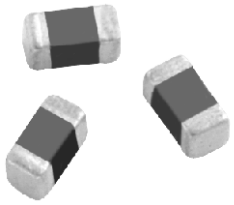
# ILBB-0603

Vishay Dale

# Multilayer Ferrite Beads



## FEATURES

- High reliability
- Surface mountable
- Magnetically self shielded
- Nickel barrier plating virtually eliminates silver migration
- 100 % lead (Pb)-free and RoHS compliant

Pb-free

RoHS COMPLIANT

## MECHANICAL SPECIFICATIONS

**Solderability:** 90 % coverage after 5 second dip in 235 °C solder following 60 second preheat at 120 °C to 150 °C and type R flux dip

**Resistance To Solder Heat:** 10 seconds in 260 °C solder after preheat and flux per above

**Terminal Strength:** 0.3 kilograms (0.66 pounds) minimum for 30 seconds

**Beam Strength:** 0.3 kilogram (0.66 pounds) minimum

## ENVIRONMENTAL SPECIFICATIONS

**Operating Temperature:** - 55 °C to + 125 °C

**Thermal Shock:** 100 cycles, - 40 °C to + 125 °C

**Biased Humidity:** 85 % RH at 85 °C, 1000 hours at full rated current

## STANDARD ELECTRICAL SPECIFICATIONS

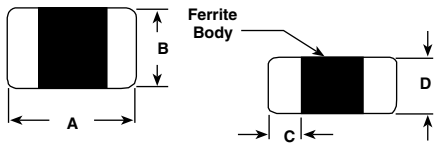
| Z at 100 MHz (± 25 %) | DCR MAX. (Ohms) | RATED DC CURRENT. (mA) |
|---|---|---|
| 10 | 0.05 | 500 |
| 30 | 0.09 | 500 |
| 40 | 0.10 | 400 |
| 60 | 0.10 | 400 |
| 68 | 0.10 | 200 |
| 80 | 0.20 | 150 |
| 120 | 0.20 | 150 |
| 150 | 0.30 | 150 |
| 180 | 0.30 | 150 |
| 220 | 0.30 | 150 |
| 300 | 0.35 | 150 |
| 420 | 0.40 | 150 |
| 450 | 0.40 | 100 |
| 600 | 0.45 | 100 |
| 750 | 0.60 | 100 |
| 1000 | 0.60 | 100 |
| 1500 | 0.70 | 50 |
| 2000 | 0.80 | 50 |

## PACKAGING OPTIONS

- Tape and Reel:
  Embossed plastic carrier tape
  Per EIA481-1
  4000 pieces on a 7" [178 mm] reel

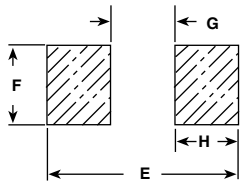
## DIMENSIONS in inches [millimeters]

**Dimensional Outline**




| A | B | C | D |
|---|---|---|---|
| 0.063 ± 0.006 [1.6 ± 0.15] | 0.032 ± 0.006 [0.8 ± 0.15] | 0.014 ± 0.006 [0.36 ± 0.15] | 0.032 ± 0.006 [0.8 ± 0.15] |

