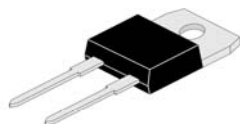


HIGH VOLTAGE SCHOTTKY BARRIER RECTIFIERS

MBR1090
MBR10100



TO-220AC
Plastic Package
RoHS compliant

TO-220AC

APPLICATION:

For use in Low Voltage, High Frequency Inverters, Free Wheeling and Polarity Protection Applications

ABSOLUTE MAXIMUM RATINGS (Ta = 25 °C Unless otherwise specified)

PARAMETER	SYMBOL	VALUE		UNIT
		MBR1090	MBR10100	
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	90	100	V
Working Peak Reverse Voltage	V_{RWS}	90	100	V
Maximum DC Blocking Voltage	V_{DC}	90	100	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	10		A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	150		A
Peak Repetitive Reverse Current at $t_p=2ms$, 1KHz	I_{RRM}	0.5		A
Voltage Rate of Change (Rated V_R)	dv/dt	10000		V/ μ S
Maximum instantaneous Forward Voltage	V_F^1	0.80		V
at $I_F=10A$, $T_c=25^\circ C$		0.85		V
at $I_F=10A$, $T_c=125^\circ C$		0.95		V
at $I_F=20A$, $T_c=25^\circ C$		0.75		V
Maximum DC Reverse Current $T_j=25^\circ C$ at Rated DC Blocking Voltage $T_j=125^\circ C$	I_R^1	100		μ A
		6.0		mA
Typical Thermal Resistance from Junction to Ambient	$R_{th(j-a)}$	60		$^\circ C/W$
Typical Thermal Resistance from Junction to Case	$R_{th(j-c)}$	2.0		$^\circ C/W$
Operating Junction Temperature Range	T_j	-55 to +150		$^\circ C$
Storage Temperature Range	T_{stg}	-55 to +150		$^\circ C$

Note:

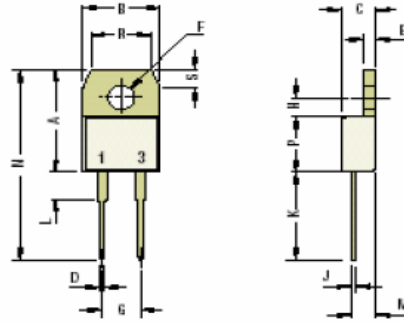
1. Pulse test :-300ms Pulse Width, 1% duty cycle

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PACKAGE DETAILS

TO-220AC Plastic Package

TO-220AC Leaded Plastic Package



DIM	Min	Max
A	13.40	14.20
B	9.91	10.41
C	4.40	4.70
D	0.68	0.94
E	1.14	1.39
F	3.74	3.91
G	4.95	5.20
H	3.43	3.68

DIM	Min	Max
J	0.35	0.58
K	13.48	14.22
L	3.55	4.05
M	2.54	2.79
N	28.40	29.16
P	8.38	8.89
R	—	10.54
S	2.82	2.87

