
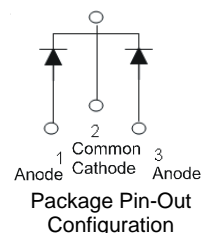


Features

- Low Forward Voltage Drop
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Also Available in Green Molding Compound**
 - **Halogen and Antimony Free. "Green" Device (Note 3)**

Mechanical Data

- Case: TO-220AB, ITO-220AB
- 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 
- Weight: TO-220AB – 1.85 grams (approximate)
ITO-220AB – 1.65 grams (approximate)








TO-220AB
Top View

TO-220AB
Bottom View

ITO-220AB
Top View

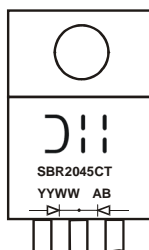
ITO-220AB
Bottom View

Ordering Information (Notes 4 and 5)

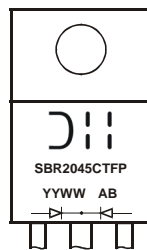
| | Part Number | Case | Packaging |
|---|----------------|-----------------------|----------------|
|  | SBR2045CT | TO-220AB | 50 pieces/tube |
|  | SBR2045CT-G | TO-220AB | 50 pieces/tube |
|  | SBR2045CTFP | ITO-220AB | 50 pieces/tube |
|  | SBR2045CTFP-G | ITO-220AB | 50 pieces/tube |
|  | SBR2045CTFP-JT | ITO-220AB (Alternate) | 50 pieces/tube |

- Notes:
1. EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. All applicable RoHS exemptions applied.
 2. See <http://www.diodes.com> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
 3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
 4. For Green Molding Compound version part numbers, add "-G" suffix to part number above. Examples: SBR2045CT-G.
 5. For packaging details, go to our website at <http://www.diodes.com>.

Marking Information



SBR2045CT = Product Type Marking Code
 AB = Foundry and Assembly Code
 YYWW = Date Code Marking
 YY = Last two digits of year (ex: 06 = 2006)
 WW = Week (01 - 53)



SBR2045CTFP = Product Type Marking Code
 AB = Foundry and Assembly Code
 YYWW = Date Code Marking
 YY = Last two digits of year (ex: 06 = 2006)
 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 Working Peak Reverse Voltage DC Blocking Voltage | V _{RRM} V _{RWM} V _{RM} | 45 | V |
| Average Rectified Output Current (Per Leg) (Total) | I _O | 10 20 | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load | I _{FSM} | 120 | A |
| Peak Repetitive Reverse Surge Current (2μS-1Khz) | I _{RRM} | 2 | A |
| Isolation Voltage (ITO-220AB Only) From terminal to heatsink t = 3 sec. | V _{AC} | 2000 | V |

Thermal Characteristics (Per Leg)

| Characteristic | Symbol | Value | Unit |
|---|-----------------------------------|-------------|------|
| Typical Thermal Resistance Package = TO-220AB Package = ITO-220AB | R _{θJC} | 2 4 | °C/W |
| Operating and Storage Temperature Range | T _J , T _{STG} | -65 to +150 | °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 | - | - 0.43 | 0.54 0.49 | V | I _F = 10A, T _J = 25°C I _F = 10A, T _J = 125°C |
| Leakage Current (Note 6) | I _R | - | - | 0.5 100 | mA | V _R = 45V, T _J = 25°C V _R = 45V, T _J = 125°C |

Notes: 6. Short duration pulse test used to minimize self-heating effect.

