

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

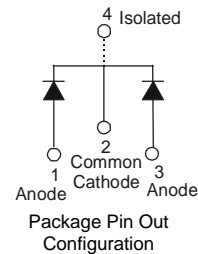
- Case: ITO-220S
- Case Material: Molded Plastic, UL Flammability Classification Rating 94V-0
- Terminals: Matte Tin Finish annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208 ⁽³⁾
- Weight: 1.335 grams (approximate)



Top View



Bottom View

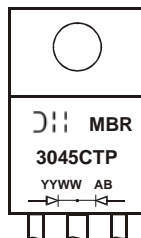


Ordering Information (Note 1)

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

Notes: 1. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

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 | μA 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.

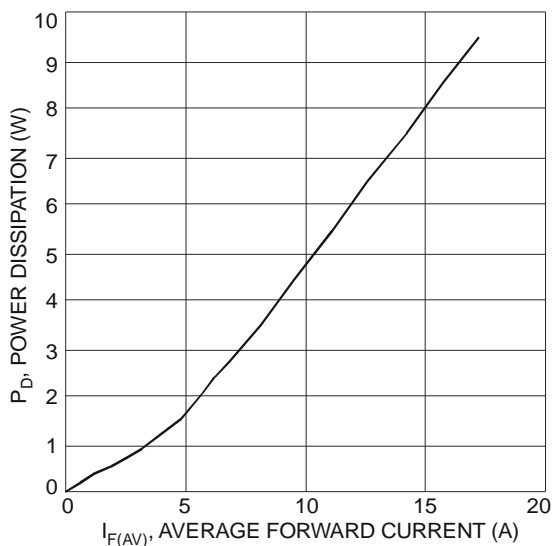


