

MBRP40045CTL

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
- 150°C Operating Junction Temperature
- Recyclable Epoxy
- Guaranteed Reverse Avalanche Energy Capability
- Improved Mechanical Ratings

MAXIMUM RATINGS

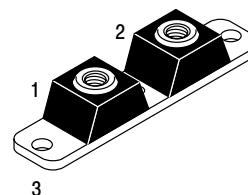
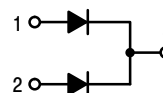
Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	45	V
Average Rectified Forward Current (At Rated V_R , $T_C = 100^\circ\text{C}$) Per Leg Per Device	$I_{F(AV)}$	200 400	A
Peak Repetitive Forward Current (At Rated V_R , Square Wave, 20 kHz, $T_C = 100^\circ\text{C}$)	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 +150	$^\circ\text{C}$
Operating Junction Temperature	T_J	-55 to +150	$^\circ\text{C}$
Voltage Rate of Change (Rated V_R)	dv/dt	1000	V/ μs



ON Semiconductor™

<http://onsemi.com>

SCHOTTKY BARRIER RECTIFIER 400 AMPERES 45 VOLTS



POWERTAP II
CASE 357C
PLASTIC

MARKING DIAGRAM



B40045L = Device Code
YY = Year
WW = Work Week

ORDERING INFORMATION

Device	Package	Shipping
MBRP40045CTL	POWERTAP II	25 Units/Tray

THERMAL CHARACTERISTICS

Rating	Symbol	Value	Unit
Thermal Resistance — Junction-to-Case Per Leg	$R_{\theta JC}$	0.45	$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS

Rating	Symbol	Value		Unit
Maximum Instantaneous Forward Voltage (Note 1.) Per Leg $(I_F = 200 \text{ A})$ $(I_F = 400 \text{ A})$	V_F	$T_C = 25^{\circ}\text{C}$	$T_C = 125^{\circ}\text{C}$	V
		0.57 0.73	0.52 0.68	
Maximum Instantaneous Reverse Current (Note 1.) Per Leg (Rated DC Voltage)	I_R	$T_C = 25^{\circ}\text{C}$	$T_C = 125^{\circ}\text{C}$	mA
		10	400	

1. Pulse Test: Pulse Width = 380 μs , Duty Cycle $\leq 2\%$.

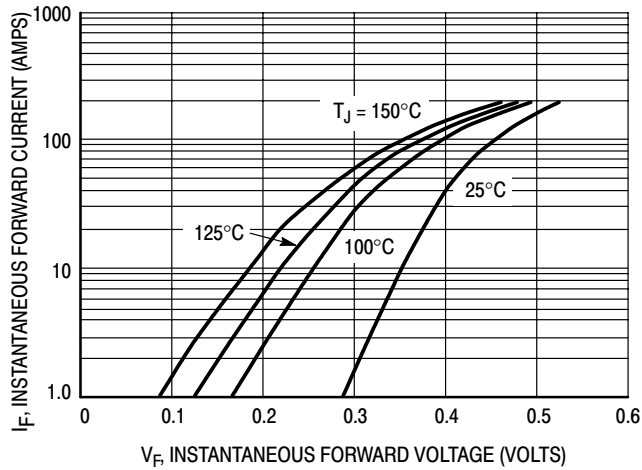


Figure 1. Typical Forward Voltage

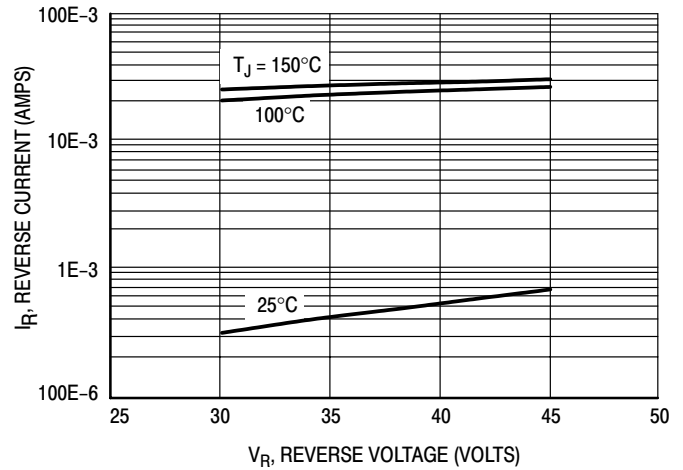
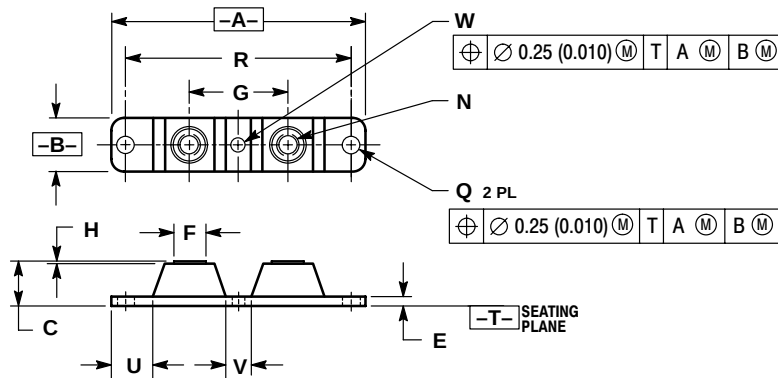


Figure 2. Typical Reverse Current

MBRP40045CTL

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.

DIM	INCHES		MILLIMETERS	
	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

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