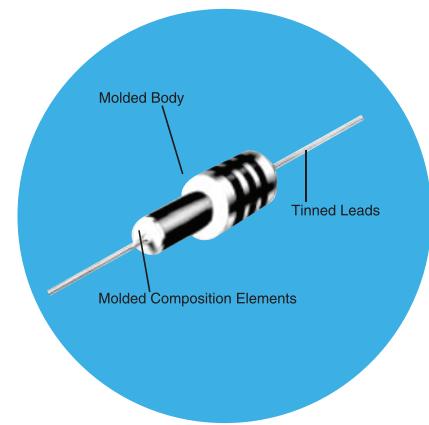


Carbon Composition Resistor

IBT Series

- Meets performance standards of EIA RS-172
- Hot molded process for product uniformity
- Ideal for pulse-loaded handling
- Non-inductive design



All parts are Pb-free and comply with EU Directive 2011/65/EU (RoHS2)

Electrical Data

| Tested Per MIL-STD-202 | | | |
|---|--|--------------------------------------|--------------------------------------|
| | IBT 1/4 | IBT 1/2 | IBT 1 |
| Power Rating Determined by load life test 100% load @ 70°C ambient | 1/4W | 1/2W | 1W |
| Rated Continuous Working Voltage (RCWV) | P x R or 250 volts whichever is less | P x R or 350 volts whichever is less | P x R or 500 volts whichever is less |
| Maximum Ambient Temperature Resistors derated to zero load at this temperature | ±130°C | ±130°C | ±130°C |
| Nominal Resistance Range | 1Ω - 5.6 megΩ | 1Ω - 20 megΩ | 2.2Ω - 1 megΩ |
| Standard Resistance Tolerances | ±5%, ±10% | ±5%, ±10% | ±10% |
| Dielectric Withstand Voltage Atmospheric Pressure Barometric pressure 3.4" Hg 115 millibars | 500V 325V | 700V 450V | 1000V 650V |
| Insulation Resistance (min.) | 10,000 meg | 10,000 meg | 10,000 meg |
| Voltage Coefficient of Resistance % resistance change/volt at 10% and 100% RCWV for values 1K to 20 meg (min.) (max.) | -.005% -.032% | -.005% -.032% | -.005% -.032% |
| Short-Time Overload Apply 2.5 times RCWV at maximum Indicated for 5 seconds | Maximum Voltage Typical resistance change Maximum resistance change | 700V ±0.5% ±2% | 700V ±0.5% ±2% |

General Note

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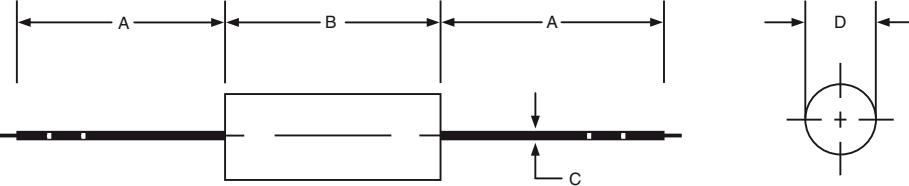
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Resistance Temperature Characteristics

| | Resistance Range | -55°C | -105°C |
|---|--|--|---|
| Maximum percent resistance change from room temperature (+25°C) value | under 1K 1K to 9.1 K 10K to 91K 100K to 910K 1 meg to 10 meg | +2.0 to +5.0 +5.0 to +9.0 +8.0 to +11.0 +10.0 to +14.0 13.0 to +20.0 | -4.0 to -2.0 -5.0 to -3.0 -7.0 to -5.0 -9.0 to -7.0 -14.0 to -9.0 |

Physical Data

|  | PACKAGING: 5000/reel 1000/bulk | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---|--|---|---|---------|--|---|--|--|---------|---------------------------------------|---|---|---|-------|--|---------------------------------------|--|--------------------------------------|
| Dimensions (Inches and (mm)) | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>IRC Type</th><th>A</th><th>B</th><th>C</th><th>D</th></tr> </thead> <tbody> <tr> <td>IBT 1/4</td><td>1.18 ± 0.12 (30.00 ± 3.0)</td><td>0.248 ± 0.028 (6.3 ± 0.70)</td><td>0.024 ± 0.002 (0.60 ± 0.05)</td><td>0.094 ± 0.004 (2.40 ± 0.10)</td></tr> <tr> <td>IBT 1/2</td><td>1.1 ± 0.12 (28.00 ± 3.0)</td><td>$0.374 + 0.032 / -0.028$ ($9.50 + 0.80 / -0.70$)</td><td>0.0275 ± 0.002 (0.70 ± 0.05)</td><td>0.142 ± 0.008 (3.6 ± 0.20)</td></tr> <tr> <td>IBT 1</td><td>1.02 ± 0.12 (26.00 ± 3.0)</td><td>0.56 ± 0.03 (14.3 ± 0.7)</td><td>0.04 ± 0.002 (0.9 ± 0.05)</td><td>0.22 ± 0.01 (5.7 ± 0.3)</td></tr> </tbody> </table> | | IRC Type | A | B | C | D | IBT 1/4 | 1.18 ± 0.12 (30.00 ± 3.0) | 0.248 ± 0.028 (6.3 ± 0.70) | 0.024 ± 0.002 (0.60 ± 0.05) | 0.094 ± 0.004 (2.40 ± 0.10) | IBT 1/2 | 1.1 ± 0.12 (28.00 ± 3.0) | $0.374 + 0.032 / -0.028$ ($9.50 + 0.80 / -0.70$) | 0.0275 ± 0.002 (0.70 ± 0.05) | 0.142 ± 0.008 (3.6 ± 0.20) | IBT 1 | 1.02 ± 0.12 (26.00 ± 3.0) | 0.56 ± 0.03 (14.3 ± 0.7) | 0.04 ± 0.002 (0.9 ± 0.05) | 0.22 ± 0.01 (5.7 ± 0.3) |
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General Note

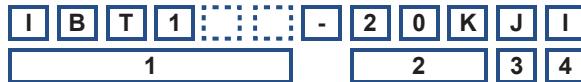
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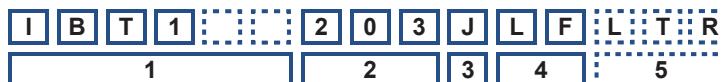
Ordering Data

European (Welwyn) Part Number: IBT1-20KJI (IBT1, 20 kilohms $\pm 5\%$, Pb-free)



| 1 Type | 2 Value | 3 Tolerance | 4 Packing & Termination Finish | | |
|-----------|----------------------------|----------------|-----------------------------------|--|--|
| IBT1/4 | 3/4 characters | J = $\pm 5\%$ | I = Tape Pack & Pb-free | | |
| IBT1/2 | R = ohms | K = $\pm 10\%$ | All sizes Taped, 5000/reel | | |
| IBT1 | K = kilohms M = megohms | | | | |

USA (IRC) Part Number: IBT1203JLFLTR (IBT1, 20 kilohms $\pm 5\%$, Pb-free)



| 1 Type | 2 Value | 3 Tolerance | 4 Termination Finish | 5 Packing |
|-----------|---------------------------------|----------------|-------------------------|---------------------------------------|
| IBT1/4 | 2 digits + multiplier | J = $\pm 5\%$ | LF = Pb-free | LTR = Lead Tape Omit for Bulk Pack |
| IBT1/2 | R = ohms for values <10 ohms | K = $\pm 10\%$ | | All sizes 5000/reel 1000/bulk |
| IBT1 | | | | |

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