Precision Thin Film MELF Resistors Reduce Component Counts to Save Space, Simplify Designs, and Lower Costs; Feature Low TCR to ± 15 ppm/K, Tight Tolerances to ± 0.1 %, and High Resistance of Up to 10 MΩ in 0102, 0204, and 0207 Case Sizes

Product Benefits:

- AEC-Q200 qualified
- Available in 0102, 0204, and 0207
- Low TCR down to ± 15 ppm/K
- Tight tolerances down to ± 0.1 %
- High resistance values to 10 MΩ
- Built on an advanced metal film technology
- Proven reliability
  - Robust design
  - Intrinsic sulfur resistance
  - Excellent overall stability that exceeds stability class 0.05
- Suitable for processing on automatic SMD assembly systems
- RoHS-compliant, halogen-free, and Vishay Green

Market Applications:

- Current sensing in power supplies for automotive ADAS, LIDAR, connectivity, and camera systems, in addition to telecom, industrial, and medical equipment

The News:

Vishay Intertechnology introduces an enhanced resistance range for precision versions of its AEC-Q200 qualified thin film MELF resistors in the 0102, 0204, and 0207 case sizes.

- Designed to meet the needs of applications with high stability and reliability requirements
- Compared to previous thin film MELF resistor offerings, the devices provide significantly higher resistance
  - For example, for a device in the 0204 case size with a TCR of ± 25 ppm/K and a tolerance of 0.1 %, resistance had previously been limited to 511 kΩ. The precision MMA 0204, however, now offers 10 times higher resistance of 5.11 MΩ at the same TCR and tolerance, and 1 MΩ at an even lower TCR of ± 15 ppm/K
- With their high resistance, a single MMA 0204 or MMB 0207 resistor can replace multiple lower-value devices used in series, which not only saves spaces, but simplifies designs and lowers overall costs

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The Key Specifications:

Part #	MMU 0102	MMA 0204	MMB 0207
Case size	0102	0204	0207
Resistance range (Ω)	22 to 332 k	10 to 5.11 M	15 to 10 M
Tolerance (%)	± 0.5; ± 0.25; ± 0.1		± 0.25; ± 0.1
TCR (ppm/K)	± 25; ± 15		
Rated dissipation P_{70} (W)	0.2	0.25	0.4
Operating voltage (V)	150	200	350
Operating temp. range (°C)	-55 to +125		

Availability:
Samples and production quantities of the precision thin film MELF resistors are available now, with lead times of 12 weeks.

To access the product datasheet on the Vishay Website, go to
http://www.vishay.com/ppg?28714 (MMU 0102, MMA 0204, MMB 0207 - Precision)

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