

MBR3045FCTW

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30A 45V Power Schottky Barrier Rectifier

- Ultra low V_F .
- High efficiently operation.
- Low power loss.
- Low stored charge majority carrier conduction.
- High forward surge capability.
- Lead-free parts meet RoHS requirements.
- Suffix "-H" indicates Halogen-free parts, ex. MBR3045FCTW-H.

- Case : Molded plastic, ITO-220AB.
- Leads : Solder able per MIL-STD-202, Method 208 .
- Terminals : Puretin plated.
- Polarity : Polarity symbol marking on body.

Technical drawing of the ITO-220AB component, showing dimensions in inches and millimeters.

Top View Dimensions:

- Overall width: 0.409 (10.4)
- Width of central feature: 0.378 (9.6)
- Distance from top edge to center of circular feature: 0.355 (9.0)
- Radius of circular feature: 0.250 (6.3)
- Distance from top edge to center of circular feature (alternative): 0.355 (9.0)
- Distance from top edge to center of circular feature (alternative): 0.250 (6.3)
- Distance from top edge to center of circular feature (alternative): 0.106 (2.7)
- Distance from top edge to center of circular feature (alternative): 0.091 (2.3)
- Distance from top edge to center of circular feature (alternative): 0.057 (1.45)
- Distance from top edge to center of circular feature (alternative): 0.049 (1.25)
- Distance from top edge to center of circular feature (alternative): 0.028 (0.7)
- Distance from top edge to center of circular feature (alternative): 0.020 (0.5)
- Distance from top edge to center of circular feature (alternative): 0.108 (2.75)
- Distance from top edge to center of circular feature (alternative): 0.093 (2.35)
- Distance from top edge to center of circular feature (alternative): 0.209 (5.3)
- Distance from top edge to center of circular feature (alternative): 0.193 (4.9)

Side View Dimensions:

- Overall height: 0.606 (15.4)
- Height of central feature: 0.576 (14.6)
- Distance from top edge to center of circular feature: 0.181 (4.6)
- Distance from top edge to center of circular feature (alternative): 0.165 (4.2)
- Distance from top edge to center of circular feature (alternative): 0.114 (2.9)
- Distance from top edge to center of circular feature (alternative): 0.098 (2.5)
- Distance from top edge to center of circular feature (alternative): 0.134 (3.4)
- Distance from top edge to center of circular feature (alternative): 0.112 (2.8)
- Distance from top edge to center of circular feature (alternative): 0.114 (2.9)
- Distance from top edge to center of circular feature (alternative): 0.098 (2.5)
- Distance from top edge to center of circular feature (alternative): 0.028 (0.7)
- Distance from top edge to center of circular feature (alternative): 0.020 (0.5)

Dimensions in inches and (millimeters)

Parameter	Symbol	Ratings	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	45	V
Maximum RMS voltage	V_{RMS}	31.5	V
Maximum DC blocking voltage	V_{DC}	45	V
Maximum average forward rectified per device	$I_{(AV)}$	30	A
Maximum average forward rectified per diode		15	
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	280	A
Typical thermal resistance per diode (Note 1)	$R_{\theta JC}$	4.5	°C/W
Operating junction temperature	T_J	+150	°C
Storage temperature range	T_{STG}	-55 to +150	°C

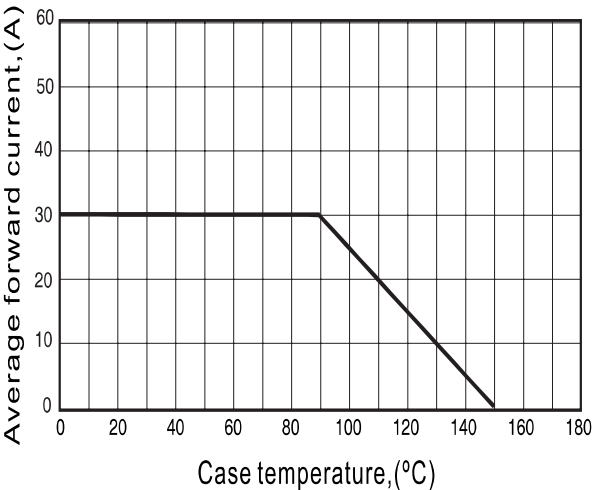
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Breakdown voltage per diode	V_{BR}	$I_R=0.3mA$	45			V
Instantaneous forward voltage per diode	V_F	$I_F=15A$ ($T_J=25^{\circ}C$)		0.53	0.56	V
		$I_F=15A$ ($T_J=125^{\circ}C$)			0.52	
Reverse current per diode	I_R	$V_R=45V$ ($T_J=25^{\circ}C$)			100	μA
		$V_R=45V$ ($T_J=125^{\circ}C$)			50	mA



