

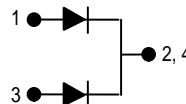
# SWITCHMODE™ Power Rectifier

... 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"

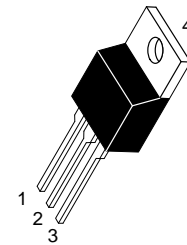
## Mechanical Characteristics

- 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



**MBR2535CTL**

**SCHOTTKY BARRIER  
RECTIFIER  
25 AMPERES  
35 VOLTS**



**CASE 221A-06  
(TO-220AC)**

## MAXIMUM RATINGS (PER LEG)

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	35	Volts
Working Peak Reverse Voltage	$V_{RWM}$	35	
DC Blocking Voltage	$V_R$	35	
Average Rectified Forward Current (Rated $V_R$ ) $T_C = 110^\circ\text{C}$	$I_{F(AV)}$	12.5	Amps
Peak Repetitive Forward Current, Per Leg (Rated $V_R$ , Square Wave, 20 kHz) $T_C = 95^\circ\text{C}$	$I_{FRM}$	25	Amps
Nonrepetitive Peak Surge Current (Surge applied at rated load conditions, halfwave, single phase, 60 Hz)	$I_{FSM}$	150	Amps
Peak Repetitive Reverse Surge Current (2.0 $\mu\text{s}$ , 1.0 kHz)	$I_{RRM}$	1.0	Amp
Operating Junction Temperature	$T_J$	-65 to +125	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-65 to +150	$^\circ\text{C}$
Voltage Rate of Change (Rated $V_R$ )	$dv/dt$	10,000	$\text{V}/\mu\text{s}$
Controlled Avalanche Energy	$W_{aval}$	20	mJ

## THERMAL CHARACTERISTICS

Thermal Resistance — Junction to Case	$R_{\theta JC}$	2.0	$^\circ\text{C}/\text{W}$
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## ELECTRICAL CHARACTERISTICS

Maximum Instantaneous Forward Voltage (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 (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  $\mu\text{s}$ , Duty Cycle  $\leq 2.0\%$ .

