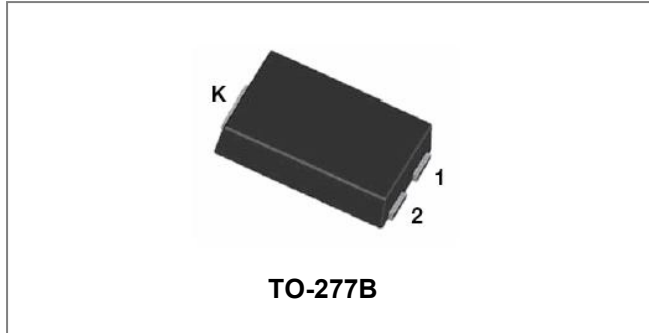


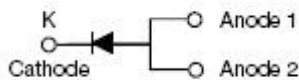
MBR1045S SCHOTTKY RECTIFIER



Features

- Designed as Bypass Diodes for Solar Panels
- High Forward Surge Capability
- Ultra Low Forward Voltage Drop
- Excellent High Temperature Stability
- This is a Halogen 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 DC Blocking Voltage	V_{RRM} V_{RWM} V_R	-	45	V
Average Rectified Forward Current	$I_F (AV)$	50% duty cycle @ $T_c=80^\circ\text{C}$, rectangular wave form	10	A
Peak One Cycle Non-Repetitive Surge Current	I_{FSM}	8.3ms, Half Sine pulse, $T_c=25^\circ\text{C}$	275	A

Electrical Characteristics:

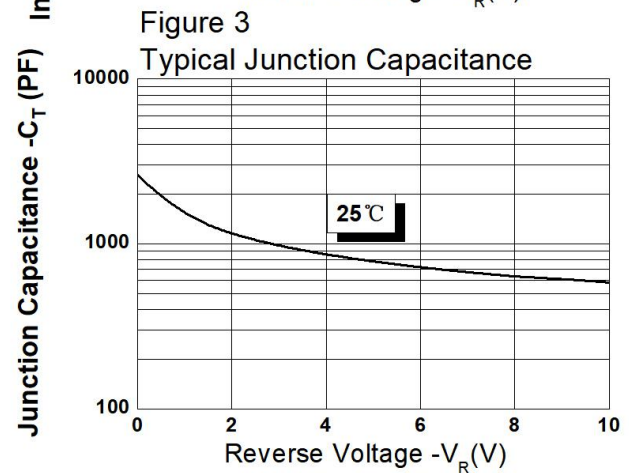
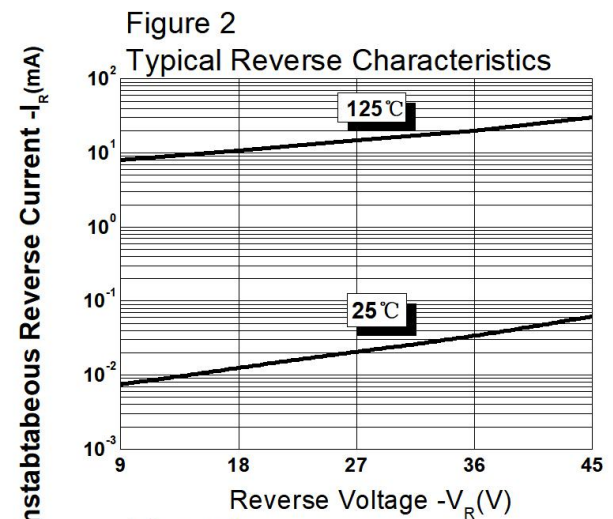
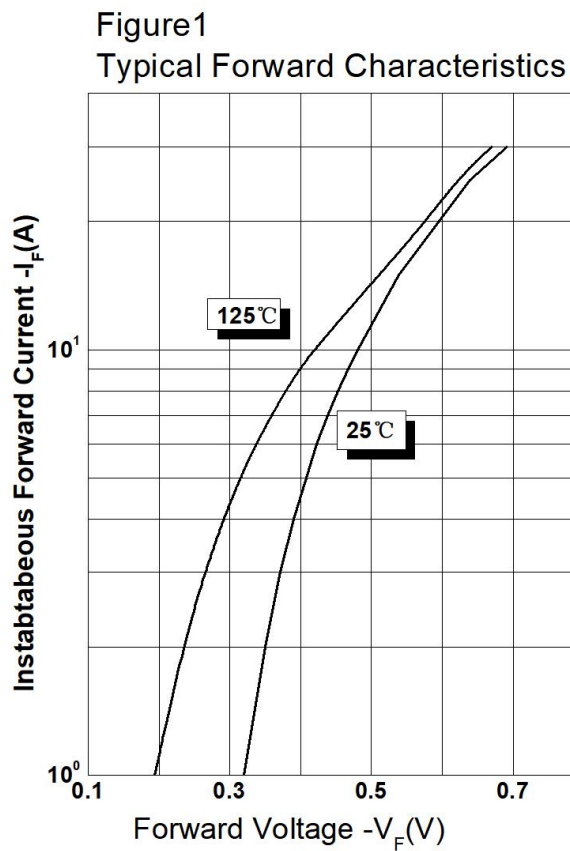
Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop *	V_{F1}	@ 10A, Pulse, $T_J = 25^\circ\text{C}$	0.48	0.50	V
	V_{F2}	@ 10A, Pulse, $T_J = 125^\circ\text{C}$	0.42	0.45	V
Reverse Current*	I_{R1}	@ V_R = rated V_R $T_J = 25^\circ\text{C}$	0.06	1.0	mA
	I_{R2}	@ V_R = rated V_R $T_J = 100^\circ\text{C}$	30	45	mA