**Suggested Pad Layout**




| E | F | G | H |
|---|---|---|---|
| 0.102 [2.6] | 0.031 [0.8] | 0.023 [0.6] | 0.039 [1.0] |

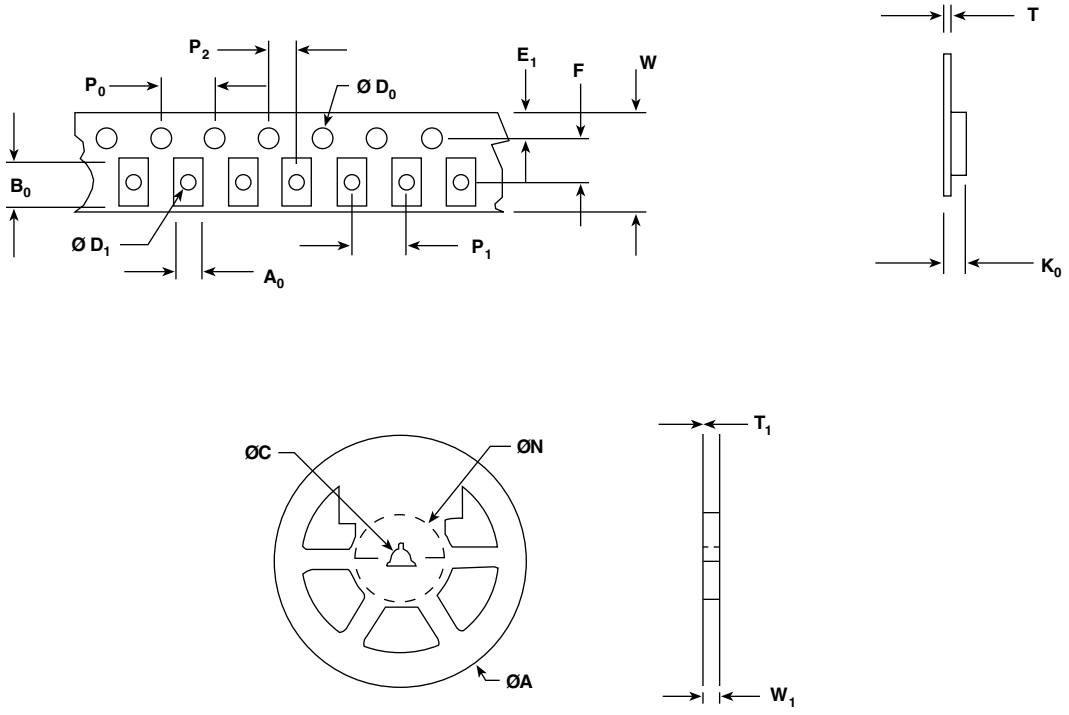
## DESCRIPTION

| ILBB-0603 | 30 | ± 25 % | ER | e3 |
|---|---|---|---|---|
| MODEL | IMPEDANCE VALUE | IMPEDANCE TOLERANCE | PACKAGE CODE | JEDEC LEAD (Pb)-FREE STANDARD |

## GLOBAL PART NUMBER

| I | L | B | B | 0 | 6 | 0 | 3 | E | R | 3 | 0 | 0 | V |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MODEL | | | | SIZE | | | | PACKAGE CODE | | IMPEDANCE VALUE | | | IMPEDANCE TOLERANCE |

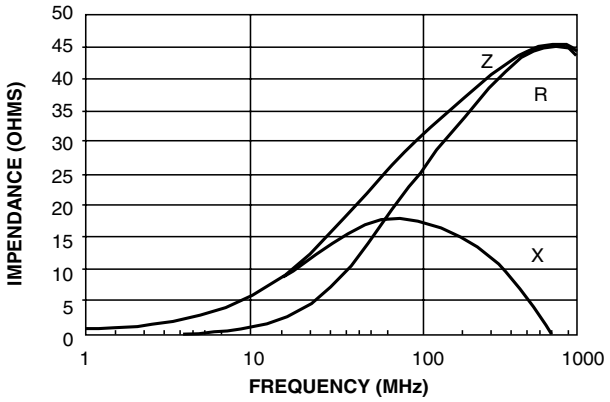
## TAPE AND REEL SPECIFICATIONS 0603 SIZE PER EIA-481-1 in inches [millimeters]



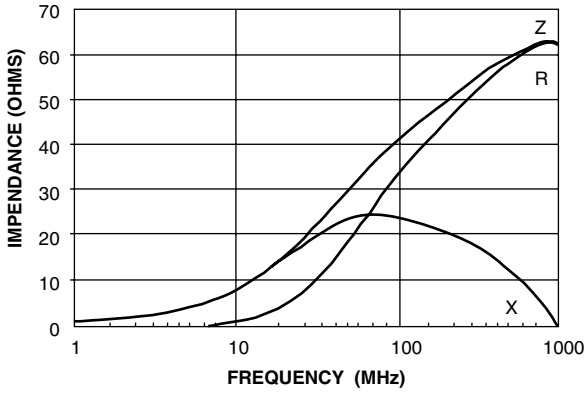

| | | | |
|---|---|---|---|
| $A_0$ | 0.045 ± .004 [1.14 ± 0.1] | $P_2$ | 0.079 ± .002 [2.00 ± 0.05] |
| $B_0$ | 0.071 ± .008 [1.80 ± 0.2] | W | 0.327 Max. [8.3 Max.] |
| $D_0$ | 0.059 + .004/- 0.000 [1.5 + 0.1] | T | 0.008 ± .002 [0.2 ± 0.05] |
| $D_1$ | 0.039 Min. [1.0 Min.] | A | 7.000 ± .079 [178.0 ± 2.0] |
| $E_1$ | 0.069 ± .004 [1.75 ± 0.1] | N | 2.500 [63.5] Min. |
| F | 0.138 ± .002 [3.50 ± 0.05] | C | 0.51 + 0.02/- 0.008 [13 + 0.5] |
| $K_0$ | 0.045 ± .002 [1.15 ± 0.05] | $W_1$ | 0.315 + 0.059/- 0.00 [8.00 ± 1.50] |
| $P_0$ | 0.157 ± .004 [4.00 ± 0.1] | $T_1$ | 0.079 ± .002 [2.00 ± 0.05] |
| $P_1$ | 0.157 ± .004 [4.00 ± 0.1] | | |

