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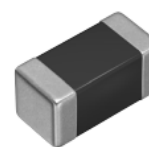


# KMZ/KPZ Ferrite Bead Sample Kit



## Ferrite Beads with Robust Soft Termination for Signal/Power Lines

TDK's KMZ and KPZ Series multilayer ferrite beads were designed with innovative soft termination technology to offer high reliability under harsh conditions, even at high temperatures up to 150°C. KMZ and KPZ series beads are qualified to AEC-Q200 and their compact size and robustness makes them ideal for use in demanding automotive applications such as engine control modules (ECUs), powertrains, body controls, and car multimedia (telematics). The external electrodes of KMZ and KPZ series beads feature a conductive resin layer that offers effective protection against board flexure and solder cracks due to mechanical stress during mounting and thermal shock during operation. The KMZ series beads offer various impedance characteristics with 6 materials of different features for noise suppression in applications ranging from general signals to high-speed signals. The KPZ series beads consist of the S material type, which features impedance characteristics similar to those of a typical ferrite core. Impedance values within the KMZ1608-HR series were selected for effectiveness at 40 to 300MHz.



Signal/Power

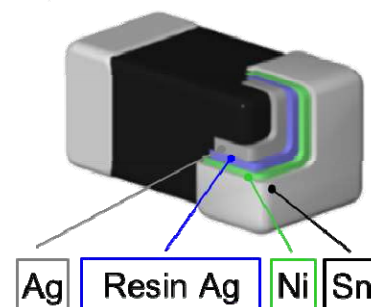
Soft Termination

AEC-Q200

### Features

- Noise reduction solution for general signal and power lines
- Has low direct current resistance for compatibility with large currents, optimal for low power consumption
- Effective protection against board flexure and solder cracks
- Suitable for high operating temperatures up to 150°C
- Qualified to AEC-Q200

### Soft Termination Electrode Design



### Applications

- In-vehicle electronic control units (ECUs)
- Powertrains, body controls, car multimedia (telematics)

### Sample Kit Information

| Series                                       | Size<br>[mm] | Impedance<br>[Ω] @ 100MHz | DC Resistance<br>[Ω] Max. | Rated Current<br>[mA] Max. |             |             |
|--|--------------|---------------------------|---------------------------|----------------------------|-------------|-------------|
|  |              |                           |                           | -55 to +85°C               | +125°C      | +150°C      |
| <a href="#">KMZ1608-HR</a><br>(Signal Lines) | 1.6 x 0.8    | 50 to 2500                | 0.1 to 0.8                | 200 to 800                 | 100 to 400  | 100 to 400  |
| <a href="#">KPZ1608-HR</a><br>(Power Lines)  |              | 30 to 1000                | 0.015 to 0.3              | 800 to 5000                | 500 to 2000 | 300 to 1000 |

Kit contains 240 pieces total—10 pieces each of 24 values

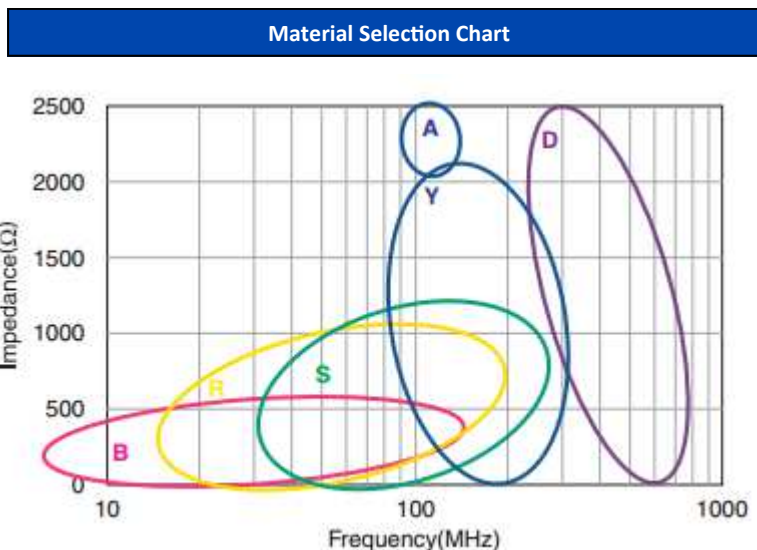
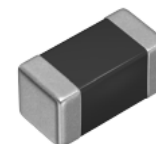
Digi-Key Part Number: [445-175078-KIT-ND](#)



# KMZ/KPZ Ferrite Bead Sample Kit



## Ferrite Beads with Robust Soft Termination for Signal/Power



### B Material Characteristics

This type is perfectly suited for fast digital signals. By equalizing R and X components that beads possess at a frequency of 5MHz, B material type product is able to suppress overshooting, undershooting, and ringing of fast digital signals.

