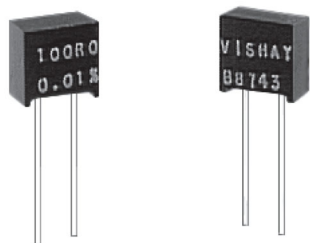


Bulk Metal® Foil Technology Industrial Miniature Precision Resistor with TCR of $\pm 4 \text{ ppm/}^\circ\text{C}$ and Tolerance to $\pm 0.01 \%$



Any value at any tolerance available with resistance range

The VRM style is a miniaturized version of the now famous S102C. It is made with a Bulk Metal® Foil element so it retains all of the inherent performance of foil resistors. It does not, however, have the value range, power rating, TCR or lead spacing of the S102C. It is a size for size replacement for certain wirewounds and finds application in situations where size constraints dictate the use of this miniature precision resistor.

Our Application Engineering Department is available to advise and to make recommendations. For non-standard technical requirements and special applications, please contact us.

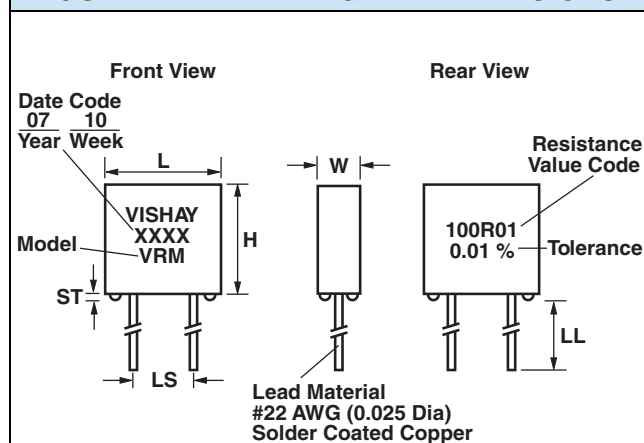
FEATURES

- Temperature Coefficient of Resistance:
 - $\pm 4 \text{ ppm/}^\circ\text{C}$ (0°C to $+60^\circ\text{C}$);
 - $\pm 8 \text{ ppm/}^\circ\text{C}$ (-55°C to $+125^\circ\text{C}$, 25°C Ref.)
- Resistance Range: 5Ω to $50 \text{ k}\Omega$
- Tolerance: to $\pm 0.01 \%$
- Power Rating: 0.25 W at $+70^\circ\text{C}$; 0.125 W at $+125^\circ\text{C}$
- Load Life Stability: $\pm 0.05 \%$ Maximum ΔR at $+70^\circ\text{C}$ at Rated Power for 2000 hours
- Non Inductive: $< 0.08 \mu\text{H}$
- Thermal EMF: $< 0.1 \mu\text{V/}^\circ\text{C}$
- Long Term Stability: $\pm 0.0025 \%$ (25 ppm) per year under low power and room temperature conditions
- Voltage Coefficient: $< 0.1 \text{ ppm/V}$
- Maximum Working Voltage: 250 V
- Terminal Finishes Available: Lead (Pb)-free
Tin/Lead Alloy
- Any value available within resistance range (e.g. 1K234)
- Prototype samples available from 48 hours. For more information, please contact foil@vishaypg.com
- For better performances, please see S-Series datasheet



RoHS*
COMPLIANT

FIGURE 1 - IMPRINTING AND DIMENSIONS



| DIMENSIONS | INCHES | mm |
|------------|-------------------|-----------------|
| L: | 0.250 ± 0.010 | 6.35 ± 0.25 |
| H: | 0.250 ± 0.010 | 6.35 ± 0.25 |
| W: | 0.125 ± 0.010 | 3.18 ± 0.25 |
| ST: | 0.020 ± 0.010 | 0.51 ± 0.25 |
| LL: | 0.750 Minimum | 19.05 Minimum |
| LS: | 0.125 ± 0.005 | 3.18 ± 0.13 |