Fig. 1 Forward Power Dissipation

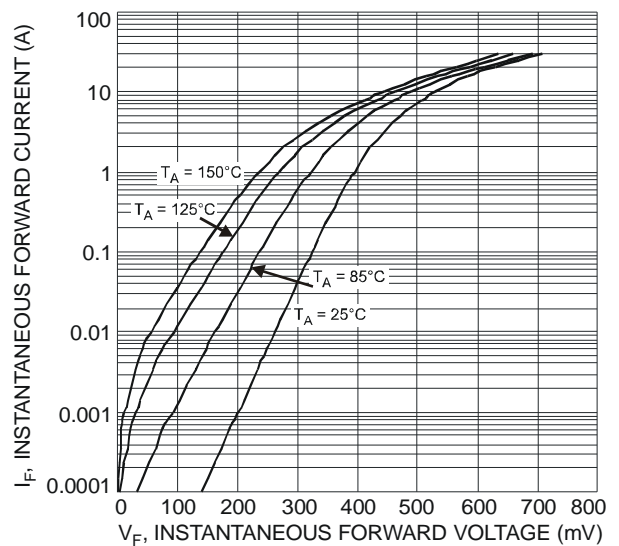


Fig. 2 Typical Forward Characteristics

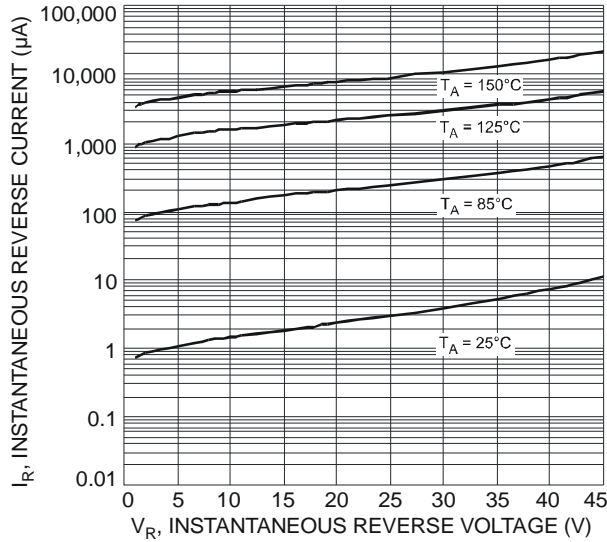


Fig. 3 Typical Reverse Characteristics

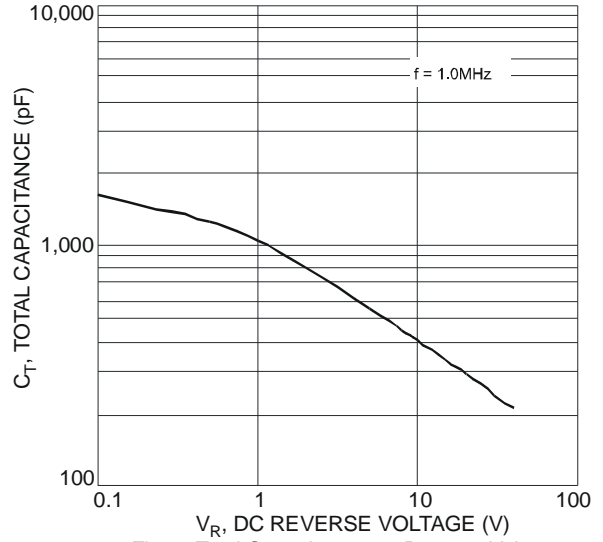


Fig. 4 Total Capacitance vs. Reverse Voltage

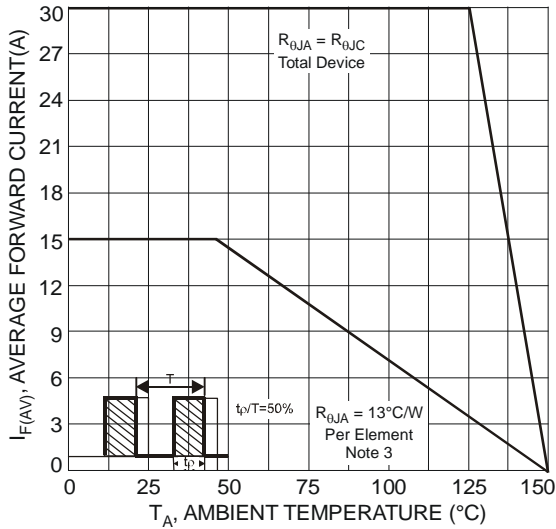


Fig. 5 Forward Current Derating Curve

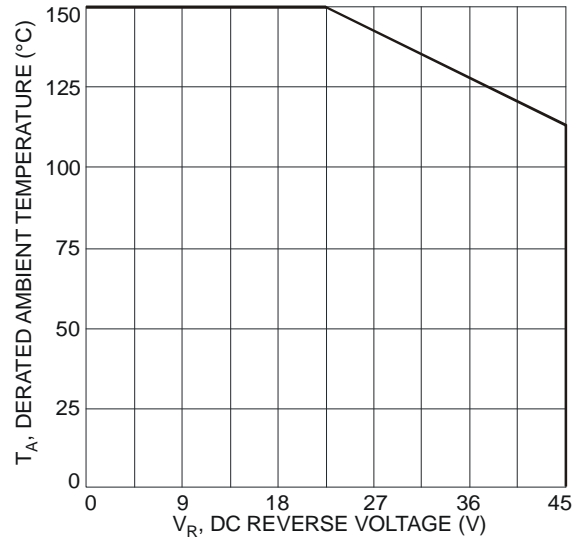
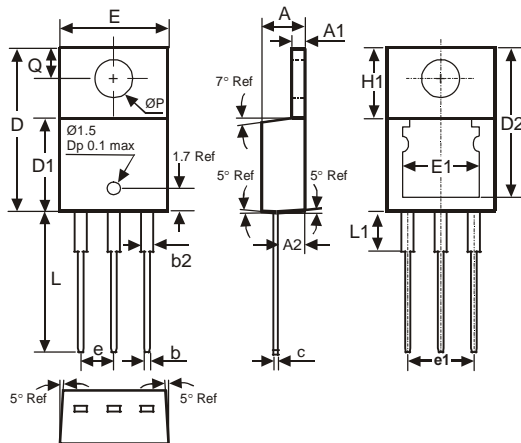


Fig. 6 Operating Temperature Derating

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 | 1.34 | 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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