

Product Preview
SWITCHMODE™
Schottky Power Rectifier
D2PAK-SL Straight-Leaded
Through Hole Mount Package

...using the Schottky Barrier principle with a platinum barrier metal. These state-of-the-art devices have the following features:

- Package Designed for Low Profile Through Hole Mount
- Center-Tap Configuration
- Guardring for Stress Protection
- Low Forward Voltage
- 150°C Operating Junction Temperature
- Epoxy Meets UL94, V_O at 1/8"
- Guaranteed Reverse Avalanche
- Short Heat Sink Tab Manufactured — Not Sheared!
- Similar in Size to Industry Standard TO-220

Mechanical Characteristics

- Case: Epoxy, Molded
- Weight: 1.7 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 in 50 units per plastic tube
- Marking: B20101 With 1 signifying straight leads

MAXIMUM RATINGS PER DIODE LEG

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	100	Volts
Average Rectified Forward Current (At Rated V_R , $T_C = 110^\circ\text{C}$)	Per Leg Per Package	10 20	Amps
Peak Repetitive Forward Current (At Rated V_R , Square Wave, 20 kHz, $T_C = 100^\circ\text{C}$)	Per Leg	20	Amps
Non-Repetitive Peak Surge Current (Surge applied at rated load conditions, halfwave, single phase, 60 Hz)	Per Package	150	Amps
Peak Repetitive Reverse Surge Current (2.0 μs , 1.0 kHz)	I_{RRM}	0.5	Amp
Storage / Operating Case Temperature	T_{stg}, T_C	-65 to +175	$^\circ\text{C}$
Operating Junction Temperature	T_J	-65 to +150	$^\circ\text{C}$
Voltage Rate of Change	dv/dt	10,000	$\text{V}/\mu\text{s}$

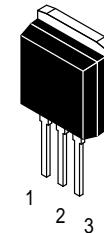
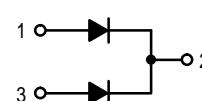
THERMAL CHARACTERISTICS

Thermal Resistance — Junction to Case — Junction to Ambient	Per Leg	$R_{\theta,JC}$ $R_{\theta,JA}$	2.0 50	$^\circ\text{C}/\text{W}$
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MBRB20100CT1

**SCHOTTKY BARRIER
RECTIFIER
20 AMPERES
100 VOLTS**



CASE 418C-01
D2PAK-SL

ELECTRICAL CHARACTERISTICS

Maximum Instantaneous Forward Voltage (1), see Figure 2 $I_F = 1.0$ Adc $I_F = 2.0$ Adc	Per Leg	V_F	$T_J = 25^\circ\text{C}$	$T_J = 125^\circ\text{C}$	Volts
			0.85 0.95	0.75 0.85	
Maximum Instantaneous Reverse Current, see Figure 4 $V_R = 100$ V	Per Leg	I_R	$T_J = 25^\circ\text{C}$	$T_J = 125^\circ\text{C}$	mA
			0.1	6.0	

(1) Pulse Test: Pulse Width $\leq \mu\text{s}$, Duty Cycle $\leq 2\%$.

