



# THE DATASHEET OF MBR2060CTL



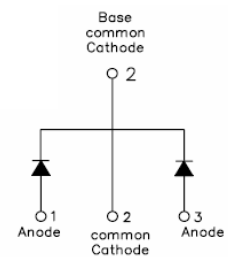
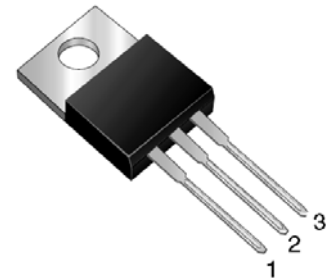
## MBR2060CTL SCHOTTKY RECTIFIER

### Applications:

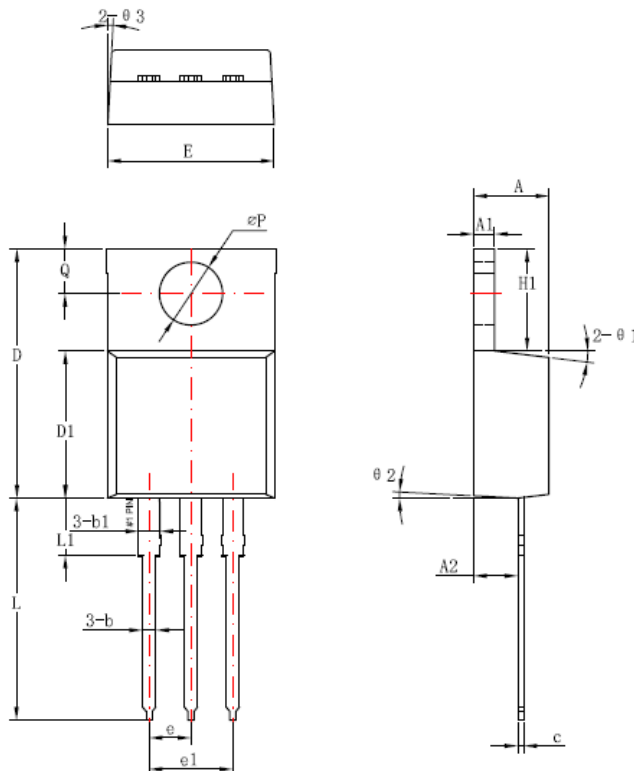
- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

### Features:

- 125 °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



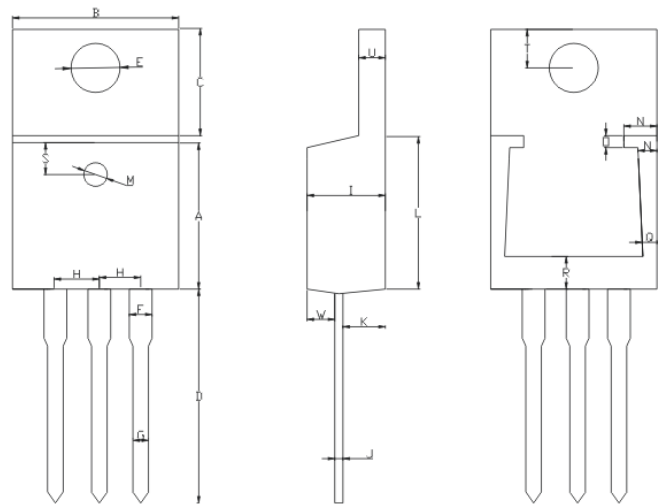
### Mechanical Dimensions: In mm



Symbol	Dimensions in millimeters		
	Min	Typical	Max
A	4.42	4.57	4.72
A1	1.17	1.27	1.37
A2	2.59	2.69	2.89
b	0.71	0.81	0.96
b1		1.27	
c	0.36	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
e		2.54	
e1		5.06	
H1	6.04	6.24	6.44
L	12.7	13.56	13.78
L1		3.5	
ΦP	3.74	3.84	4.04
Q	2.54	2.74	2.94
θ1		7°	
θ2		3°	
θ3		4°	

