



E502650

## Features

- Glass Passivated Chip Junction
- High Surge Current Capability
- Lead Free Finish/RoHS Compliant (Note 1) ("P" Suffix Designates RoHS Compliant. See Ordering Information)
- Epoxy Meets UL 94 V-0 Flammability Rating

## Maximum Ratings @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Value		Unit
		MT5010M	MT5016M	
Peak Repetitive Reverse Voltage	$V_{RRM}$	1000	1600	V
Working Peak Reverse Voltage	$V_{RWM}$			
DC Blocking Voltage	$V_R$			
RMS Reverse Voltage	$V_{RMS}$	700	1120	V
Average Rectified Forward Current @ $T_c=90^{\circ}\text{C}$	$I_{F(AV)}$	50		A
Non-Repetitive Peak Surge Current @ 8.3ms Half Sine Wave	$I_{FSM}$	500		A
Non-Repetitive Peak Surge Current @ 1ms Square Wave		1000		
$I^2t$ Rating for Fusing @ $1\text{ms}\leq t\leq 8.3\text{ms}$	$I^2t$	1037		$\text{A}^2\text{s}$
Dielectric strength @Terminals to Case, AC 1 Minute	$V_{dis}$	2.5		KV

## Marking Code

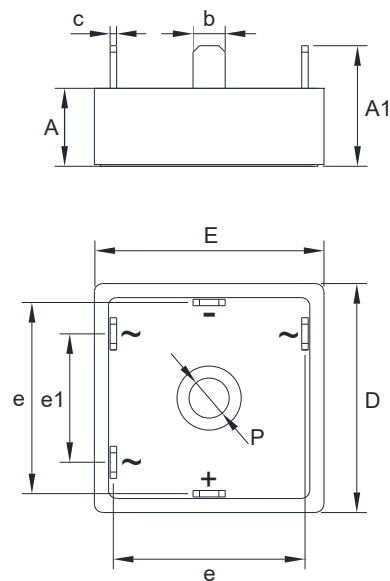
Part Number	Marking Code
MT5010M	MT5010M
MT5016M	MT5016M

Marking Diagram	Internal Structure
<p>Marking Code: XXXXXXXX Date Code: YYWW</p>	

Note: 1. High Temperature Solder Exemption Applied, see EU Directive Annex 7a.

# 50 Amp Three Phase Bridge Rectifiers 1000V to 1600 Volts

MT-M



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.354	0.394	9.00	10.00	
A1	0.571	0.610	14.50	15.50	
b	0.150	0.165	3.80	4.20	
c	0.030	0.033	0.75	0.85	
D	1.110	1.134	28.20	28.80	
E	1.110	1.134	28.20	28.80	
e	0.917	0.957	23.30	24.30	
e1	0.610	0.650	15.50	16.50	
P	0.177	0.217	4.50	5.50	Ø

## Thermal characteristics

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
$T_J$	Operating Junction Temperature Range		-55		150	°C
$T_{stg}$	Storage Temperature Range		-55		150	°C
$R_{th(J-C)}$	Thermal Resistance from Junction to Case	Note 1		0.8		°C/W
$R_{th(J-A)}$	Thermal Resistance from Junction to Ambient			20		°C/W

Note: 1. Device mounted on 75mm x 45mm x 5.5mm Aluminum Plate Heatsink.

## Mechanical Data

Recommend Mounting Torque: 5 kg•cm

## Electrical Characteristics @ 25°C Unless Otherwise Specified(Per Diode)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward Voltage	$V_F$	$I_F=25A; T_J=25^{\circ}C$			1.15	V
Reverse Current	$I_R$	at Rated $V_R; T_J=25^{\circ}C$ at Rated $V_R; T_J=125^{\circ}C$			5 500	uA
Junction Capacitance	$C_J$	$V_R=4V; f=1MHz; T_J=25^{\circ}C$		185		pF

## Curve Characteristics

Fig. 1 - Forward Current Derating Curve

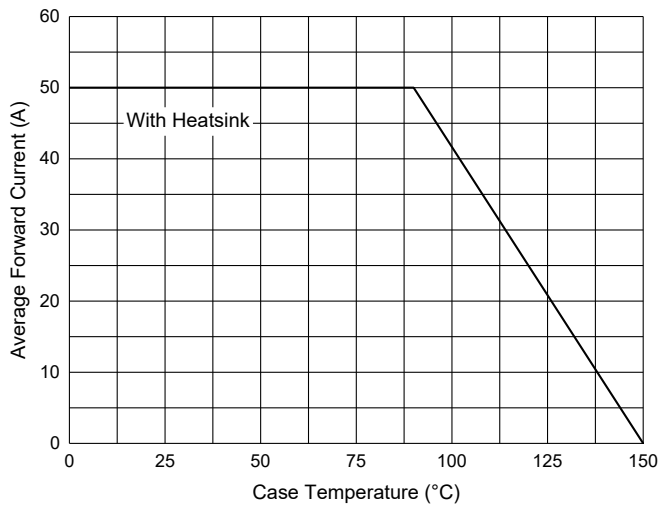


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current (Per Diode)