Pin Configuration Pin 1: Cathode Pin 2: N/A Pin 3: Anode

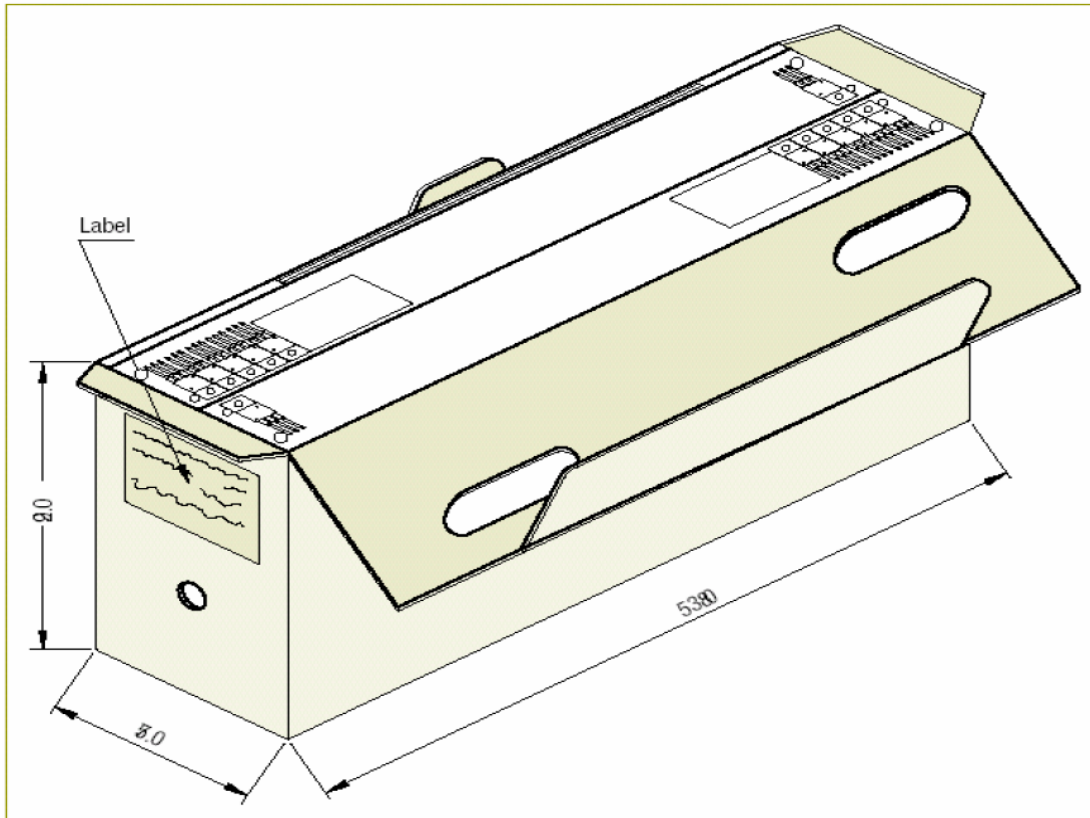


All dimensions are in mm

... Packaging Specifications

Package / Case Type	Packaging Type	Std. Packing Qty	Inner Carton			Outer Carton		
			Qty	Size L x W x H (cm)	Gross Weight (Kg)	Qty	Size L x W x H (cm)	Gross Weight (Kg)
TO-220AC	Bulk	1000	2K	55 x 16.7 x 7.5	5.5	8K	57.0 x 34.5 x 17.0	23.0
	Tube	1000 (50 pcs/tube)	2K	55 x 16.7 x 7.5	5.5	8K	57.0 x 34.5 x 17.0	23.0

Packaging for Tubes



Packaging dimensions/carton dimensions are approximate. Illustration shows packaging box for TO-220 Series. For dimensions of other tube packaging, please refer to Packaging Specifications page.

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Recommended Product Storage Environment for Discrete Semiconductor Devices

This storage environment assumes that the Diodes and transistors are packed properly inside the original packing supplied by CDIL.

- Temperature 5 °C to 30 °C
- Humidity between 40 to 70 %RH
- Air should be clean.
- Avoid harmful gas or dust.
- Avoid outdoor exposure or storage in areas subject to rain or water spraying .
- Avoid storage in areas subject to corrosive gas or dust. Product shall not be stored in areas exposed to direct sunlight.
- Avoid rapid change of temperature.
- Avoid condensation.
- Mechanical stress such as vibration and impact shall be avoided.
- The product shall not be placed directly on the floor.
- The product shall be stored on a plane area. They should not be turned upside down. They should not be placed against the wall.

Shelf Life of CDIL Products

The shelf life of products is the period from product manufacture to shipment to customers. The product can be unconditionally shipped within this period. The period is defined as 2 years.

If products are stored longer than the shelf life of 2 years the products shall be subjected to quality check as per CDIL quality procedure.

The products are further warranted for another one year after the date of shipment subject to the above conditions in CDIL original packing.

Floor Life of CDIL Products and MSL Level

When the products are opened from the original packing, the floor life will start.

For this, the following JEDEC table may be referred:

JEDEC MSL Level		
Level	Time	Condition
1	Unlimited	≤30 °C / 85% RH
2	1 Year	≤30 °C / 60% RH
2a	4 Weeks	≤30 °C / 60% RH
3	168 Hours	≤30 °C / 60% RH
4	72 Hours	≤30 °C / 60% RH
5	48 Hours	≤30 °C / 60% RH
5a	24 Hours	≤30 °C / 60% RH
6	Time on Label(TOL)	≤30 °C / 60% RH

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Customer Notes

Component Disposal Instructions

1. CDIL Semiconductor Devices are RoHS compliant, customers are requested to please dispose as per prevailing Environmental Legislation of their Country.
2. In Europe, please dispose as per EU Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).

Disclaimer

The product information and the selection guides facilitate selection of the CDIL's Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review our Data Sheet(s) so as to confirm that the Device(s) meet functionality parameters for your application. The information furnished in the Data Sheet and on the CDIL Web Site/CD are believed to be accurate and reliable. CDIL however, does not assume responsibility for inaccuracies or incomplete information. Furthermore, CDIL does not assume liability whatsoever, arising out of the application or use of any CDIL product; neither does it convey any license under its patent rights nor rights of others. These products are not designed for use in life saving/support appliances or systems. CDIL customers selling these products (either as individual Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and CDIL will not be responsible for any damages resulting from such sale(s).

CDIL strives for continuous improvement and reserves the right to change the specifications of its products without prior notice.



CDIL is a registered trademark of

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CIN No. U32109DL1964PTC004291

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