## TYPICAL CURVES - FREQUENCY CHARACTERISTICS OF R, X AND Z

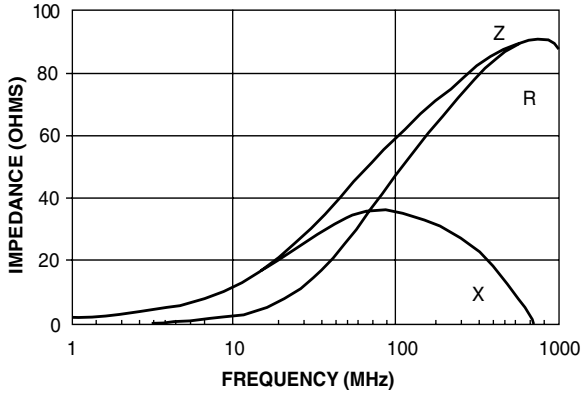
**ILBB-0603 30 Ω**



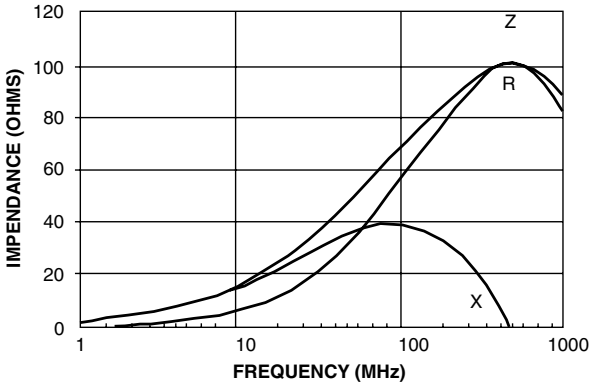

**ILBB-0603 40 Ω**



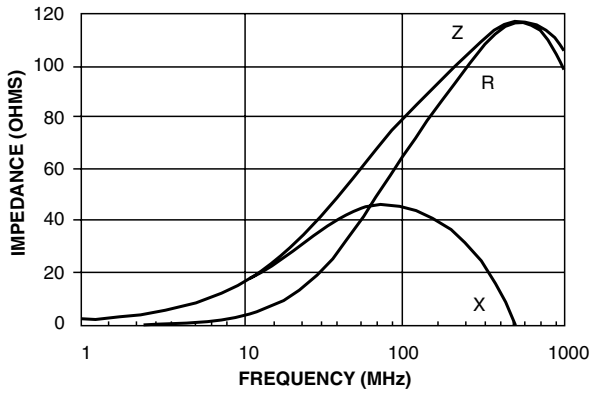

**ILBB-0603 60 Ω**



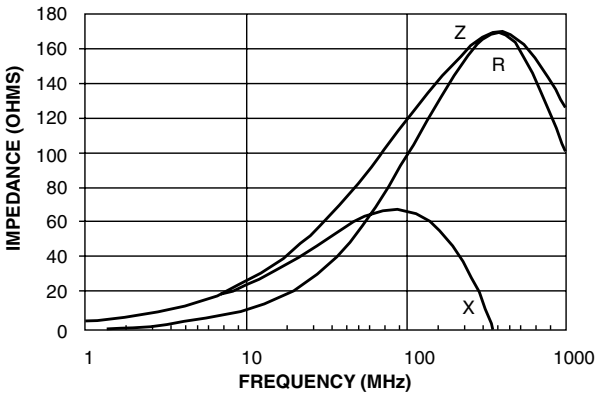

**ILBB-0603 68 Ω**




**ILBB-0603 80 Ω**

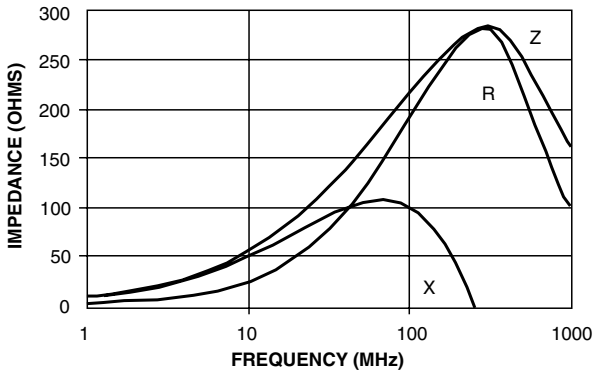



**ILBB-0603 120 Ω**

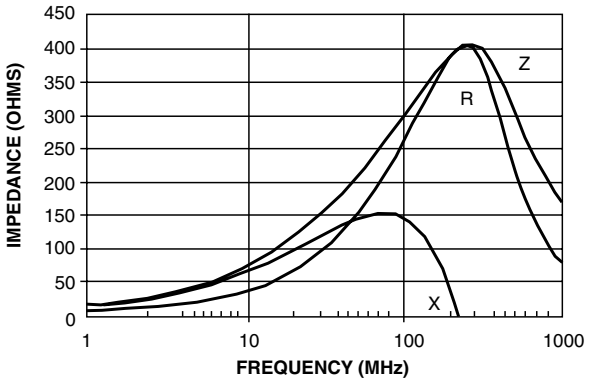


