Axial Lead Rectifier

... employing the Schottky Barrier principle in a large area metal-to-silicon power diode. State-of-the-art geometry features epitaxial construction with oxide passivation and metal overlap contact. Ideally suited for use as rectifiers in low-voltage, high-frequency inverters, free wheeling diodes, and polarity protection diodes.

- Extremely Low V_f
- Low Power Loss/High Efficiency
- Highly Stable Oxide Passivated Junction
- Low Stored Charge, Majority Carrier Conduction
- **Mechanical Characteristics:**
- Case: Epoxy, Molded
- Weight: 0.4 gram (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead and Mounting Surface Temperature for Soldering Purposes: 220°C Max. for 10 Seconds, 1/16" from case
- Shipped in plastic bags, 1000 per bag
- Available Tape and Reeled, 5000 per reel, by adding a "RL" suffix to the part number
- Polarity: Cathode indicated by Polarity Band
- ESD Ratings: Machine Model = AHuman Body Model = 2
- Marking: MBR3060

MAXIMUM RATINGS

						_
• Case: Epoxy, Molded						$\overline{}$
• Weight: 0.4 gram (approximately	/)					Ť
• Finish: All External Surfaces Co	rrosion Res	istant and Ter	minal			
Leads are Readily Solderable					AV.C	\square
• Lead and Mounting Surface Tem			urposes:	No.		/
220°C Max. for 10 Seconds, 1/10		e				
• Shipped in plastic bags, 1000 per				SIN		
• Available Tape and Reeled, 5000 the part number	per reel, b	y adding a "R	L" suffi	x to		
• Polarity: Cathode indicated by Polarity	olarity Ban	1	S	N 19		
• ESD Ratings: Machine Mode Human Body M		.C			AXIAL LE	
Marking: MBR3060	10401 2		.0		PLASTIC	
Warking. WBR5000						
MAXIMUM RATINGS	6				MARKING DIA	
· · · ·	Cumhal	Max	Unit			
Rating	Symbol	$\sim \sim$		<i>و</i> ر	MBR306	so H
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage	V _{RRM} V _{RWM}	60	V	_		
DC Blocking Voltage	Vr	,6			//BR3060 = Dev	rice (
Average Rectified Forward Current	lo	3.0	Α			
$T_{L} = 125^{\circ}C (R_{\theta JL} = 13^{\circ}C/W,$	5.0	C~				
P.C. Board Mounting)						
Non-Repetitive Peak Surge Current	IFSM	125	A	OR	DERING INFO	RM
				Device	Package	Τ
Operating and Storage Junction Temperature Range	T _J , T _{stg}	-65 to +150	°C			-
(Reverse Voltage Applied)				MBR3060	Axial Lead	
Peak Operating Junction	T _{J(pk)}	150	°C	MBR3060RL	Axial Lead	5
Temperature	. J(hk)		-	L		
(Forward Current Applied)						



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SCHOTTKY BARRIER RECTIFIER 3.0 AMPERES 60 VOLTS

MARKING DIAGRAM



MBR3060 = Device Code

ORDERING INFORMATION

Device	Package	Shipping
MBR3060	Axial Lead	1000 Units/Bag
MBR3060RL	Axial Lead	5000/Tape & Reel

THERMAL CHARACTERISTICS

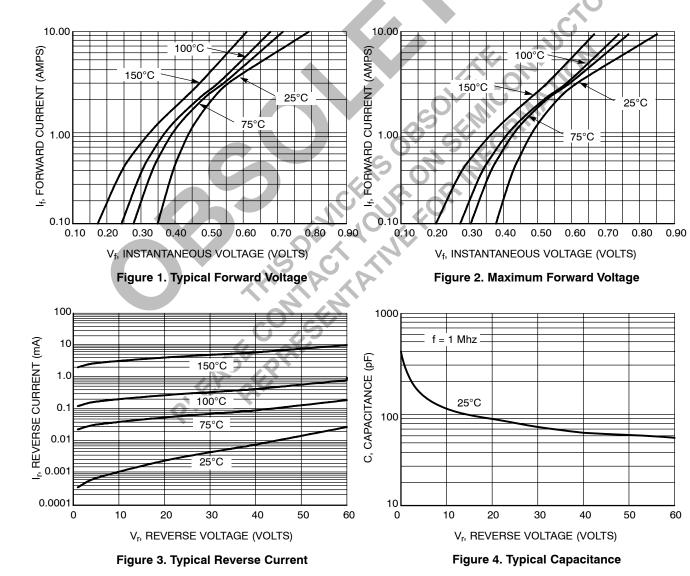
Characteristic		Max	Unit
Thermal Resistance, Junction-to-Lead (Note 1, see Note 3, Mounting Method 3)	$R_{\theta JL}$	13	°C/W
Thermal Resistance, Junction-to-Ambient (see Note 3, Mounting Method 3)	R_{\thetaJA}	50	°C/W

ELECTRICAL CHARACTERISTICS ($T_L = 25^{\circ}C$ unless otherwise noted) (Note 1)

