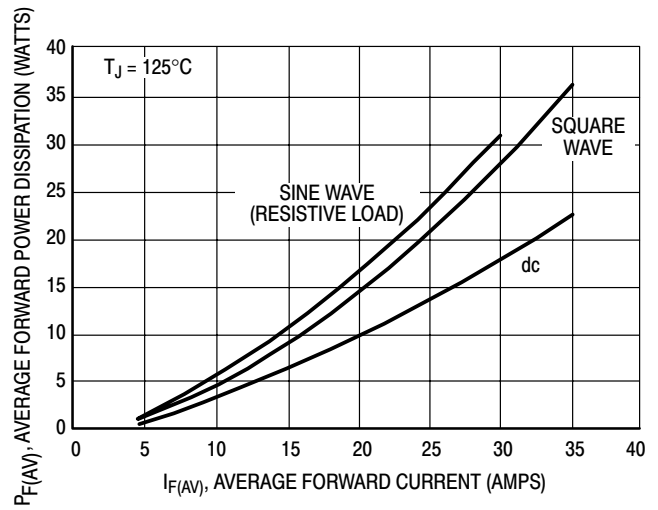


Figure 3. Forward Power Dissipation, Per Leg

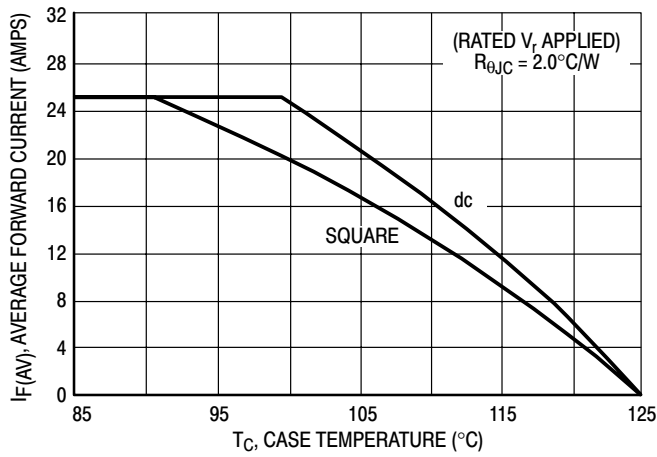


Figure 4. Current Derating

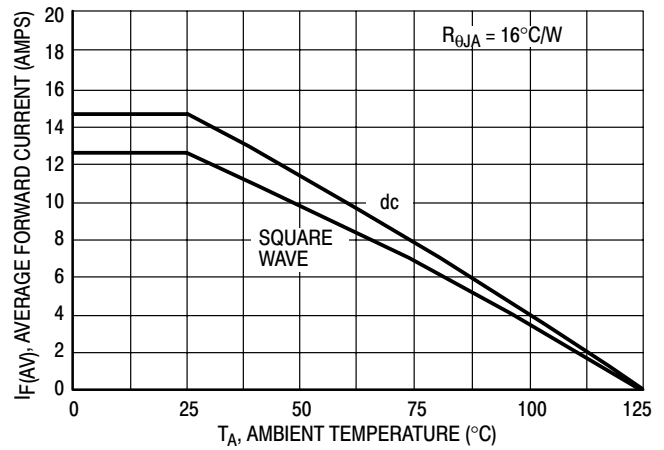
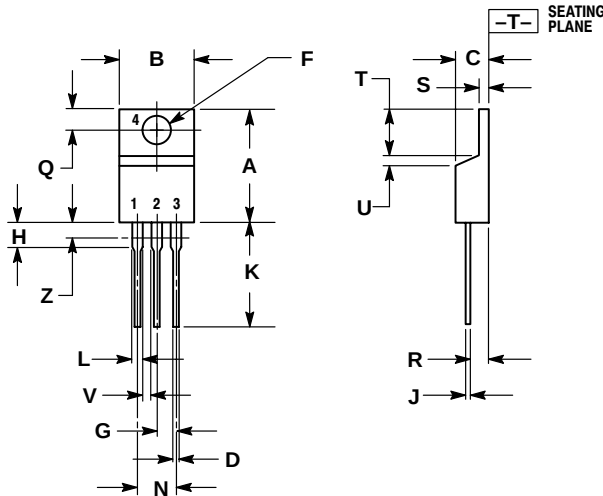


Figure 5. Current Derating Ambient, Per Leg

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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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