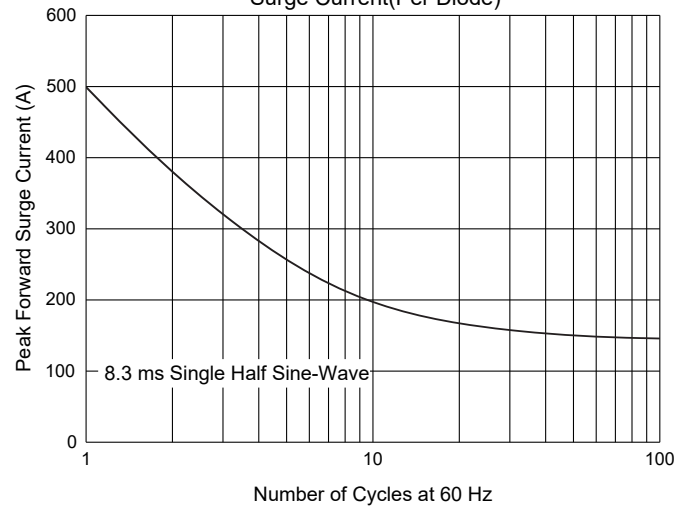


Fig. 3 - Typical Forward Characteristics (Per Diode)

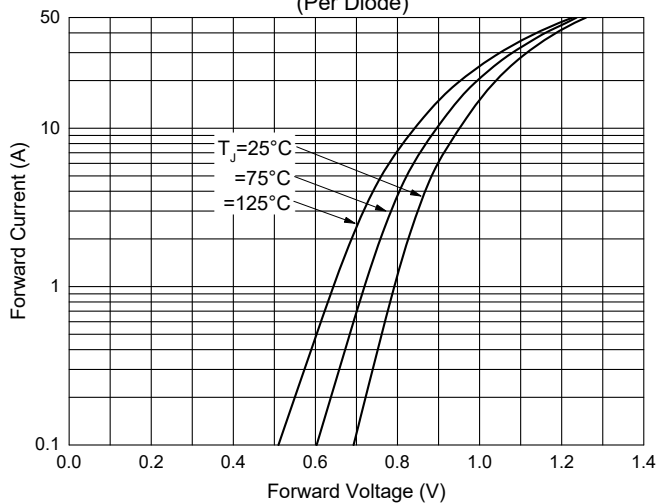


Fig. 4 - Typical Reverse Leakage Characteristics (Per Diode)

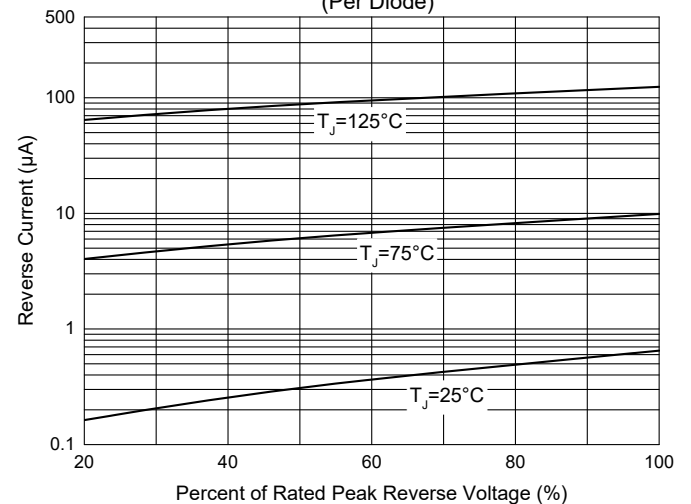
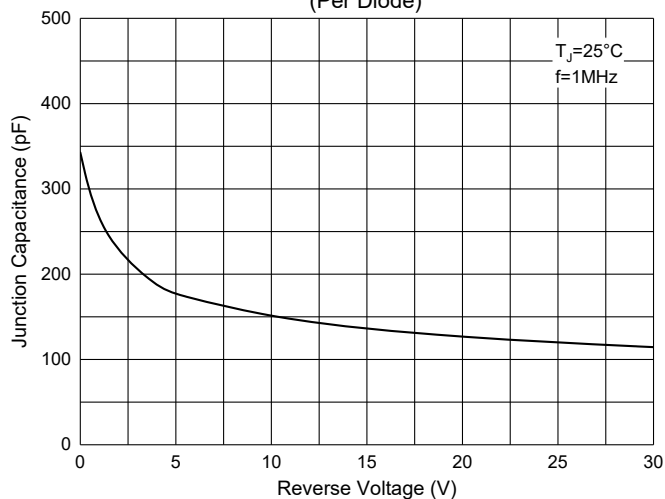


Fig. 5 - Typical Capacitance Characteristics (Per Diode)



## Ordering Information

Device	Packing
Part Number-BP	Bulk:50pcs/Box,400pcs/Carton

### \*\*\*IMPORTANT NOTICE\*\*\*

**Micro Commercial Components Corp.** reserves the right to make changes without further notice to any product herein to make corrections, modifications , enhancements , improvements , or other changes . **Micro Commercial Components Corp** . does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights ,nor the rights of others . The user of products in such applications shall assume all risks of such use and will agree to hold **Micro Commercial Components Corp** . and all the companies whose products are represented on our website, harmless against all damages. **Micro Commercial Components Corp.** products are sold subject to the general terms and conditions of commercial sale, as published at <https://www.mccsemi.com/Home/TermsAndConditions>.

### \*\*\*LIFE SUPPORT\*\*\*

MCC's products are not authorized for use as critical components in life support devices or systems without the express written approval of Micro Commercial Components Corporation.

### \*\*\*CUSTOMER AWARENESS\*\*\*

Counterfeiting of semiconductor parts is a growing problem in the industry. Micro Commercial Components (MCC) is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. MCC strongly encourages customers to purchase MCC parts either directly from MCC or from Authorized MCC Distributors who are listed by country on our web page cited below. Products customers buy either from MCC directly or from Authorized MCC Distributors are genuine parts, have full traceability, meet MCC's quality standards for handling and storage. **MCC will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources.** MCC is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.