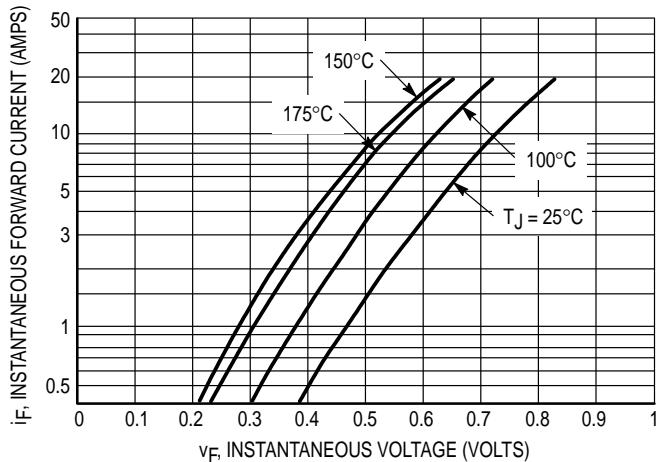


Figure 1. Typical Forward Voltage Per Diode

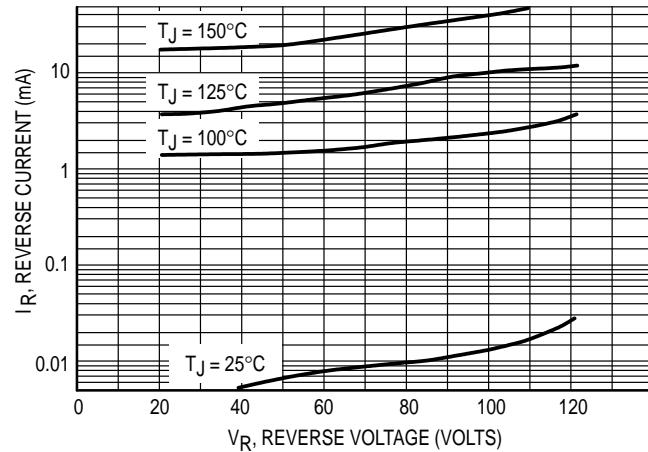


Figure 2. Typical Reverse Current Per Diode

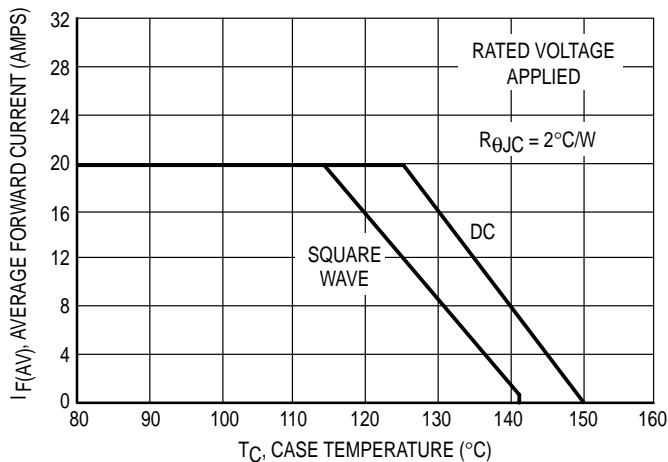


Figure 3. Typical Current Derating, Case, Per Leg

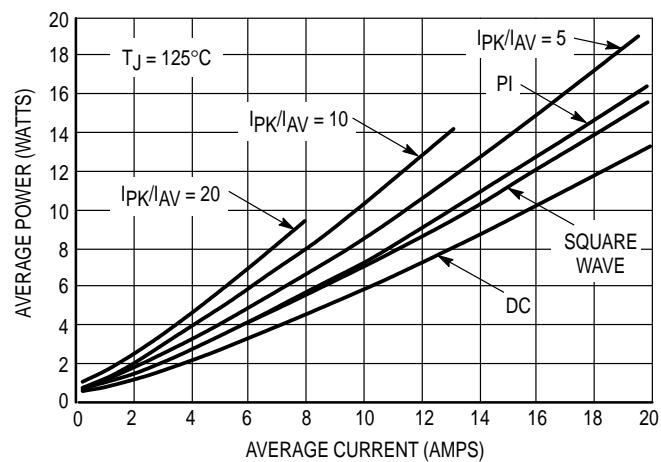
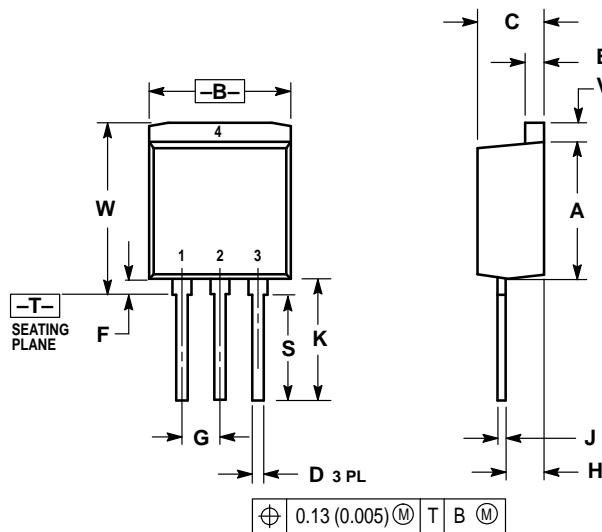


Figure 4. Average Power Dissipation and Average Current

PACKAGE DIMENSIONS



NOTES:

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

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.340	0.380	8.64	9.65
B	0.380	0.405	9.65	10.29
C	0.160	0.190	4.06	4.83
D	0.020	0.035	0.51	0.89
E	0.045	0.055	1.14	1.40
F	0.039 REF		1.00 REF	
G	0.100 BSC		2.54 BSC	
H	0.080	0.110	2.03	2.79
J	0.018	0.025	0.46	0.64
K	0.280	0.360	7.11	9.14
S	0.276 REF		7.00 REF	
V	0.045	0.055	1.14	1.40
W	0.423	0.462	10.75	11.75

CASE 418C-01
ISSUE O

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