

# **Features**

- High Frequency Operation
- Guard Ring for Enhanced Ruggedness and Long Term Reliability
- Lead Free Finish/RoHS Compliant (Note 1)("P" Suffix Designates Compliant.
   See Ordering Information)
- Halogen Free. "Green" Device (Note 2)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Fully Automotive Qualified to AEC-Q101

# 6 Amp Schottky Barrier Rectifier 200 Volts

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

Parameter	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$		
Working Peak Reverse Voltage	$V_{RWM}$	200	V
DC Blocking Voltage	V <sub>R</sub>		
RMS Reverse Voltage	$V_{RMS}$	140	V
Average Rectified Forward Current			
Per Diode Per Device	I <sub>F(AV)</sub>	3 6	Α
Non-Repetitive Peak Surge Current(Per Diode) @8.3ms Half Sine Wave	I <sub>FSM</sub>	80	Α
Current Squared Time (Per Diode) @ 1ms≤t≤8.3ms	l²t	26.6	A <sup>2</sup> s

# DFN5060

# **Internal Structure**

Pin	Description	Simplified Outline	Graphic Symbol
5~8	Cathode	8 7 6 5	8,7,6,5
1~4	Anode	MCC MBRP6200CT YYWW  1 2 3 4  YYWW=Date Code	1,2 3,4

### Note:

- 1. High temperature solder exemption applied, see EU directive annex 7a.
- 2. Halogen free "Green" products are defined as those which contain <900ppm bromine,
- <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

DIMENSIONS						
DIM	INCHES		MM		NOTE	
DIIVI	MIN	MAX	MIN	MAX	NOTE	
Α	0.031	0.047	0.80	1.20		
В	0.010		0.254		TYP.	
С	0.193	0.222	4.90	5.64		
D	0.232	0.250	5.90	6.35		
E	0.148	0.167	3.75	4.25		
F	0.126	0.154	3.20	3.92		
G	0.189	0.213	4.80	5.40		
Н	0.222	0.239	5.65	6.06		
K	0.045	0.059	1.15	1.50		
J	0.012	0.020	0.30	0.50		
L	0.046	0.054	1.17	1.37		
М	0.012	0.028	0.30	0.71		
N	0.016	0.028	0.40	0.71		



# Thermal characteristics

Symbol	Parameter	Conditions	Min	Тур	Max	Unit
TJ	Operating Junction Temperature Range		-55		175	°C
T <sub>stg</sub>	Storage Temperature Range		-55		175	°C
Rth <sub>(J-L)</sub>	Thermal Resistance from Junction to Case	Note 1		3.5		°C /W
Rth <sub>(J-A)</sub>	Thermal Resistance from Junction to Ambient	Note 1		55		°C /W

Note:

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

Parameter	Symbol	Test Conditions	Min	Тур	Max	Unit
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =3A;T <sub>J</sub> =25°C I <sub>F</sub> =3A;T <sub>J</sub> =125°C		0.82 0.68	0.90 0.75	V
Reverse Current	I <sub>R</sub>	at Rated $V_R;T_J=25^{\circ}C$ at Rated $V_R;T_J=125^{\circ}C$			5 200	μА
Junction Capacitance	Сл	V <sub>R</sub> =4V;f=1MHz;T <sub>J</sub> =25°C		60		pF

<sup>1.</sup>Mounted on P.C.B. with 1in2 copper pad areas.



# **Curve Characteristics**

Fig. 1 - Forward Current Derating Curve

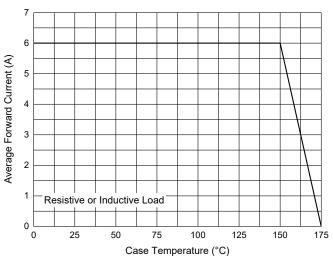


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current
Per Diode

100

80

80

80

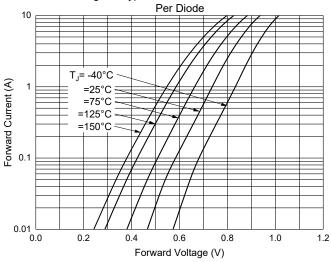
80

8.3 ms Single Half Sine-Wave

100

Number of Cycles at 60 Hz

Fig. 3 - Typical Forward Characteristics



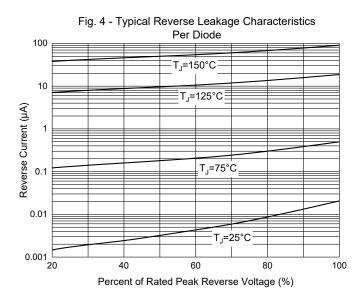
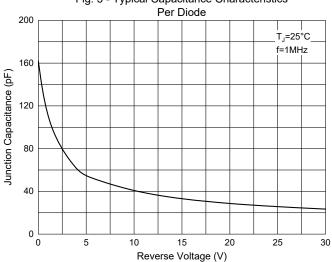


Fig. 5 - Typical Capacitance Characteristics





# **Ordering Information**

Device	Packing		
MBRP6200CTQ-TP	Tape&Reel:5Kpcs/Reel		

### \*\*\*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.

Rev.4-1-04012024 4/4 MCCSEMI.COM