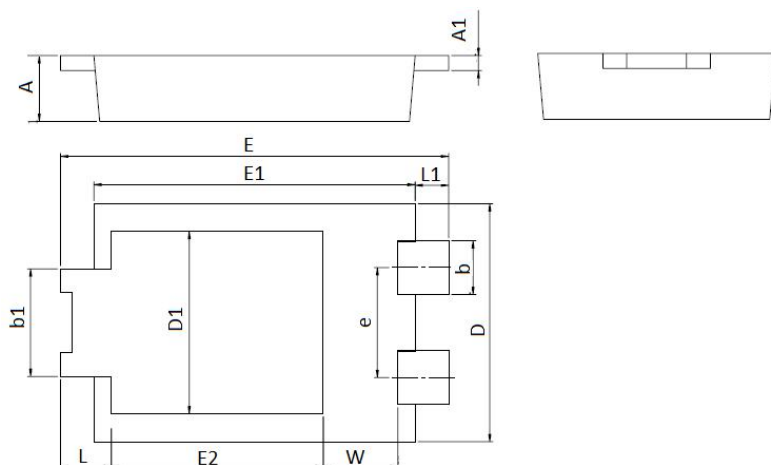
* Pulse width < 300 μs , duty cycle < 2%

Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	-	-55 to +150	°C
Storage Temperature	T_{stg}	-	-55 to +150	°C
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	DC operation	6.0	°C/W
Approximate Weight	wt	-	0.08	g

Ratings and Characteristics Curves



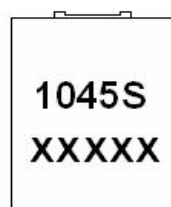
Mechanical Dimensions TO-277B


SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.95	1.25	0.037	0.049
A1	0.20	0.30	0.008	0.012
b	0.85	0.95	0.033	0.037
b1	1.70	1.90	0.067	0.075
D	3.88	4.08	0.153	0.161
D1	2.90	3.20	0.114	0.126
e	1.74	1.94	0.069	0.076
E	6.30	6.70	0.248	0.264
E1	5.28	5.48	0.208	0.216
E2	3.40	3.70	0.134	0.146
L	0.70	1.00	0.028	0.039
L1	0.41	0.71	0.016	0.028
W	1.10	1.40	0.043	0.055

Ordering Information

Device	Package	Shipping
MBR1045S	TO-277B(Pb-Free)	5000pcs/ reel

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

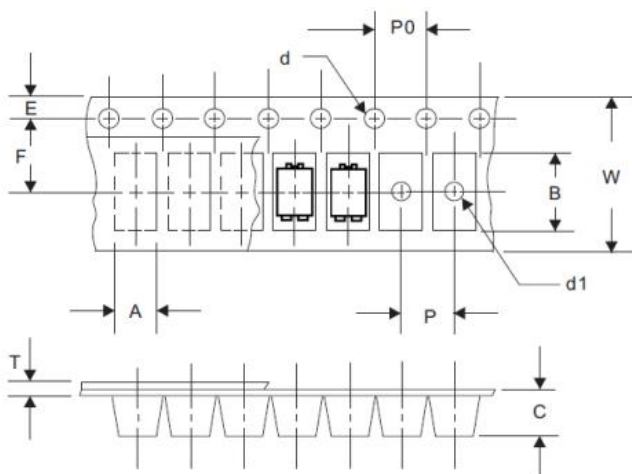
Marking Diagram


Mark Spec

Where XXXXX is YYWWL

10 = Forward Current (10A)
 45 = Reverse Voltage (45V)
 S = Package type
 YY = Year
 WW = Week
 L = Lot Number

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

Carrier Tape Specification TO-277B


SYMBOL	Millimeters	
	Min.	Max.
A	4.28	4.48
B	6.80	7.10
C	1.30	1.50
d	1.40	1.60
d1	-	1.50
E	1.65	1.85
F	5.40	5.60
P	7.90	8.10
P0	3.90	4.10
T	0.24	0.44
W	11.70	12.30

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