

# SM Beads (Differential- Mode)

Part Number: 2744044447

44 SM BEAD

Explanation of Part Numbers:

- Digits 1 & 2 = Product Class
- Digits 3 & 4 = Material Grade
- Last digit 6 = Bulk Packed, 7 = Taped and Reeled

**Surface mount beads are available from Fair- Rite in several materials and sizes. Their rugged construction lowers the dc resistance and increases current carrying capacity compared to plated beads.**

Wires are oxygen free high conductivity copper with 100% matte tin plating over a nickel undercoating.

SM Beads meet the solderability specifications when tested in accordance with MIL- STD-202, method 208. After dipping the mounting site of the bead, the solder surface shall be at least 95% covered with a smooth solder coating. The edges of the copper strip are not specified as solderable surfaces.

After preheating the beads to within 100 °C of the soldering temperature, the parts meet the resistance to soldering requirements of EIA-186-10E, temperature 260 ±5 °C and time 10 ±1 seconds.

Recommended storage and operation temperature is -55 °C to 125 °C.

Our “Surface Mount Bead Kit” (part number 0199000025) is available for prototype evaluation.

[Recommended Soldering Profile](#)

Packaging Options:

- SM Beads on 12 mm tape width are supplied taped and reeled per EIA 481 and IEC 60286-3 standards. SM Beads on 16 and 24 mm tape widths are supplied taped and reeled per EIA 481 and IEC 60286-3 standards. Taped and reeled parts are supplied on a 13” reel.
- SM Beads can also be supplied not taped and reeled and then are bulk packed. This packing method will change the last digit of the part number to a “6”.

**For any SM Bead requirement not listed, please contact our customer service group for availability and pricing.**

[Catalog Drawing](#)

[3D Model](#)

Suggested land patterns are in accordance with the latest revision of IPC-7351.

Weight: 0.09 (g)

| Dim | mm   | mm tol | nominal inch | inch misc. |
|-----|------|--------|--------------|------------|
| A   | 1.80 | Max    | 0.068        | Max        |
| B   | 3.1  | ±0.10  | 0.122        | —          |
| C   | 6.20 | Max    | 0.240        | —          |
| D   | 1.55 | ±0.50  | 0.061        | —          |

| Reel Information |             |                  |                   |                   |
|------------------|-------------|------------------|-------------------|-------------------|
| Tape Width<br>mm | Pitch<br>mm | Parts 7"<br>Reel | Parts 13"<br>Reel | Parts 14"<br>Reel |
| 12               | 8           | --               | 4500              | --                |

| Land Patterns    |                  |                  |                  |   |
|------------------|------------------|------------------|------------------|---|
| V                | W                | X                | Y                | Z |
| 1.50<br>(0.059") | 4.50<br>(0.177") | 1.80<br>(0.071") | 3.00<br>(0.118") | — |



### Chart Legend

+ Test frequency

#### Typical Impedance ( $\Omega$ )

|                      |      |
|----------------------|------|
| 10 MHz               | 17.5 |
| 25 MHz <sup>+</sup>  | 26   |
| 100 MHz <sup>+</sup> | 37   |
| 250 MHz              | 40   |

#### Electrical Properties

|                      |     |
|----------------------|-----|
| Max Rdc(m $\Omega$ ) | 1.1 |
|----------------------|-----|

SM Beads are controlled for impedance limits only. Minimum impedance values are specified for the + marked frequencies. The minimum impedance is listed on our catalog drawing.

#### [Catalog Drawing](#)

SM Beads in 73, 43 and 44 materials are measured for impedance on the E4990A Impedance Analyzer. The 52 and 61 SM Beads are tested for impedance on the E4991A / HP4291B Impedance Analyzer.

The maximum practical current rating for these SM Beads is 5 amps, check the component bias curves. The 019/021/037 and 044 SM Beads can withstand a continuous current of 10 amps resulting in a component temperature rise < 40 °C

