

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

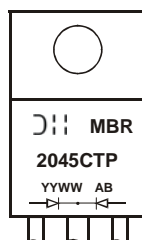
Mechanical Data

- 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)

**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.

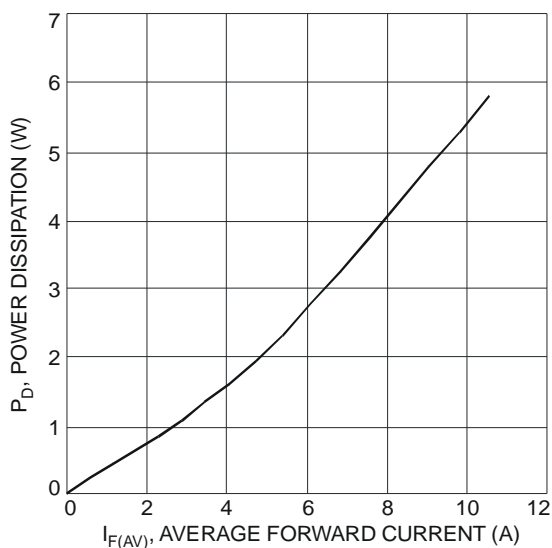


Fig. 1 Forward Power Dissipation

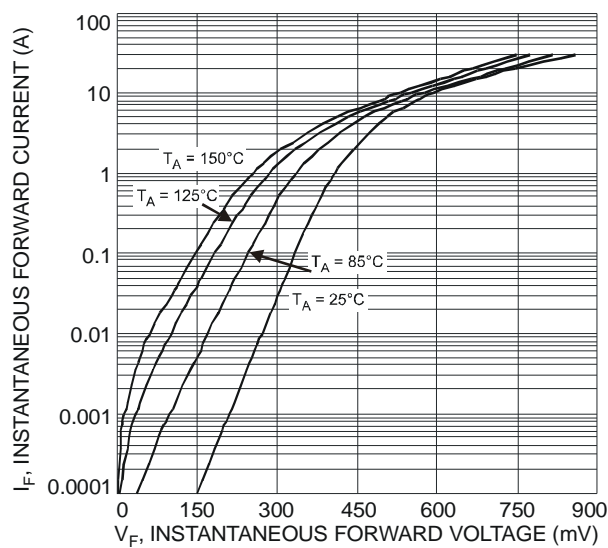