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# MBR2535CTL

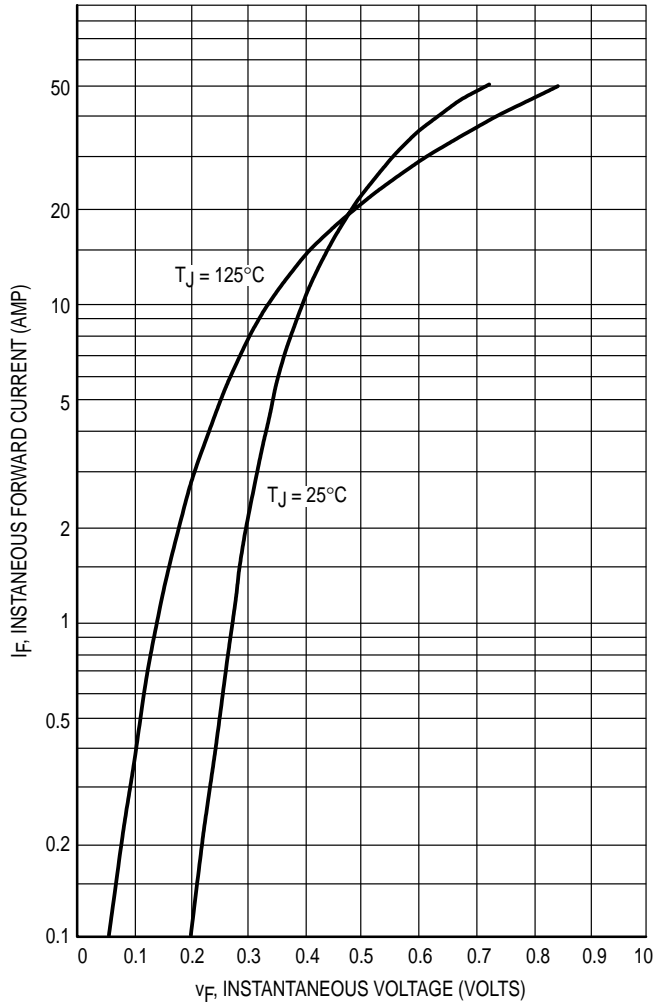


Figure 1. Typical Forward Voltage, Per Leg

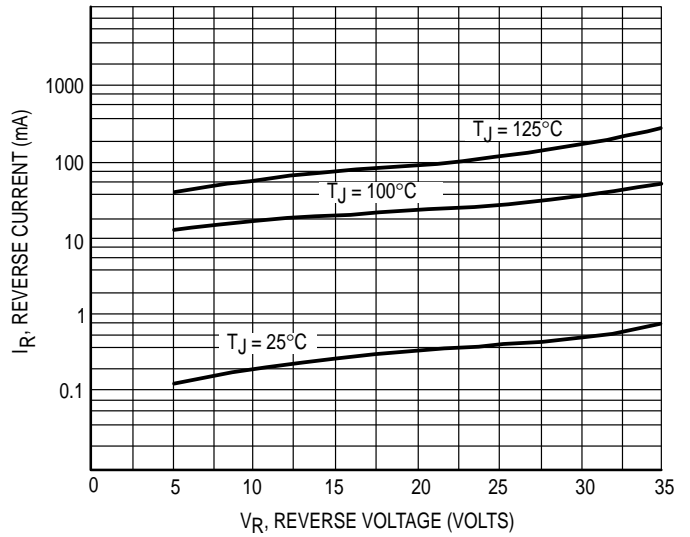


Figure 2. Typical Reverse Current, Per Leg

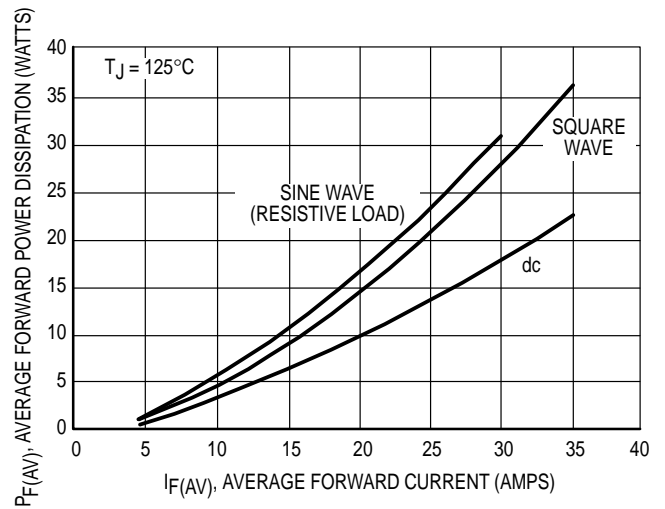


Figure 3. Forward Power Dissipation, Per Leg

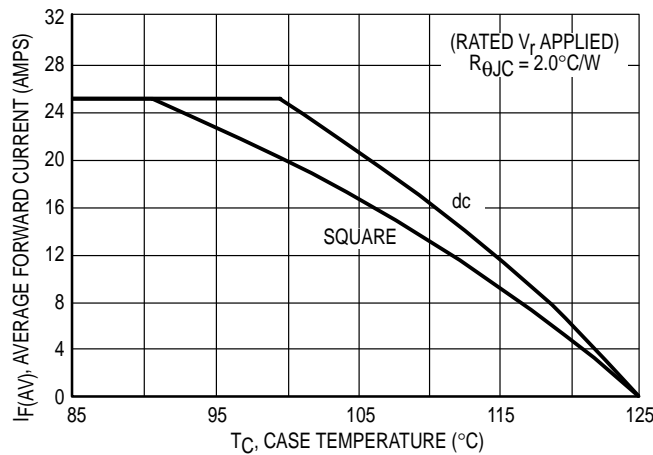


Figure 4. Current Derating

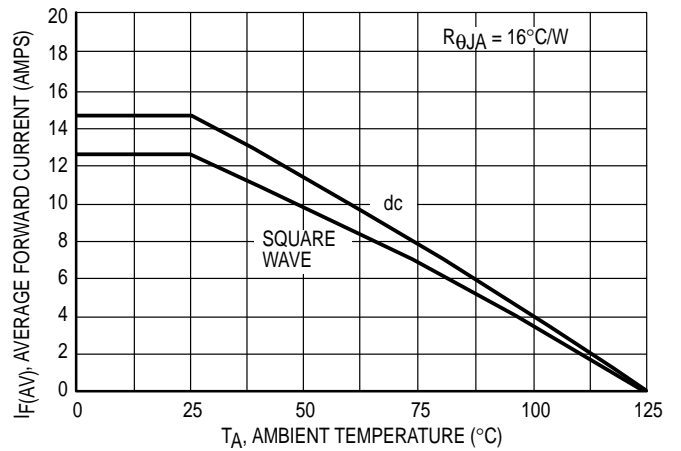
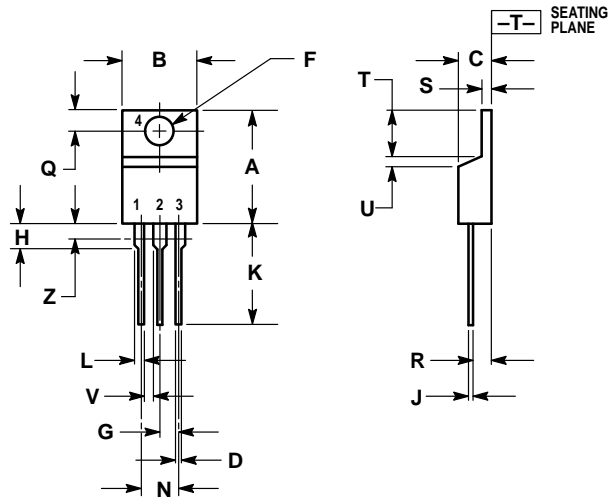


Figure 5. Current Derating Ambient, Per Leg

PACKAGE DIMENSIONS



- 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

**CASE 221A-06  
(TO-220AB)  
ISSUE Y**

- STYLE 6:
- PIN 1. ANODE
  2. CATHODE
  3. ANODE
  4. CATHODE

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