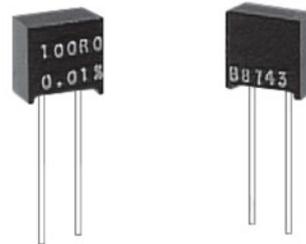


Bulk Metal® Foil Technology Industrial Miniature Precision Resistor with TCR of ± 4 ppm/°C and Tolerance to $\pm 0.01\%$

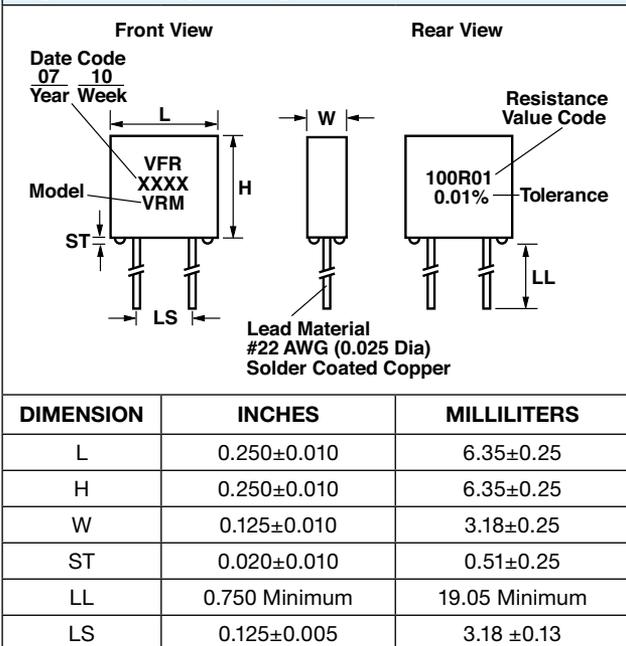
FEATURES

- Temperature coefficient of resistance:
 ± 4 ppm/°C (0°C to +60°C);
 ± 8 ppm/°C (-55°C to +125°C, 25°C Ref.)
- Resistance range: 5 Ω to 30 k Ω
- Tolerance: to $\pm 0.01\%$
- Power rating:
 - from 5 Ω to 10 k Ω : 0.25 W at 70°C and 0.125 W at 125°C
 - from above 10 k Ω to 30 k Ω : 0.16 W at 70°C and 0.08 W at 125°C
- Load life stability: $\pm 0.05\%$ maximum ΔR at +70°C at rated power for 2000 hours
- Non inductive: <0.08 μH
- Thermal EMF: <0.1 $\mu V/^\circ C$
- Long term stability: $\pm 0.0025\%$ (25 ppm) per year under low power and room temperature conditions
- Voltage coefficient: <0.1 ppm/V
- Maximum working voltage: 69 V
- Terminal finishes available:
Lead (Pb)-free; tin/lead alloy
- Any 6-digit value available within resistance range (e.g., 1K23456)
- Prototype samples available. Please contact:
foil@vishaypg.com
- For better performances, please see S-Series datasheet



RoHS*
COMPLIANT

Figure 1 – Imprinting and Dimensions



INTRODUCTION

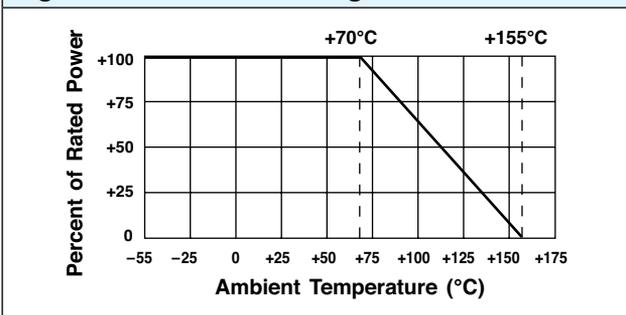
Any 6-digit value available within the resistance range with tight tolerances (to 0.01%).

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.

Figure 2 – Power Derating Curve



Notes

* This datasheet provides information about parts that are RoHS-compliant and/or parts that are non-RoHS-compliant. For example, parts with lead (Pb) terminations are not RoHS compliant. Please see the information/tables in this datasheet for details.

