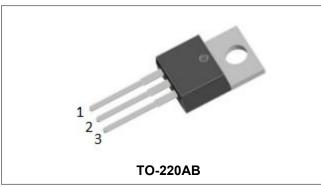


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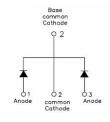
# **MBR1640CT SCHOTTKY RECTIFIER**



#### **Features**

- 150°C T<sub>J</sub> operation
- Center tap configuration
- Low forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced
- · mechanical strength and moisture resistance
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- This is a Pb Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

# **Circuit Diagram**



#### **Applications**

- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

### **Maximum Ratings:**

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage	V <sub>RRM</sub> V <sub>RWM</sub>	-	40	V
DC Blocking Voltage  Average Rectified Forward Current	V <sub>R</sub>	50% duty cycle @Tc=105°C, rectangular wave form	8(Per Leg) 16(Per Device)	А
Peak One Cycle Non-Repetitive Surge Current(Per Leg)	I <sub>FSM</sub>	8.3ms, Half Sine pulse	180	Α

#### **Electrical Characteristics:**

Characteristics	Symbol	Condition	Тур.	Max.	Units
Forward Voltage Drop(Per Leg)*	V <sub>F1</sub>	@ 16A, Pulse, T <sub>J</sub> = 25 °C	-	0.85	V
	V <sub>F2</sub>	@ 16A, Pulse, T <sub>J</sub> = 125 °C	-	0.75	V
Reverse Current(Per Leg)*	I <sub>R1</sub>	@V <sub>R</sub> = rated V <sub>R</sub> , T <sub>J</sub> = 25 °C	-	1.0	mA
	I <sub>R2</sub>	@V <sub>R</sub> = rated V <sub>R</sub> , T <sub>J</sub> = 125 °C	-	15	mA
Junction Capacitance(Per Leg)	Ст	$@V_R = 5V, T_C = 25 °C f_{SiG} = 1MHz$	-	400	pF
Series Inductance(Per Leg)	Ls	Measured lead to lead 5 mm from package body	8.0	-	nH
Voltage Rate of Change	dv/dt	-	-	10,000	V/μs

<sup>\*</sup> Pulse width < 300 µs, duty cycle < 2%

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  - http://www.smc-diodes.com
     sales@ smc-diodes.com



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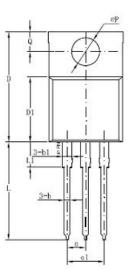


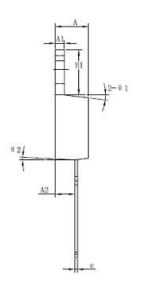
# **Thermal-Mechanical Specifications:**

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	TJ	-	-55 to +150	°C
Storage Temperature	T <sub>stg</sub>	-	-55 to +150	°C
Typical Thermal Resistance Junction to Case	R <sub>th(j-c)</sub>	DC operation	3.0	°C/W
Approximate Weight	wt	-	2	g
Case Style	TO-220AB			

### **Mechanical Dimensions TO-220AB**

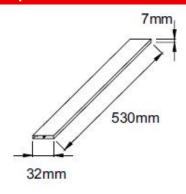




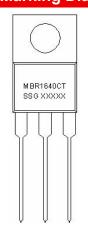


Symbol	Dimensions in millimeters		
_	Min	Typical	Max
Α	4.42	4.57	4.72
A1	1.17	1.27	1.37
A2	2.52	2.69	2.89
b	0.71	0.81	0.96
b1	1.17	1.27	1.37
С	0.31	0.38	0.61
D	14.94	15.24	15.54
D1	8.85	9.00	9.15
E	10.01	10.16	10.31
е		2.54	
e1	4.98	5.06	5.18
H1	6.04	6.24	6.44
L	12.7	13.56	13.80
L1	3.56	3.5	3.96
ФР	3.74	3.84	4.04
Q	2.54	2.74	2.94
Θ1		7°	
Θ2		3°	
Θ3		4°	

# **Tube Specification**



# **Marking Diagram**



Where XXXXX is YYWWL

MBR = Device Type 16 = Forward Current (16A) 40 = Reverse Voltage(40V)

40 = Reverse Voltage
CT = Configuration
SSG = SSG
YY = Year

YY = Year
WW = Week
L = Lot Number

Cautions: Molding resin

Epoxy resin UL:94V-0

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#### **Ordering Information**

Device	Package	Shipping	
MBR1640CT	TO-220AB (Pb-Free)	50 pcs/ tube	

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

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