### OPTION 1(HD)

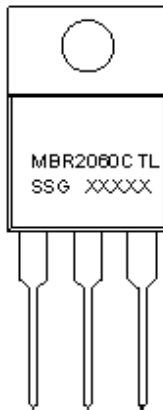
- China - Germany - Korea - Singapore - United States •
- <http://www.smc-diodes.com> - [sales@smc-diodes.com](mailto:sales@smc-diodes.com) •



A: $8.5 \pm 0.5$	B: $9.5 \pm 0.5$	C: $6.4 \pm 0.5$	D: $14.1 \pm 1$
E: $3.84 \pm 0.03$	F: $1.27 \pm 0.03$	G: $0.85 \pm 0.10$	H: $2.54 \pm 0.025$
I: $4.6 \pm 0.5$	J: $0.38 \pm 0.015$	K: $2.75 \pm 0.25$	L: $9.0 \pm 0.5$
M: $1.5 \pm 0.05$	N: $1.8 \pm 0.05$	O: $0.5 \pm 0.05$	P: $1.2 \pm 0.05$
Q: $0.9 \pm 0.05$	R: $3.2 \pm 0.05$	S: $1.55 \pm 0.05$	T: $2.8 \pm 0.15$
U: $1.27 \pm 0.05$	W: $1.27 \pm 0.03$		

**OPTION 2(SR)**

**TO-220AB**

**Technical Data**  
**Data Sheet N0729, Rev. A**  
**Marking Diagram:**
**Green Products**


Where XXXXX is YYWWL

MBR	= Device Type
20	= Forward Current (20A)
60	= Reverse Voltage (60V)
CTL	= Configuration
SSG	= SSG
YY	= Year
WW	= Week
L	= Lot Number

**Cautions:** Molding resin  
 Epoxy resin UL:94V-0

**Ordering Information:**

Device	Package	Shipping
MBR2060CTL	TO-220AB (Pb-Free)	50pcs / tube

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification.

**Maximum Ratings:**

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	$V_{RWM}$	-	60	V
Average Rectified Output Current(per device)	$I_o$	50% duty cycle @ $T_c = 80^\circ C$ , rectangular wave form	20	A
Peak One Cycle Non-Repetitive Surge Current (per leg)	$I_{FSM}$	8.3 ms, half Sine pulse	150	A



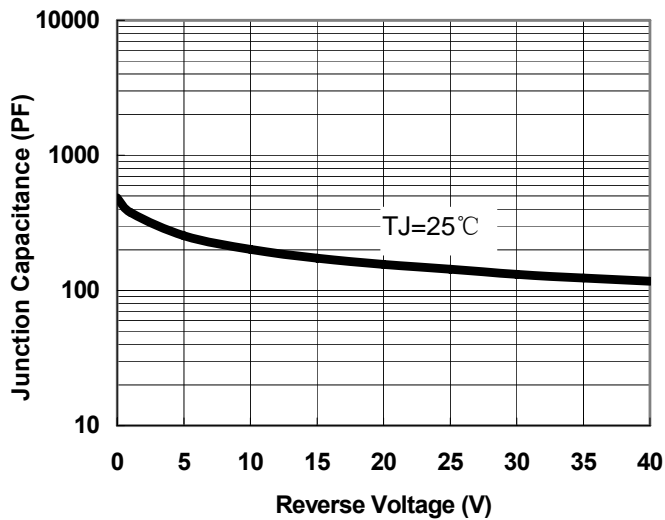
**Electrical Characteristics:**

Characteristics	Symbol	Condition	Max.	Units
Forward Voltage Drop (per leg) *	$V_{F1}$	@ 10A, Pulse, $T_J = 25\text{ }^\circ\text{C}$	0.69	V
Reverse Current (per leg) *	$I_{R1}$	@ $V_R = \text{rated } V_R$ Pulse $T_J = 25\text{ }^\circ\text{C}$	1.0	mA
Junction Capacitance (per leg)	$C_T$	@ $V_R = 4\text{V}$ , $T_C = 25\text{ }^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$	400	pF
Voltage Rate of Change	dv/dt	-	10,000	V/ $\mu\text{s}$