## TYPICAL CURVES - FREQUENCY CHARACTERISTICS OF R, X AND Z

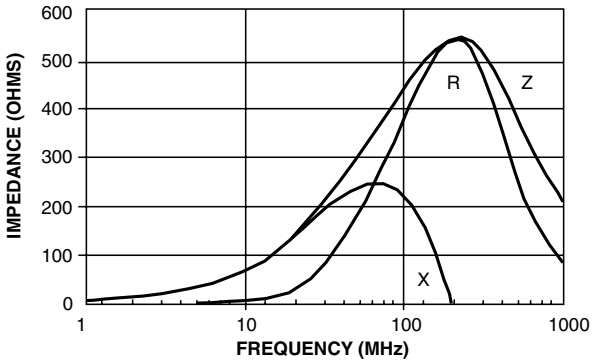
**ILBB-0603 220 Ω**



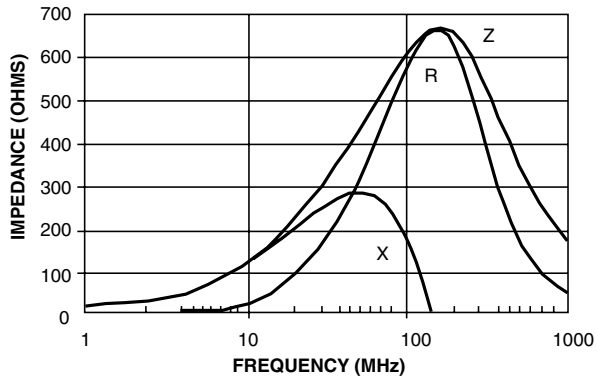

**ILBB-0603 300 Ω**



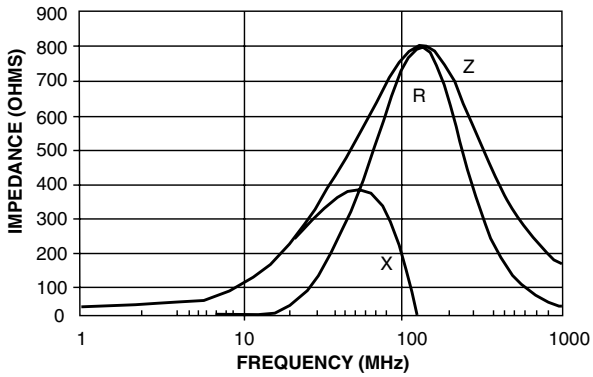

**ILBB-0603 450 Ω**



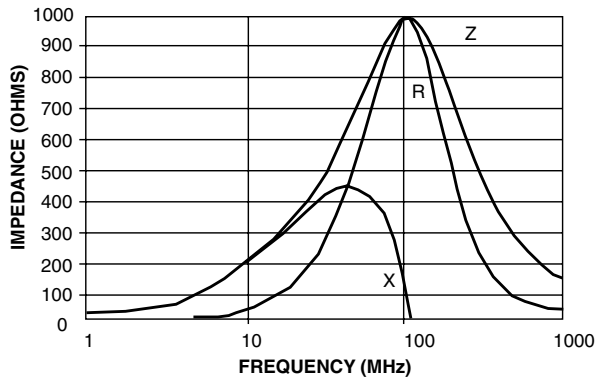

**ILBB-0603 600 Ω**




**ILBB-0603 750 Ω**




**ILBB-0603 1000 Ω**



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