

Main Product Characteristics

| | |
|--------------|---------|
| $I_{F(AV)}$ | 2 X 10A |
| V_{RRM} | 45V |
| T_J | 150°C |
| $V_{F(TYP)}$ | 0.44V |

Features

- Low forward voltage drop.
- Fast switching capability.
- Lead free in compliance with EU RoHS.

Mechanical Data

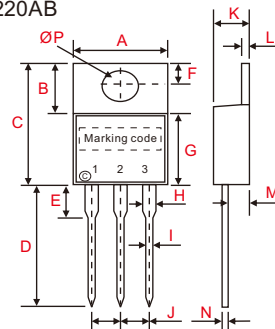
- Epoxy : UL94-V0 rated flame retardant.
- Case : JEDEC TO-220AB molded plastic body .
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: As marked.
- Weight : Approximated 2.25 gram.

Maximum ratings and electrical characteristics

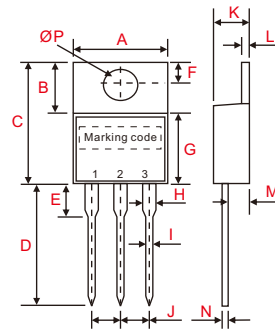
Rating at 25°C ambient temperature unless otherwise specified.

Outline

TO-220AB



| symbol | Dimensions in inches(millimeters) | |
|--------|-----------------------------------|-------------|
| | Min | Max |
| A | 0.398(10.1) | 0.406(10.3) |
| B | 0.236(6.0) | 0.252(6.4) |
| C | 0.579(14.7) | 0.594(15.1) |
| D | 0.543(13.8) | 0.551(14.0) |
| E | 0.143(3.63) | 0.159(4.03) |
| F | 0.104(2.64) | 0.112(2.84) |
| G | 0.335(8.5) | 0.350(8.9) |
| H | 0.046(1.17) | 0.054(1.37) |
| I | 0.028(0.71) | 0.036(0.91) |
| J | 0.098(2.49) | 0.102(2.59) |
| K | 0.176(4.47) | 0.184(4.67) |
| L | 0.046(1.17) | 0.054(1.37) |
| M | 0.102(2.6) | 0.110(2.8) |
| N | 0.019(0.28) | 0.021(0.48) |
| ØP | 0.147(3.74) | 0.155(3.94) |



| symbol | Dimensions in inches(millimeters) | |
|--------|-----------------------------------|--------------|
| | Min | Max |
| A | 0.394(10.0) | 0.413(10.5) |
| B | 0.228(5.8) | 0.268(6.8) |
| C | 0.570(14.48) | 0.625(15.87) |
| D | 0.519(13.18) | 0.558(14.18) |
| E | 0.089(3.5) | 0.099(3.9) |
| F | 0.100(2.54) | 0.120(3.04) |
| G | 0.330(8.38) | 0.350(8.9) |
| H | 0.045(1.15) | 0.060(1.52) |
| I | 0.029(0.75) | 0.037(0.95) |
| J | 0.095(2.42) | 0.105(2.66) |
| K | 0.160(4.07) | 0.190(4.82) |
| L | 0.045(1.15) | 0.055(1.39) |
| M | 0.080(2.04) | 0.110(2.8) |
| N | 0.013(0.33) | 0.019(0.52) |
| ØP | 0.148(3.75) | 0.156(3.95) |

Dimensions in inches and (millimeters)

Circuit Diagram



| Parameter | Condition | Symbol | C2045CT | UNIT |
|---|--|-----------|------------|------|
| Working peak reverse voltage | | V_{RRM} | 45 | V |
| Forward Rectified Current (total device) | | I_O | 20 | A |
| Forward Surge Current (per diode) | 8.3ms single half sine-wave superimposed on rate load (JEDEC method) | I_{FSM} | 120 | A |
| Peak Repetitive Reverse Surge Current (per diode) | 2us - 1KHz | I_{RRM} | 2 | A |
| Thermal Resistance (per diode) | Junction to case | R_{BJC} | 2 | °C/W |
| | Junction to ambient | R_{BJA} | 50 | |
| Storage Temperature | | T_{STG} | -55 ~ +150 | °C |
| Operating Junction Temperature | | T_J | -55 ~ +150 | °C |

Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

| Parameter | Condition | Symbol | MIN. | TYP. | MAX. | UNIT |
|---------------------------------------|---------------------------------|----------|------|------|------|------|
| Forward Voltage Drop (per diode) | $I_F = 3A, T_J = 25^\circ C$ | V_F | | 380 | | mV |
| | $I_F = 10A, T_J = 25^\circ C$ | | | 500 | 540 | |
| | $I_F = 10A, T_J = 125^\circ C$ | | | 440 | | |
| Reverse Current (per diode) | $V_R = 45V, T_J = 25^\circ C$ | I_R | | 0.06 | 0.5 | mA |
| | $V_R = 45V, T_J = 125^\circ C$ | | | 30 | 80 | |
| Reverse Breakdown Voltage (per diode) | $I_R = 0.5mA, T_J = 25^\circ C$ | V_{BR} | 45 | | | V |