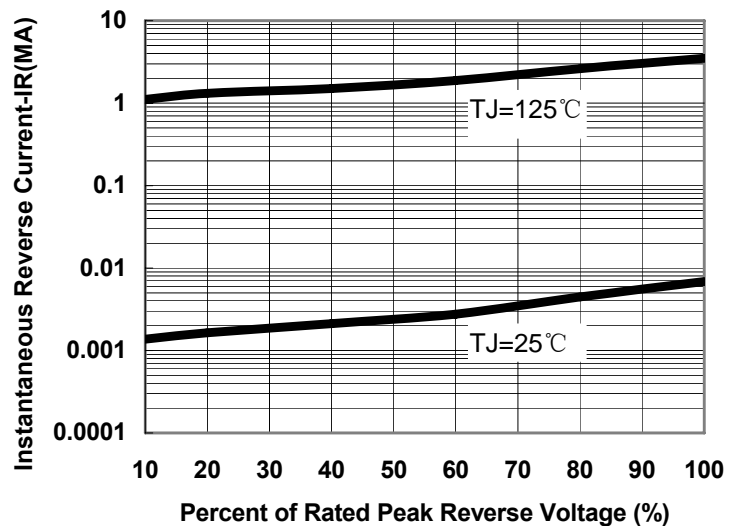
\* Pulse Width < 300 $\mu\text{s}$ , Duty Cycle <2%

**Thermal-Mechanical Specifications:**

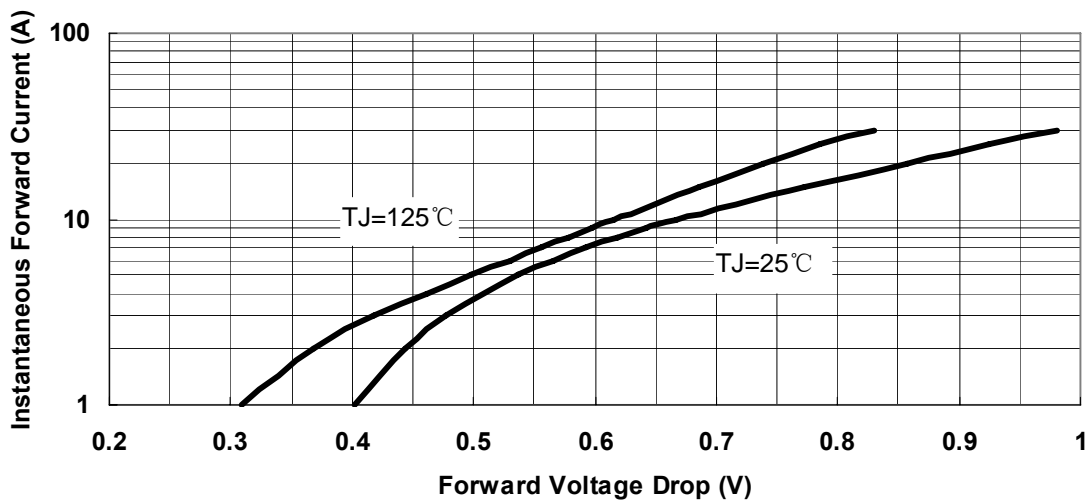
Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	$T_J$	-	-55 to +125	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-	-55 to +150	$^\circ\text{C}$
Maximum Thermal Resistance Junction to Case	$R_{\theta JC}$	DC operation	2.3	$^\circ\text{C/W}$
Typical Thermal Resistance Case to Heat Sink	$R_{\theta CS}$	Mounting surface, smooth and greased(only for TO-220)	0.50	$^\circ\text{C/W}$
Approximate Weight	wt	-	2	g
Case Style	TO-220AB			



**Fig.1-Typical Junction Capacitance**



**Fig.2-Typical Reverse Characteristics**



**Fig.3-Typical Instantaneous Forward Voltage Characteristics**



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