

## Features

- Low Forward Voltage Drop
- Soft, Fast Switching Capability
- Schottky Barrier Chip
- ITO-220S Heat Sink Tab Electrically Isolated from Cathode
- UL Approval in Accordance with UL 1557, Reference No. E94661

## Mechanical Data

- Case: ITO-220S
- Case Material: Molded Plastic, UL Flammability Classification Rating 94V-0
- Terminals: Matte Tin Finish annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208 <sup>(3)</sup>
- Weight: 1.335 grams (approximate)

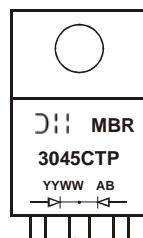


## Ordering Information (Note 1)

Part Number	Case	Packaging
MBR3045CTP	ITO-220S	50 pieces/tube

Notes: 1. For packaging details, go to our website at <http://www.diodes.com>.

## Marking Information



MBR3045CTP = Product Type Marking Code  
 AB = Foundry and Assembly Code  
 YYWW = Date Code Marking  
 YY = Last two digits of year (ex: 09 = 2009)  
 WW = Week (01 - 53)

### Maximum Ratings (Per Leg) @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitance load, derate current by 20%.

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	45	V
Working Peak Reverse Voltage	$V_{RWM}$		
DC Blocking Voltage	$V_{RM}$		
Average Rectified Output Current (Per Leg) (Total)	$I_O$	15 30	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	$I_{FSM}$	250	A
Isolation Voltage From terminal to heatsink $t = 1\text{min.}$	$V_{AC}$	2000	V

### Thermal Characteristics (Per Leg)

Characteristic	Symbol	Value	Unit
Maximum Thermal Resistance, Junction to Case	$R_{\theta JC}$	3	$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-65 to +175	$^\circ\text{C}$

### Electrical Characteristics (Per Leg) @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	$V_F$	-	0.58 0.53	0.65 0.57	V	$I_F = 15\text{A}, T_J = 25^\circ\text{C}$ $I_F = 15\text{A}, T_J = 125^\circ\text{C}$
Leakage Current (Note 2)	$I_R$	-	11 5.7	200 40	$\mu\text{A}$ mA	$V_R = 45\text{V}, T_J = 25^\circ\text{C}$ $V_R = 45\text{V}, T_J = 125^\circ\text{C}$

Notes: 2. Short duration pulse test used to minimize self-heating effect.  
3. Device mounted on Black Aluminum Heatsink, 45mm \* 20mm \* 12mm.

