

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

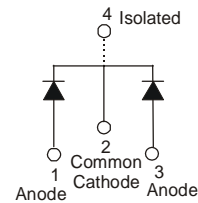
- Case: ITO-220S
- Case Material: Molded Plastic, UL Flammability Classification Rating 94V-0
- Terminals: Matte Tin Finish annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208 ⁽³⁾
- Weight: 1.335 grams (approximate)



Top View



Bottom View



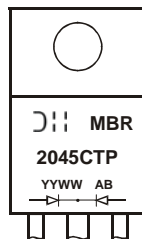
Package Pin Out Configuration

Ordering Information (Note 1)

Part Number	Case	Packaging
MBR2045CTP	ITO-220S	50 pieces/tube

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

Marking Information



MBR2045CTP = 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°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)	10	A
	(Total)	20	
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	150	A
Isolation Voltage From terminal to heatsink t = 1min.	V _{AC}	2000	V

Thermal Characteristics (Per Leg)

Characteristic	Symbol	Value	Unit
Maximum Thermal Resistance Junction to Case	R _{θJC}	3	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +175	°C

Electrical Characteristics (Per Leg) @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage Drop	V _F	-	0.59	0.65	V	I _F = 10A, T _J = 25°C
		-	0.55	-		I _F = 10A, T _J = 125°C
Leakage Current (Note 2)	I _R	-	6	100	μA	V _R = 45V, T _J = 25°C
		-	-	15		mA

