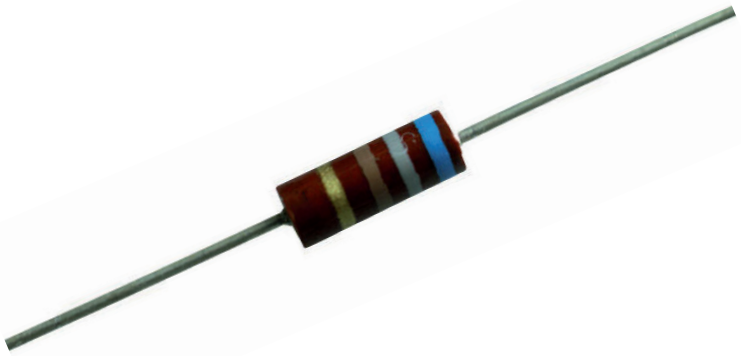
Resistors

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

NOT RECOMMENDED FOR NEW DESIGNS

5% tolerance will be EOL in Feb 2022

All parts are Pb-free and comply with EU Directive 2011/65/EU amended by (EU) 2015/863 (RoHS3)

Electrical Data

Tested Per MIL-STD-202			
		IBT 1/4	**IBT 1/2**
Equivalent Allen Bradley reference		RC07	RC20
Power Rating **Determined by load life test 100% load @ 70°C ambient**		1/4W	1/2W
Rated Continuous Working Voltage (RCWV)		P x R or 250 volts whichever is less	P x R or 350 volts whichever is less
Maximum Ambient Temperature **Resistors derated to zero load at this temperature**		+130°C	
Nominal Resistance Range		1Ω - 5.6 megΩ	1Ω - 20 megΩ
Standard Resistance Tolerances		<100K: 5%, 10%,	≥100K: 10%
Dielectric Withstand Voltage **Atmospheric Pressure** **Barometric pressure 3.4" Hg 115 millibars**		 500V 325V	 700V 450V
Insulation Resistance	**(min.)**	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%
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%

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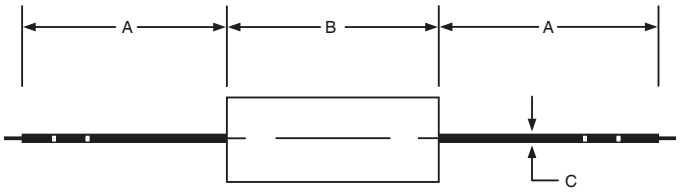
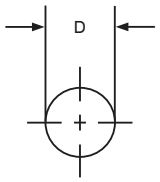
Resistance Temperature Characteristics

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

Physical Data





PACKAGING:
5000/reel
1000/bulk

Dimensions (Inches and (mm))				
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)

Application notes - Lead forming within 2mm of the body and soldering within 4mm of the body are not recommended. Owing to the hydroscopic nature of carbon composition technology, aqueous washing is not recommended.

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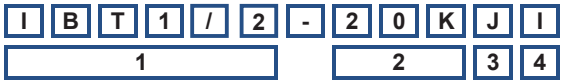
Ordering Procedure

This product has two valid part numbers:

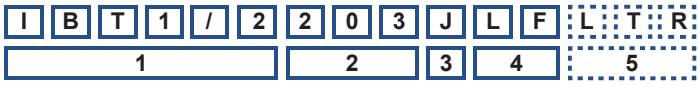
European (Welwyn) Part Number: IBT1/2-20KJI (IBT1/2, 20 kilohms ±5%, Pb-free)



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

5% tolerance will be EOL in Feb 2022

USA (IRC) Part Number: IBT1/2203JLFLTR (IBT1/2, 20 kilohms ±5%, Pb-free)



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

5% tolerance will be EOL in Feb 2022