Rating and characteristic curves

Fig. 1 - Forward Characteristics

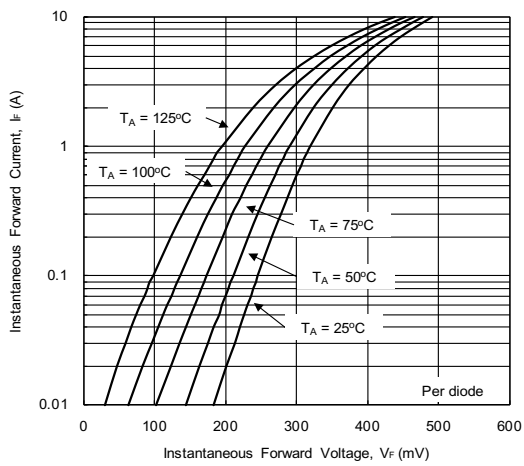


Fig. 2 - Reverse Characteristics

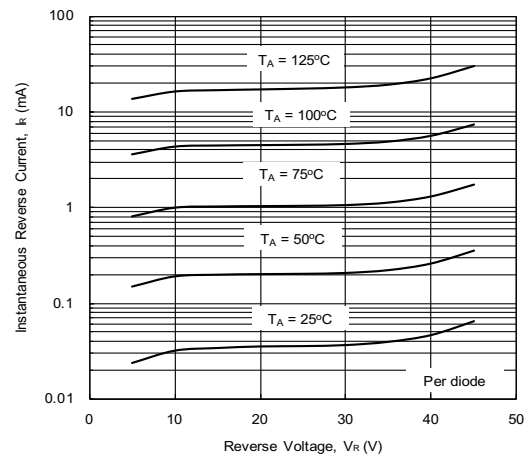


Fig. 3 - Forward Power Dissipation

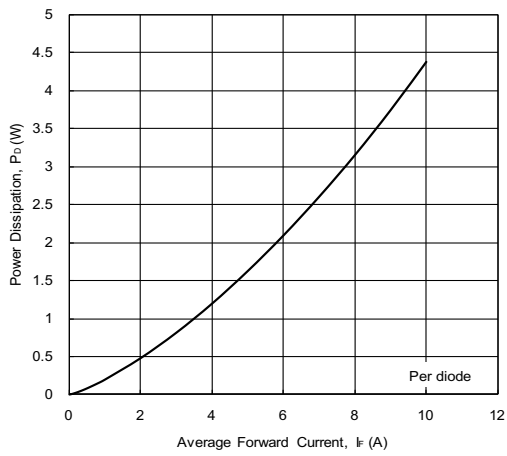


Fig. 4 - Forward Current Derating Curve

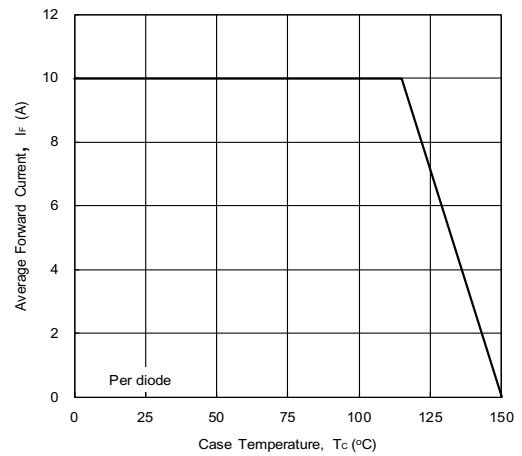
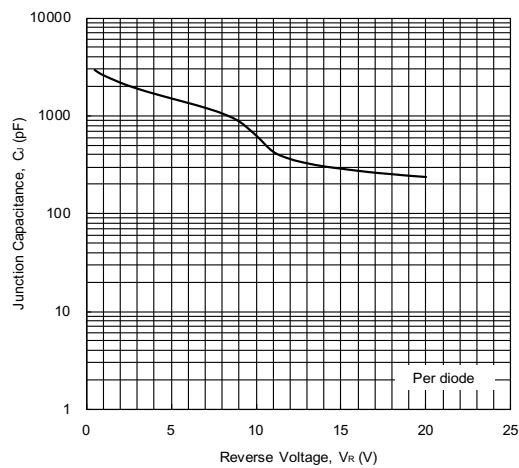
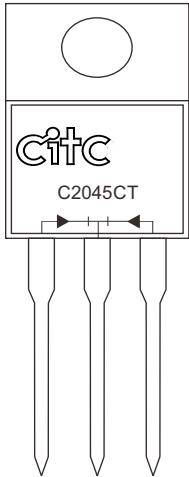



Fig. 5 - Junction Capacitance



■ Marking Information



C2045CT : Product type marking code

 : CITC Logo

■ Ordering / Packing Information

| Part number | | Case | Q'TY/Tube (PCS) | Q'TY/Box (PCS) | Q'TY/Carton (PCS) |
|--------------|----------|----------|-----------------|----------------|-------------------|
| Halogen | C2045CT | TO-220AB | 50 | 1000 | 5000 |
| Halogen free | C2045CTG | | | | |

Notes : 1. For packaging details please reference our website at <http://www.citcorp.com.tw/tchinese/products/index.php>

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