FIGURE 2 - POWER DERATING CURVE

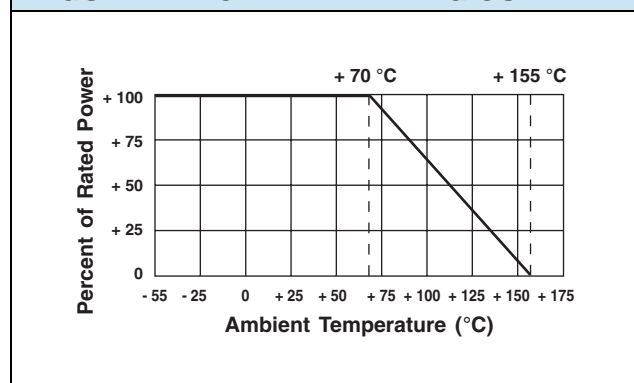
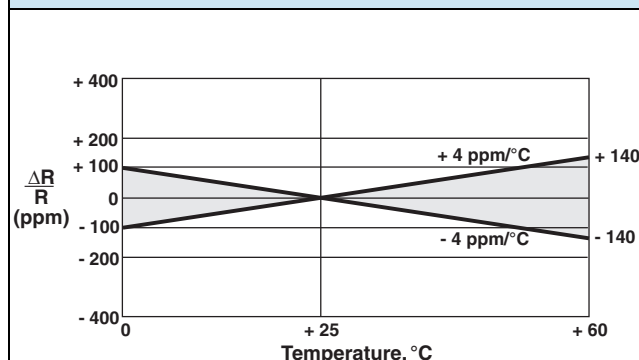
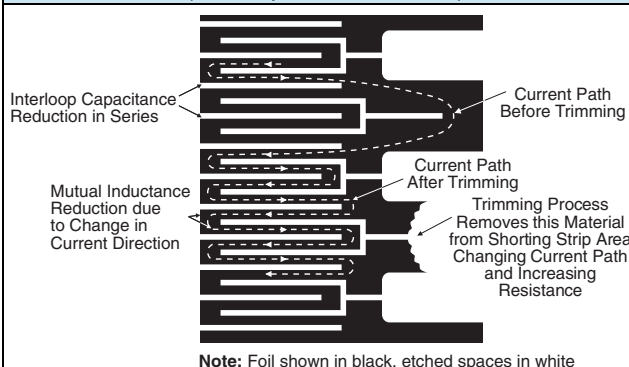


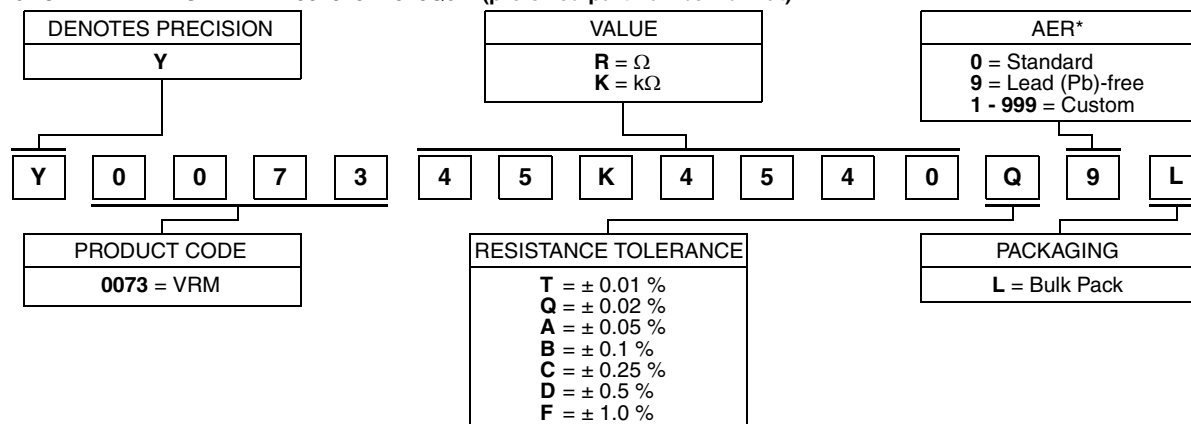
TABLE 1 - RESISTANCE VALUES VS TOLERANCE