### R Material Characteristics

For wide frequency applications calling for broad impedance characteristics. For digital signal line applications requiring good waveform integrity. Impedance values selected for effectiveness at 10 to 200MHz.

### S Material Characteristics

Standard type that features impedance characteristics similar to those of a typical ferrite core. For signal line applications in which the blocking region is near 100MHz. Impedance values selected for effectiveness at 40 to 300MHz.

### Y Material Characteristics

High frequency range type intended for the 100MHz region and above. For signal line applications in which the signal frequency is far from the cutoff frequency. Impedance values selected for effectiveness at 80 to 400MHz.

### A Material Characteristics

This high-impedance product is based on the impedance frequency characteristics of our Y-material. The product offers excellent impedance characteristics, which is greater than 2500Ω, in the vicinity of 100MHz range (KMZ1608AHR252B).

### D Material Characteristics

For applications calling for low insertion loss at low frequencies and sharply increasing impedance at high frequencies. Designed for high impedance at high frequencies (300 MHz to 1GHz) for signal line applications.

# KMZ/KPZ Ferrite Bead Sample Kit

Ferrite Beads with Robust Soft Termination for Signal/Power Lines



| Digi-Key Part Number | TDK Part Number    | Part Number Description         |
|----------------------|--------------------|---------------------------------|
| 445-175078-KIT-ND    | KMZ1608BHR601CTDH5 | 1608, Bead, 600Ω, 25%           |
|                      | KMZ1608BHR102CTD25 | 1608, Bead, 1000Ω, 25%          |
|                      | KMZ1608RHR600ATD25 | 1608, Bead, 60Ω, 25%            |
|                      | KMZ1608RHR121ATD25 | 1608, Bead, 120Ω, 25%           |
|                      | KMZ1608RHR601ATD25 | 1608, Bead, 600Ω, 25%           |
|                      | KMZ1608RHR102ATD25 | 1608 Bead, 1000Ω, 25%           |
|                      | KMZ1608SHR121ATD25 | 1608, Bead, 120Ω, 25%           |
|                      | KMZ1608SHR601ATD25 | 1608, Bead, 600Ω, 25%           |
|                      | KMZ1608SHR102ATD25 | 1608, Bead, 1000Ω, 25%          |
|                      | KMZ1608YHR600BTD25 | 1608, Bead, 60Ω, 25%            |
|                      | KMZ1608YHR121BTD25 | 1608, Bead, 120Ω, 25%           |
|                      | KMZ1608YHR301BTD25 | 1608, Bead, 300Ω, 25%           |
|                      | KMZ1608YHR601BTD25 | 1608, Bead, 600Ω, 25%           |
|                      | KMZ1608YHR102BTD25 | 1608, Bead, 1000Ω, 25%          |
|                      | KMZ1608YHR152BTD25 | 1608, Bead, 1500Ω, 25%          |
|                      | KMZ1608AHR252BTD25 | 1608, Bead, 2500Ω, 25%          |
|                      | KMZ1608DHR500CTDH5 | 1608, Bead, 50Ω, 25%            |
|                      | KMZ1608DHR121CTDH5 | 1608, Bead, 120Ω, 25%           |
|                      | KMZ1608DHR241CTD25 | 1608, Bead, 240Ω, 25%           |
|                      | KPZ1608SHR300ATDH5 | 1608, Power Bead, 30Ω, (+/-10Ω) |
|                      | KPZ1608SHR121ATDH5 | 1608, Power Bead, 120Ω, 25%     |
|                      | KPZ1608SHR221ATD25 | 1608, Power Bead, 220Ω, 25%     |
|                      | KPZ1608SHR601ATD25 | 1608, Power Bead, 600Ω, 25%     |
|                      | KPZ1608SHR102ATD25 | 1608, Power Bead, 1000, 25%     |