MBRP400100CTL

POWERTAP™ II SWITCHMODE™ Power Rectifier

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

Features:

- Dual Diode Construction – May be Paralleled for Higher Current Output
- Guardring for Stress Protection
- Low Forward Voltage Drop
- 175°C Operating Junction Temperature
- Recyclable Epoxy
- Guaranteed Reverse Avalanche Energy Capability
- Improved Mechanical Ratings

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	100	V
Average Rectified Forward Current (At Rated V_R, T_C = 100°C) Per Leg Per Device	$I_{F(AV)}$	200 400	A
Peak Repetitive Forward Current (At Rated V_R, Square Wave, 20 kHz, T_C = 100°C)	I_{FRM}	400	A
Non–Repetitive Peak Surge Current (Surge Applied at Rated Load Conditions Halfwave, Single Phase, 60 Hz)	I_{FSM}	2500	A
Peak Repetitive Reverse Current (2.0 μs, 1.0 kHz)	I_{RRM}	2.0	A
Storage and Operating Case Temperature Range	T_{stg}, T_C	–55 to +175	°C
Operating Junction Temperature	T_J	–55 to +175	°C
Voltage Rate of Change (Rated V_R)	dv/dt	1000	V/μs

ON Semiconductor®

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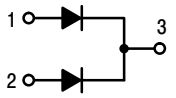
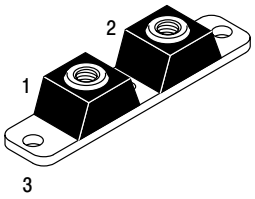
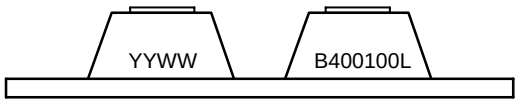
SCHOTTKY BARRIER RECTIFIER 400 AMPERES 100 VOLTS





POWERTAP II
CASE 357C
PLASTIC

MARKING DIAGRAM



B400100L = Device Code
YY = Year
WW = Work Week

ORDERING INFORMATION

Device	Package	Shipping
MBRP400100CTL	POWERTAP II	25 Units/Tray

THERMAL CHARACTERISTICS

Rating		Symbol	Value	Unit
Thermal Resistance – Junction–to–Case	Per Leg	$R_{\theta JC}$	0.45	°C/W

ELECTRICAL CHARACTERISTICS

Rating		Symbol	Value		Unit
Maximum Instantaneous Forward Voltage (Note 1)	Per Leg	V_F	**T_C = 25°C**	**T_C = 125°C**	V
(I_F = 200 A) (I_F = 400 A)			0.83 0.97	0.69 0.82	
Maximum Instantaneous Reverse Current (Note 1)	Per Leg	I_R	**T_C = 25°C**	**T_C = 125°C**	mA
(Rated DC Voltage)			6.0	80	

1. Pulse Test: Pulse Width = 380 μs, Duty Cycle ≤ 2%.

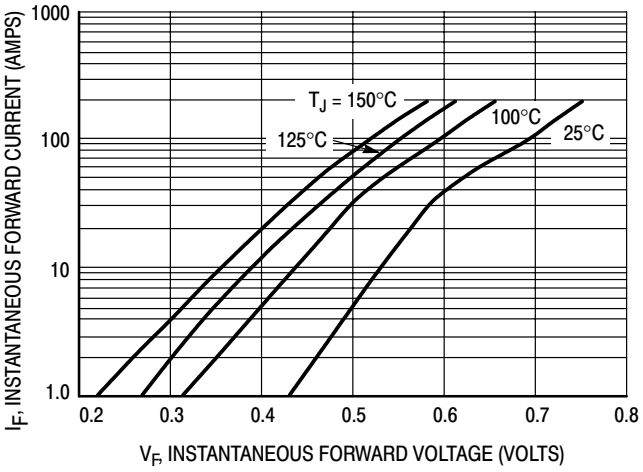


Figure 1. Typical Forward Voltage

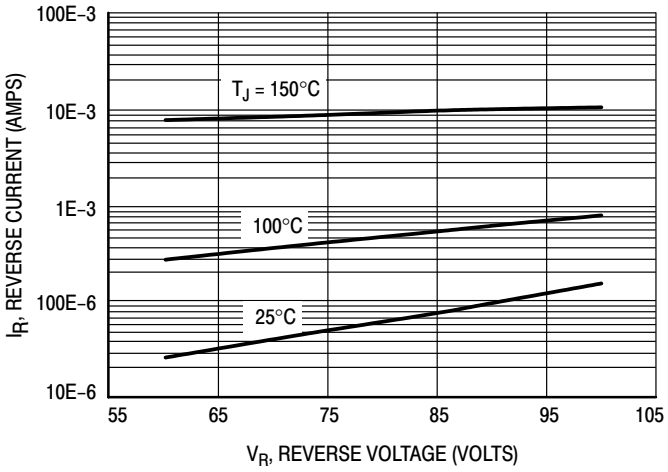
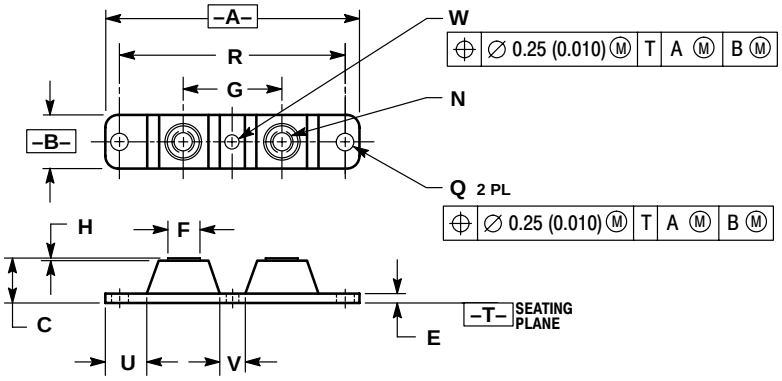


Figure 2. Typical Reverse Current

PACKAGE DIMENSIONS

CASE 357C–03
POWERTAP
PLASTIC PACKAGE
ISSUE E



NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. TERMINAL PENETRATION: 5.97 (0.235) MAXIMUM.

	INCHES		MILLIMETERS	
DIM	MIN	MAX	MIN	MAX
A	3.450	3.635	87.63	92.33
B	0.700	0.810	17.78	20.57
C	0.615	0.640	15.63	16.26
E	0.120	0.130	3.05	3.30
F	0.435	0.445	11.05	11.30
G	1.370	1.380	34.80	35.05
H	0.007	0.030	0.18	0.76
N	1/4–20UNC–2B		1/4–20UNC–2B	
Q	0.270	0.285	6.86	7.23
R	31.50 BSC		80.01 BSC	
U	0.600	0.630	15.24	16.00
V	0.330	0.375	8.39	9.52
W	0.170	0.190	4.32	4.82

PUBLICATION ORDERING INFORMATION

Literature Fulfillment:
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