MOSPEC

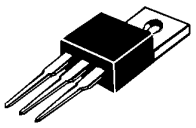
MBR1060CL

Switchmode Dual Schottky Barrier Power Rectifiers

Using the Schottky Barrier principle with a Refractory metal capable of high temperature operation metal. The properitary barrier technology allows for reliable operation up to 175℃ junction temperature. Typical application are in switching Mode Power Supplies such as adaptators, DC/DC convertes,free-wheeling and polarity protection diodes.

SCHOTTKY BARRIER RECTIFIERS

10 AMPERES
60 VOLTS

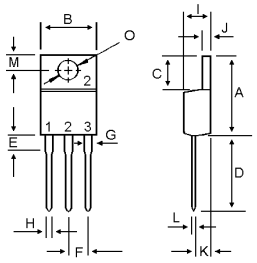


TO-220AB

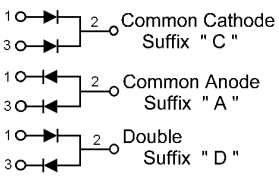
Features

- ∗Low Forward Voltage.
- ∗Low Switching noise.
- ∗High Current Capacity
- ∗Guarantee Reverse Avalanche.
- ∗Guard-Ring for Stress Protection.
- ∗Low Power Loss & High efficiency.
- ∗175℃ Operating Junction Temperature
- ∗Low Stored Charge Majority Carrier Conduction.
- ∗Plastic Material used Carries Underwriters Laboratory Flammability Classification 94V-O
- ∗ESD: 4KV(Min.) Human-Body Model

∗*In compliance with EU RoHs 2002/95/EC directives*



DIM	MILLIMETERS	
	MIN	MAX
A	14.68	15.32
B	9.78	10.42
C	5.02	6.52
D	13.06	14.62
E	3.57	4.07
F	2.42	2.66
G	1.12	1.36
H	0.72	0.96
I	4.22	4.98
J	1.14	1.38
K	2.20	2.98
L	0.33	0.55
M	2.48	2.98
O	3.70	3.90



MAXIMUM RATINGS

Characteristic	Symbol	MBR1060CL	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	60	V
RMS Reverse Voltage	$V_{R(RMS)}$	42	V
Average Rectifier Forward Current (per diode) Total Device (Rated V_R), T_C=100℃	$I_{F(AV)}$	5 10	A
Peak Repetitive Forward Current (Rate V_R, Square Wave, 20kHz)	I_{FM}	20	A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions halfware, single phase, 60Hz)	I_{FSM}	125	A
Operating and Storage Junction Temperature Range	T_J , T_{stg}	-65 to +175	℃

THERMAL RESISTANCES

Typical Thermal Resistance junction to case(per diode)	$R_{\theta j\text{-}c}$	3.5	℃/w

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	MBR1060CL			Unit
		Min	Typ.	Max.	
Maximum Instantaneous Forward Voltage (per diode)	V_F				V
(I_F =0.1 Amp T_C = 25℃)		---	0.31	0.35	
(I_F =2.5 Amp T_C = 25℃)		---	0.51	0.60	
(I_F =5.0 Amp T_C = 25℃)		---	0.63	0.70	
Maximum Instantaneous Reverse Current	I_R				mA
(Rated DC Voltage, T_C = 25℃)		---	0.08	0.1	
(Rated DC Voltage, T_C = 125℃)		---	15	30	