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

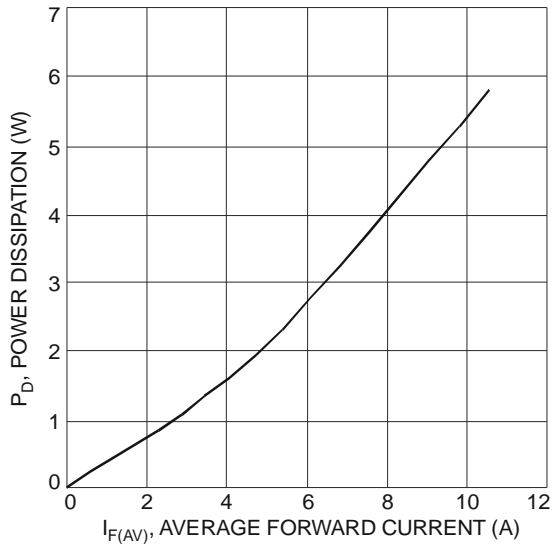


Fig. 1 Forward Power Dissipation

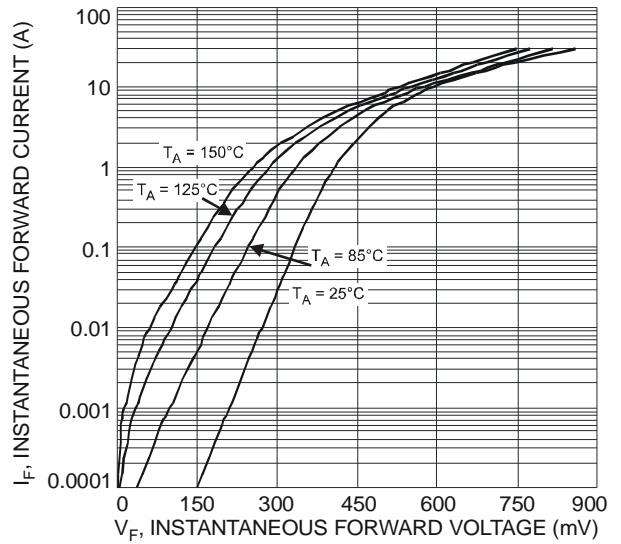


Fig. 2 Typical Forward Characteristics

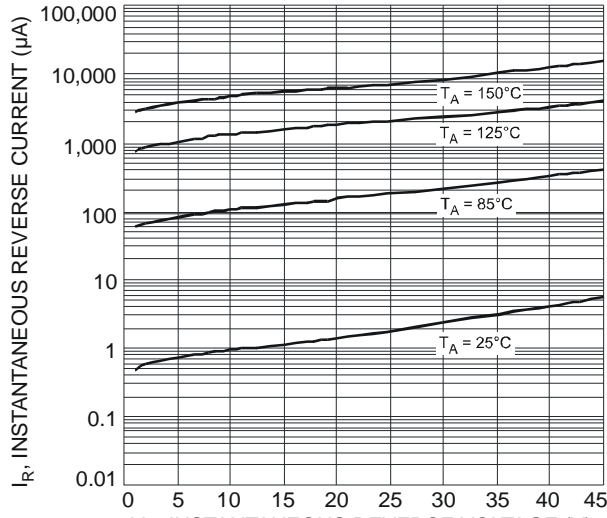


Fig. 3 Typical Reverse Characteristics

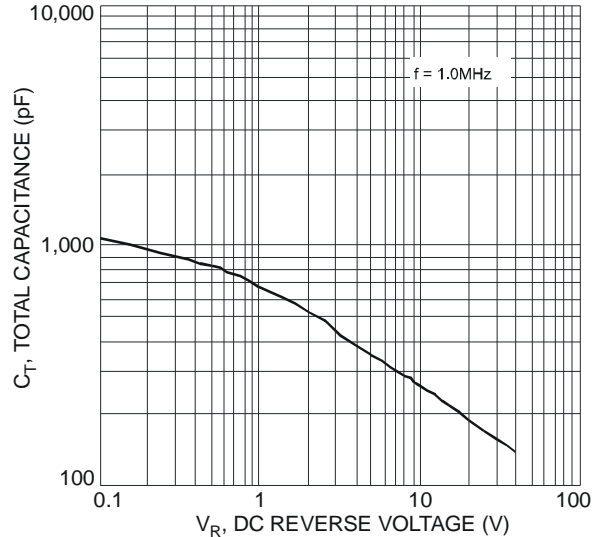


Fig. 4 Total Capacitance vs. Reverse Voltage

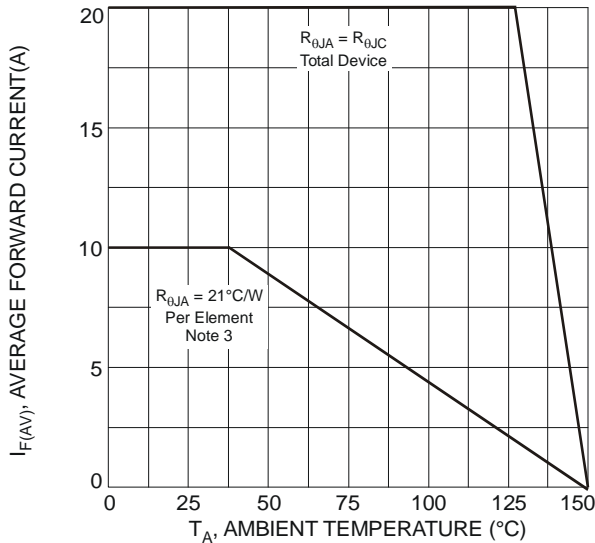


Fig. 5 Forward Current Derating Curve

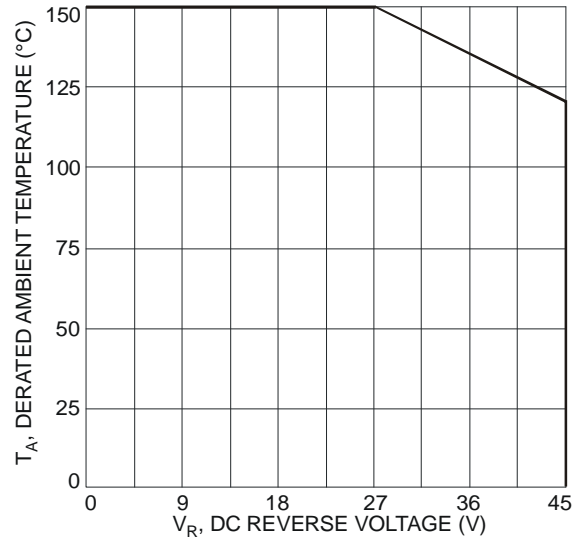
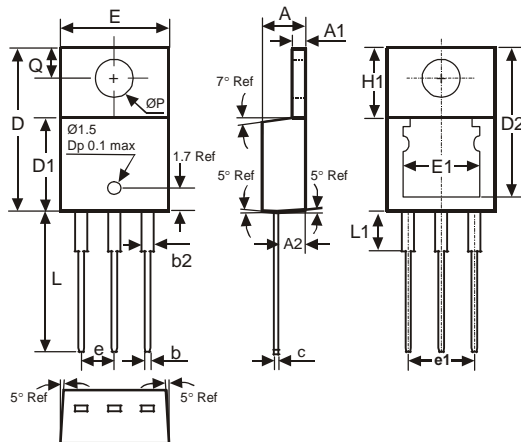


Fig. 6 Operating Temperature Derating

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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