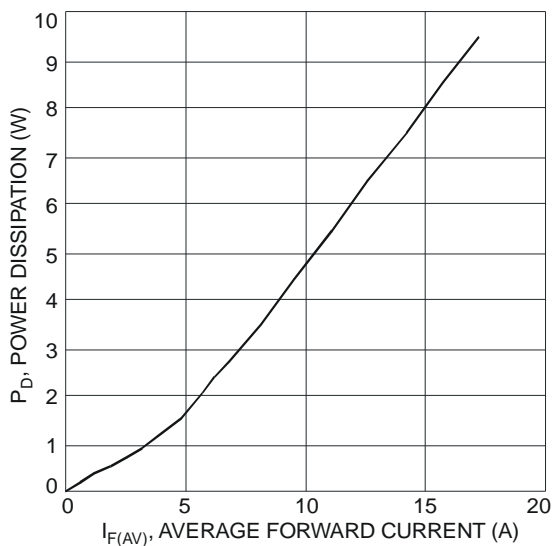


Fig. 1 Forward Power Dissipation

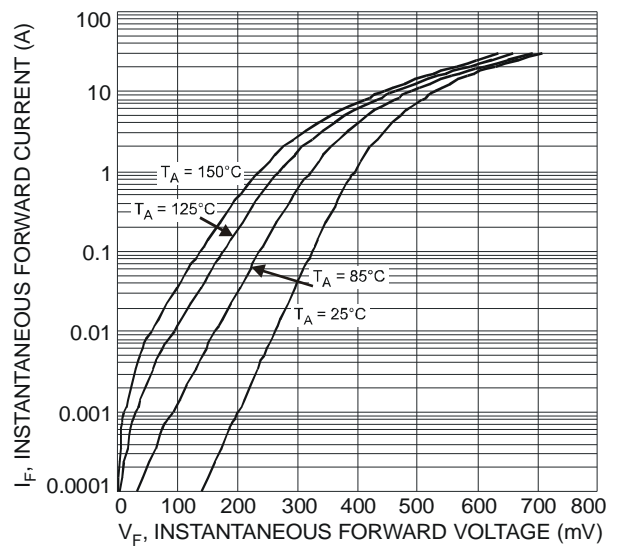


Fig. 2 Typical Forward Characteristics

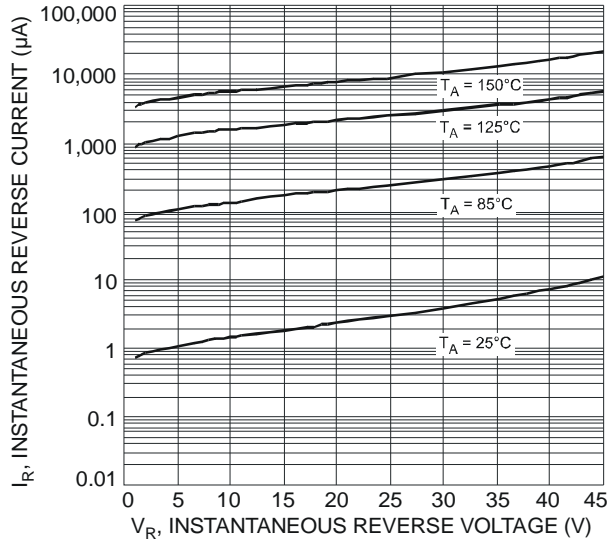


Fig. 3 Typical Reverse Characteristics

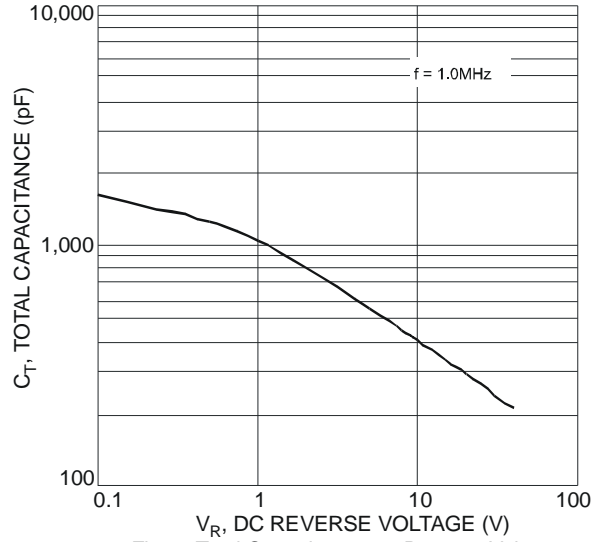


Fig. 4 Total Capacitance vs. Reverse Voltage

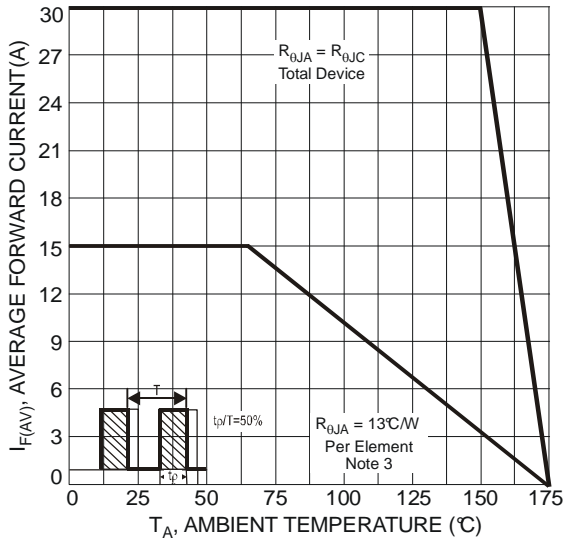


Fig. 5 Forward Current Derating Curve

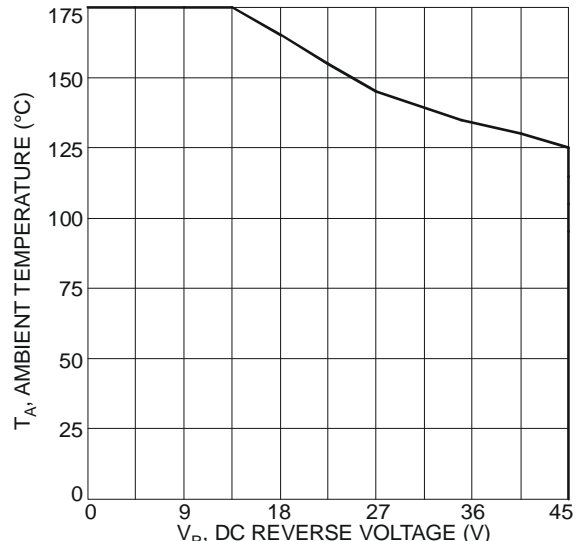
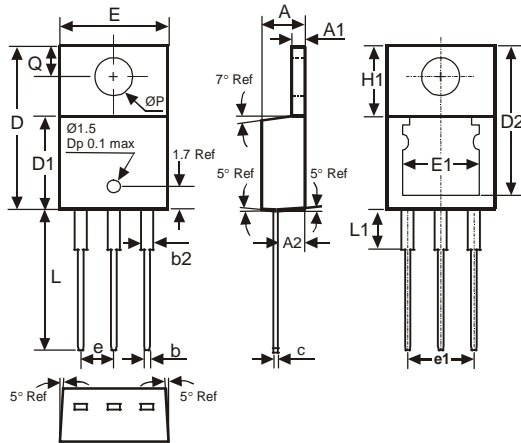


Fig. 4 Reverse Voltage vs. Ambient Temperature

**Package Outline Dimensions**



ITO-220S			
DIM.	MIN.	MAX.	TYP.
A	4.52	4.62	4.57
A1	1.17	1.39	-
A2	2.57	2.77	2.67
b	0.72	0.95	0.84
b2	1.15	1.54	1.26
c	0.356	0.61	-
D	14.22	16.51	15.00
D1	8.60	8.80	8.70
D2	13.68	14.08	-
e	2.49	2.59	2.54
e1	4.98	5.18	5.08
E	10.01	10.21	10.11
E1	6.86	8.89	-
H1	5.85	6.85	-
L	13.30	13.90	13.60
L1	-	6.35	-
P	3.54	4.08	-
Q	2.54	3.42	-
All Dimensions in mm			

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