MBR1060CL

FIG-1 FORWARD CURRENT DERATING CURVE

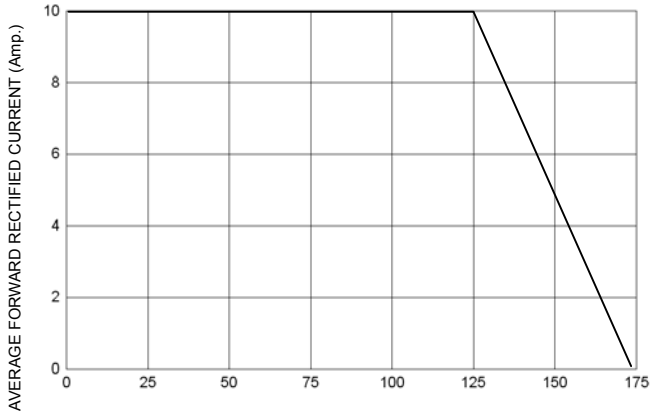


FIG-2 TYPICAL FORWARD CHARACTERISITICS

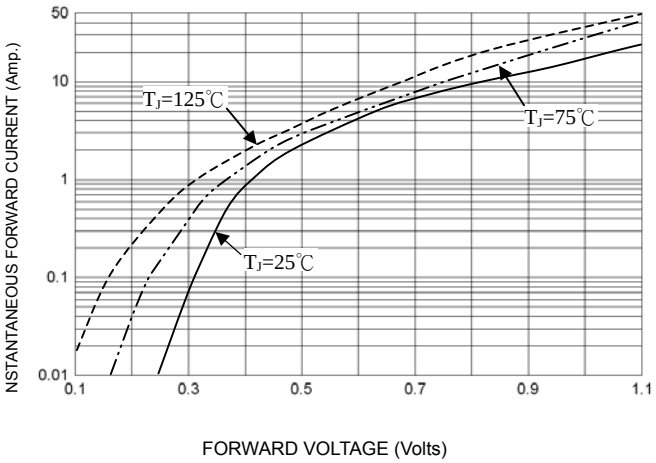


FIG-3 TYPICAL REVERSE CHARACTERISTICS

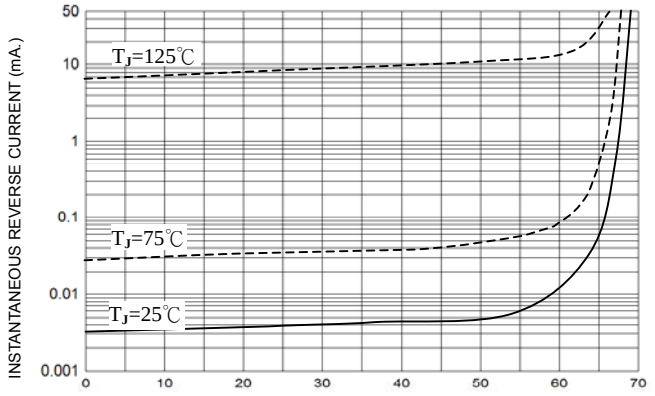


FIG-4 TYPICAL JUNCTION CAPACITANCE

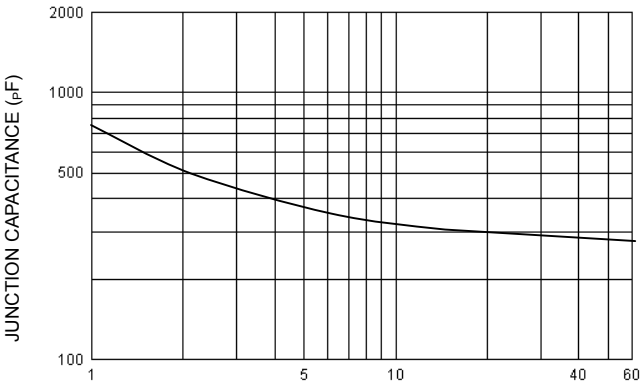
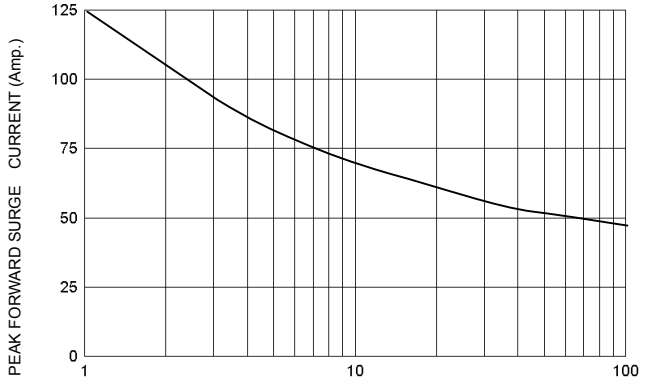


FIG-5 PEAK FORWARD SURGE CURRENT



Notice

MOSPEC reserves the rights to make changes of the content herein the document anytime without notification. MOSPEC or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies. Please refer to MOSPEC website for the last document.

MOSPEC disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially incurred.

Application shown on the herein document are examples of standard use and operation. Customers are responsible for comprehending suitable use in particular applications. MOSPEC makes no representation or warranty that such application will be suitable for the specified use without further testing or modification.

The information contained herein is presented only as a guide for the applications of our products. No responsibility is assumed by MOSPEC for any infringements of patents or other rights of the third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of MOSPEC or others.

These MOSPEC products are intended for usage in general electronic equipment. Please make sure to consult with MOSPEC before you use these MOSPEC products in equipment which require specialized quality and/or reliability, and in equipment which could have major impact to the welfare of human life (atomic energy control, aeronautics , traffic control, combustion control, safety devices etc.)