| 5 Ω to 50 Ω | 50 Ω to 50 k Ω |
|---------------------------|------------------------------|
| $\pm 0.1 \%$ | $\pm 0.01 \%$ |
| $\pm 0.25 \%$ | $\pm 0.02 \%$ |
| $\pm 0.5 \%$ | $\pm 0.05 \%$ |
| $\pm 1.0 \%$ | $\pm 0.1 \%$ |
| | $\pm 0.25 \%$ |
| | $\pm 0.5 \%$ |
| | $\pm 1.0 \%$ |

* Pb containing terminations are not RoHS compliant, exemptions may apply

FIGURE 3 - TEMPERATURE COEFFICIENT**FIGURE 4 - TRIMMING TO VALUES**
(Conceptual Illustration)**TABLE 2 - GLOBAL PART NUMBER INFORMATION**

NEW GLOBAL PART NUMBER: Y007345K4540Q9L (preferred part number format)



FOR EXAMPLE: ABOVE GLOBAL ORDER Y0073 45K4540 Q 9 L:

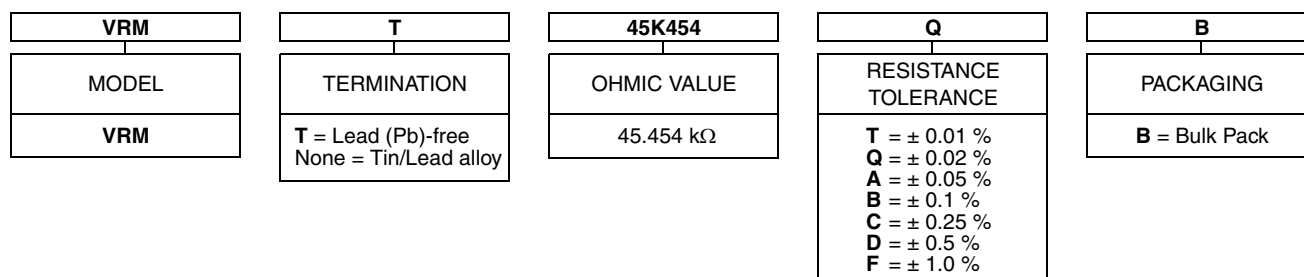
TYPE: VRM

VALUE: 45.454 k Ω ABSOLUTE TOLERANCE: $\pm 0.02 \%$

TERMINATION: Lead (Pb)-free

PACKAGING: Bulk Pack

HISTORICAL PART NUMBER EXAMPLE: VRMT 45K454 Q B (will continue to be used)

**Note**

* For non-standard requests, please contact Application Engineering.

Disclaimer

ALL PRODUCTS, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE.

Vishay Precision Group, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay Precision Group"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product.

The product specifications do not expand or otherwise modify Vishay Precision Group's terms and conditions of purchase, including but not limited to, the warranty expressed therein.

Vishay Precision Group makes no warranty, representation or guarantee other than as set forth in the terms and conditions of purchase. **To the maximum extent permitted by applicable law, Vishay Precision Group disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.**

Information provided in datasheets and/or specifications may vary from actual results in different applications and performance may vary over time. Statements regarding the suitability of products for certain types of applications are based on Vishay Precision Group's knowledge of typical requirements that are often placed on Vishay Precision Group products. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application.

No license, express, implied, or otherwise, to any intellectual property rights is granted by this document, or by any conduct of Vishay Precision Group.

The products shown herein are not designed for use in life-saving or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Vishay Precision Group products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Vishay Precision Group for any damages arising or resulting from such use or sale. Please contact authorized Vishay Precision Group personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.