Table 1 – Resistance Values vs. Tolerance

5 Ω to 50 Ω	50 Ω to 30 kΩ
±0.1%	±0.01%
±0.25%	±0.02%
±0.5%	±0.05%
±1.0%	±0.1%
	±0.25%
	±0.5%
	±1.0%

Figure 3 – Temperature Coefficient

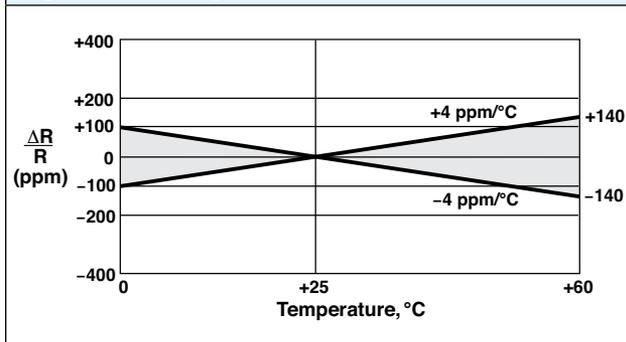
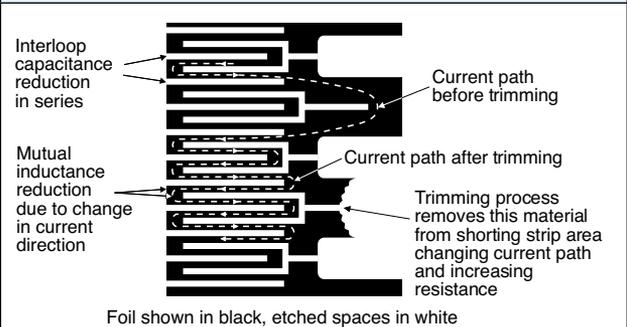


Figure 4 – Trimming to Values

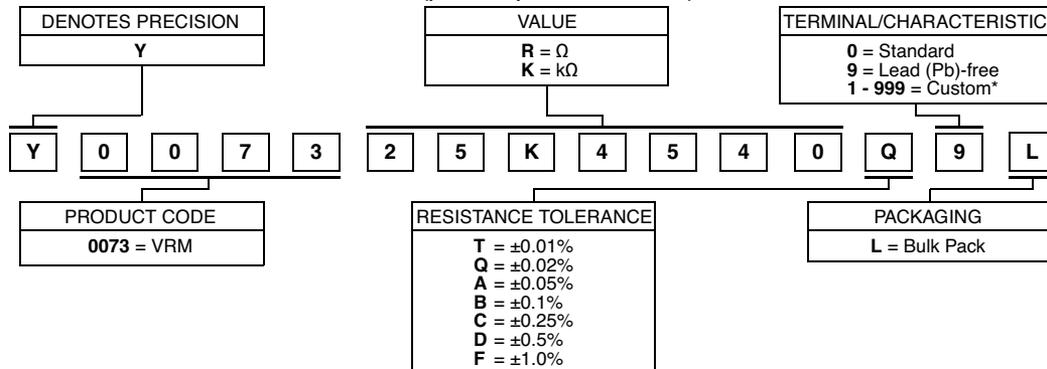


Note

To acquire a precision resistance value, the Bulk Metal® Foil chip is trimmed by selectively removing built-in “shorting bars.” To increase the resistance in known increments, marked areas are cut, producing progressively smaller increases in resistance. This method reduces the effect of “hot spots” and improves the long-term stability of Bulk Metal® Foil resistors.

Table 2 – Global Part Number Information

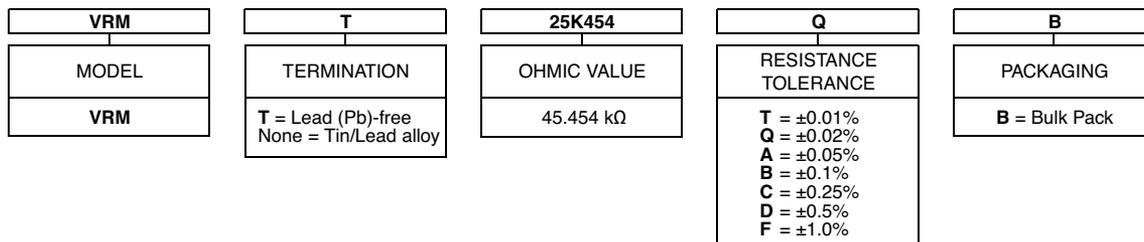
NEW GLOBAL PART NUMBER: Y007325K4540Q9L (preferred part number format)



FOR EXAMPLE: ABOVE GLOBAL ORDER Y0073 25K4540 Q 9 L:

TYPE: VRM
VALUE: 25.454 kΩ
ABSOLUTE TOLERANCE: ±0.02%
TERMINATION: Lead (Pb)-free
PACKAGING: Bulk Pack

HISTORICAL PART NUMBER EXAMPLE: VRMT 25K454 Q B (will continue to be used)



Note

* Customizations are available; contact Application Engineering at foil@vpgsensors.com.



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