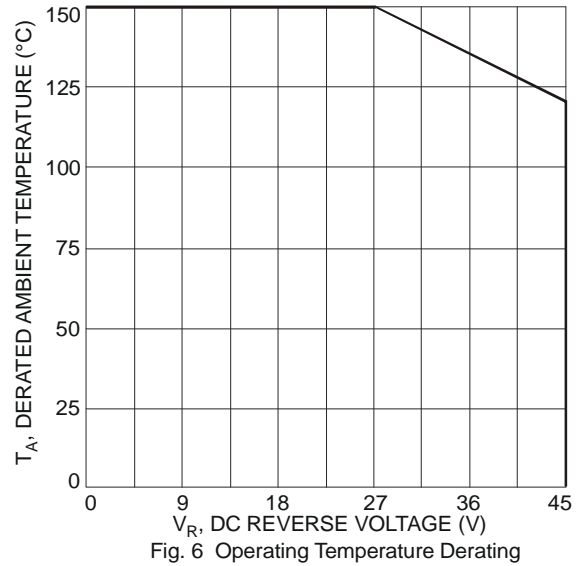
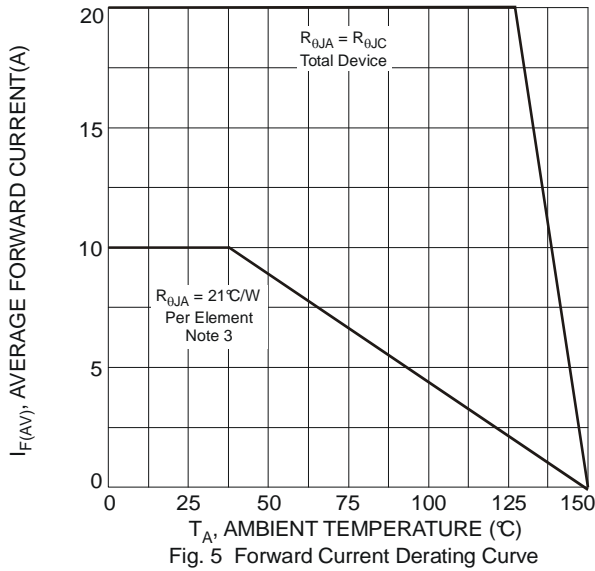
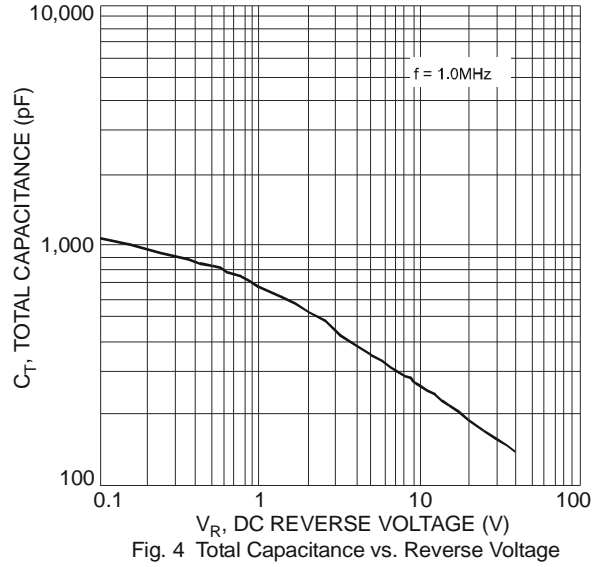
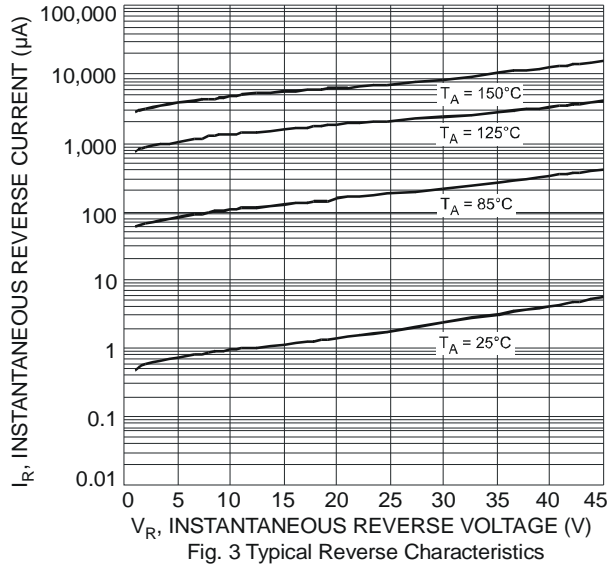
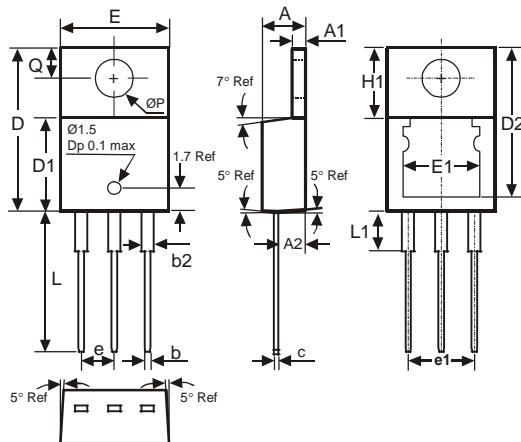


Fig. 2 Typical Forward Characteristics



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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