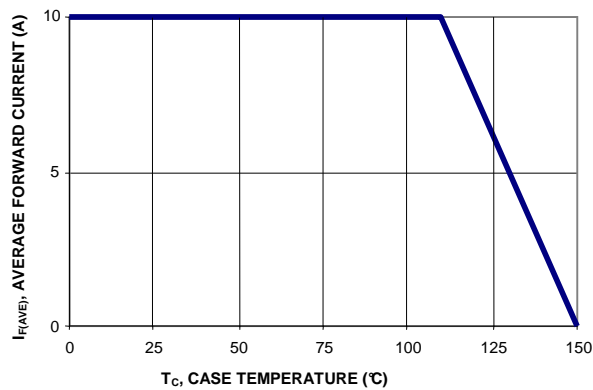


Figure 1: Current Derating Curve, Per Element

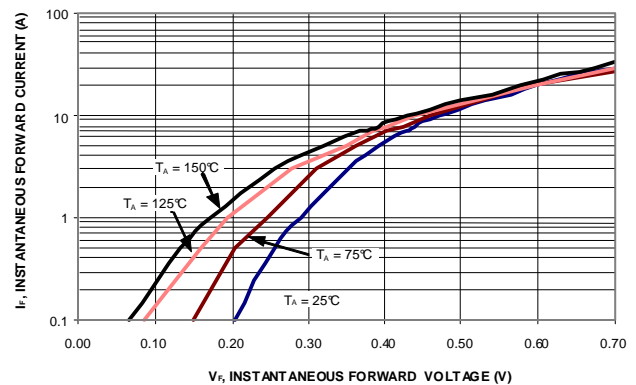


Figure 2: Typical Forward Characteristics, Per Element

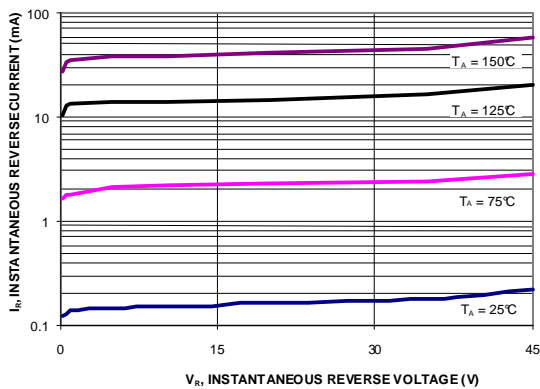


Figure 3: Typical Reverse Characteristics, Per Element

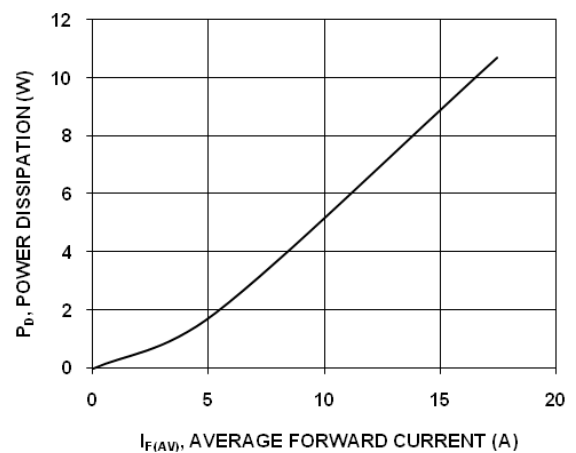
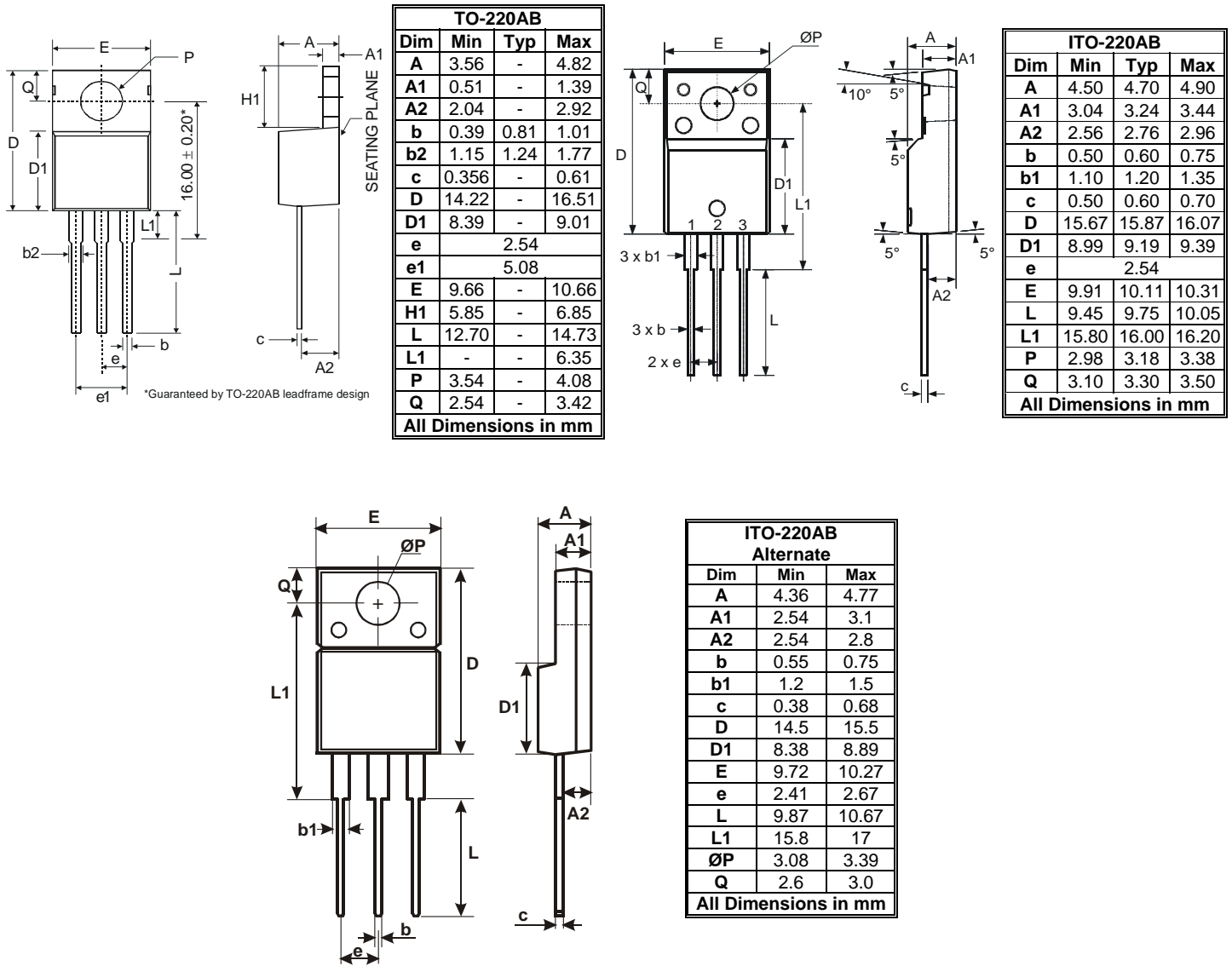


Figure 4: Forward Power Dissipation

Package Outline Dimensions



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