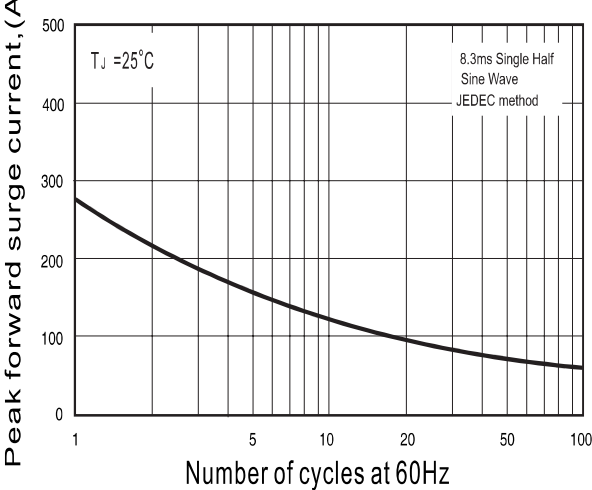
MBR3045FCTW

Rating and characteristic curves

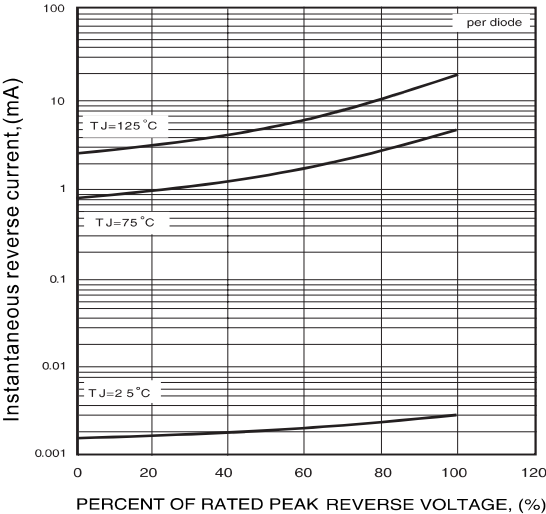
Typical forward current derating curve



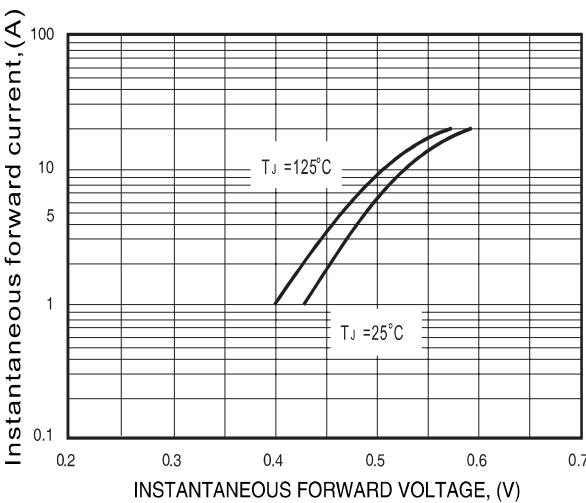
Maximum non-repetitive forward surge current



Typical reverse characteristics

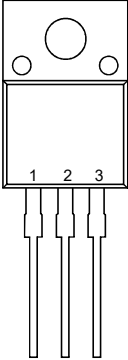
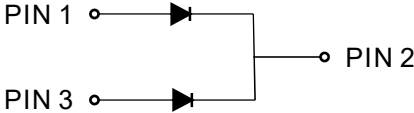


Typical instantaneous forward characteristics



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Pinning information

Pin	Simplified outline	Symbol
Pin 1 Anode Pin 2 Cathode Pin 3 Anode		

Marking

Type number	Marking code
MBR3045FCTW	MBR3045FCTW

Tube packing

PACKAGE	TUBE (pcs)	BOX (pcs)	INNER BOX (m/m)	CARTON SIZE (m/m)	CARTON (pcs)
ITO-220AB	50	2,000	550*167*75	570*345*170	8,000

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Suggested thermal profiles for soldering processes

Lead free temperature profile wave-soldering