Characteristic		Symbol	Мах	Unit
Maximum Instantaneous Forward Voltage (Note 2) ($I_f = 3.0 \text{ Amp}$), $T_L = 25^{\circ}\text{C}$ ($I_f = 3.0 \text{ Amp}$), $T_L = 100^{\circ}\text{C}$		V _f	0.62 0.59	V
Maximum Instantaneous Reverse Current (Note 2) $(V_r = 60 \text{ V}), T_L = 25^{\circ}\text{C}$ $(V_r = 60 \text{ V}), T_L = 100^{\circ}\text{C}$		I _r	150 10	μA mA

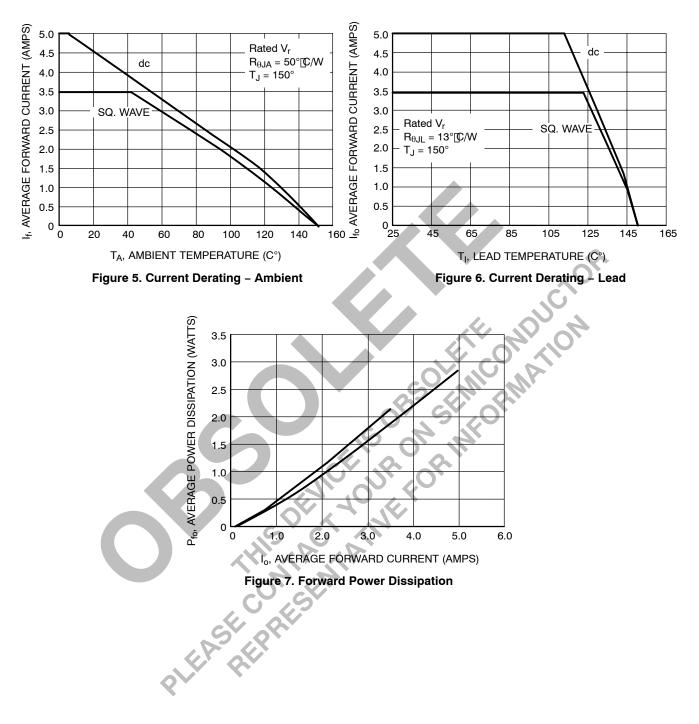
1. Lead Temperature reference is cathode lead at printed wiring board.

2. Pulse Test: Pulse Width = 300 μ s, Duty Cycle = 2.0%.



TYPICAL CHARACTERISTICS

TYPICAL CHARACTERISTICS



NOTE 3 — MOUNTING DATA

Data shown for thermal resistance junction–to–ambient ($R_{\theta JA}$) and thermal resistance junction–to–lead ($R_{\theta JL}$) for the mountings shown is to be used as typical guideline values for preliminary engineering, or in case the tie point temperature cannot be measured.



Mounting	Le				
Method	1/8	1/4	1/2	3/4	$\mathbf{R}_{\theta \mathbf{JA}}$
1	52	65	72	85	°C/W
2	67	80	87	100	°C/W
3	50			°C/W	

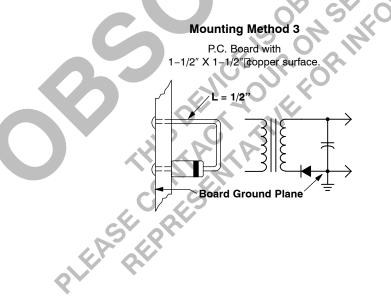
TYPICAL VALUES FOR $\textbf{R}_{\theta \textbf{JL}}$ IN STILL AIR

Mounting	Lead			
Method	1/8	1/4	1/2	$\mathbf{R}_{\theta \mathbf{JA}}$
1	15	23	37	°C/W
2	30	38	52	°C/W
3	•	13		°C/W

Mounting Method 1

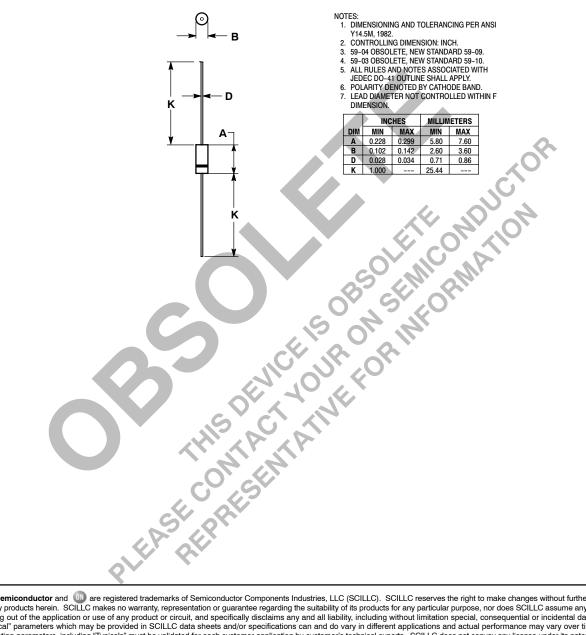
P.C. Board with 1-1/2" X 1-1/2" copper surface.

Mounting Method Vector Push-In Terminals T-28



PACKAGE DIMENSIONS

AXIAL LEAD CASE 59–09 ISSUE R



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