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Fast Facts

Product Group: Vishay Sfernice, Thin Film / September 2026



P Series Thin Film Resistors Now Offer Wider Ohmic Ranges by Tolerance and TCR

Building on the latest advances in thin film deposition and the proven expertise of Vishay Sfernice, the P series of thin film chip resistors now delivers an expanded portfolio of resistance value availability within selected tolerance and TCR combinations in industry-standard chip sizes from 0402 up to 2512. The overall ohmic limits of the series remain unchanged; the update extends coverage of internal resistance bands, as highlighted in blue in the table. For design engineers, this means precise, high-value resistors — with tolerances down to $\pm 0.01\%$ and TCR as low as $\pm 5 \text{ ppm}/^\circ\text{C}$ — are now available at resistance values where these combinations were previously not offered. The result is greater design freedom, more efficient use of PCB space, and faster time to market — all perfectly aligned with the growing demand for miniaturized, high density electronic systems.

Highlights at a glance

- **Broader value availability by configuration** — additional internal resistance bands are now available for selected tolerance and TCR combinations, as highlighted in blue in the updated table.
- **Uncompromising precision** — tolerances down to $\pm 0.01\%$ and temperature coefficients as low as $\pm 5 \text{ ppm}/^\circ\text{C}$
- **Proven robustness** — excellent long term stability, low noise, and sulfur-resistant construction for demanding environments
- **Drop-in compatibility** — with the same industry-standard footprints (0402 to 2512) and RoHS-compliant construction, most designs can adopt the wider range with no layout changes

STYLE	PREVIOUS RANGE (Ω)	NEW RANGE (Ω)	TOLERANCE ($\pm \%$)	TCR CODE
0402	10 to < 50	10 to < 50	0.1; 0.25; 0.5; 1; 2; 5	C; Z; Y; E; H; K
	50 to < 100	50 to < 100	0.05; 0.1; 0.25; 0.5; 1; 2; 5	C; Z; Y; E; H; K
	100 to < 250	100 to < 250	0.02; 0.05; 0.1; 0.25; 0.5; 1; 2; 5	C; Z; Y; E; H; K
	250 to $< 67 \text{ k}$	250 to $< 250 \text{ k}$	0.01; 0.02; 0.05; 0.1; 0.25; 0.5; 1; 2; 5	C; Z; Y; E; H; K
	$> 67 \text{ k}$ to 200 k	$> 250 \text{ k}$ to 340 k	0.01; 0.02; 0.05; 0.1; 0.25; 0.5; 1; 2; 5	Z; Y; E; H; K
	$> 200 \text{ k}$ to 341 k	$> 340 \text{ k}$ to 500 k	0.05; 0.1; 0.25; 0.5; 1; 2; 5	E; H; K
	$> 341 \text{ k}$ to 1 M	$> 500 \text{ k}$ to 1 M	0.1; 0.25; 0.5; 1; 2; 5	H; K
0603	10 to < 50	10 to < 50	0.1; 0.25; 0.5; 1; 2; 5	C; Z; Y; E; H; K
	50 to < 100	50 to < 100	0.05; 0.1; 0.25; 0.5; 1; 2; 5	C; Z; Y; E; H; K
	100 to < 250	100 to < 250	0.02; 0.05; 0.1; 0.25; 0.5; 1; 2; 5	C; Z; Y; E; H; K
	250 to $< 160 \text{ k}$	250 to $< 620 \text{ k}$	0.01; 0.02; 0.05; 0.1; 0.25; 0.5; 1; 2; 5	C; Z; Y; E; H; K
	$> 160 \text{ k}$ to 332 k	$> 620 \text{ k}$ to 830 k	0.01; 0.02; 0.05; 0.1; 0.25; 0.5; 1; 2; 5	Z; Y; E; H; K
	$> 332 \text{ k}$ to 500 k	$> 830 \text{ k}$ to 1.2 M	0.05; 0.1; 0.25; 0.5; 1; 2; 5	E; H; K
	$> 500 \text{ k}$ to 3.2 M	$> 1.2 \text{ M}$ to 3.2 M	0.1; 0.25; 0.5; 1; 2; 5	H; K

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0805	10 to < 50	10 to < 50	0.1; 0.25; 0.5; 1; 2; 5	C; Z; Y; E; H; K
	50 to < 100	50 to < 100	0.05; 0.1; 0.25; 0.5; 1; 2; 5	C; Z; Y; E; H; K
	100 to < 250	100 to < 250	0.02; 0.05; 0.1; 0.25; 0.5; 1; 2; 5	C; Z; Y; E; H; K
	250 to < 360 k	250 to < 1.4 M	0.01; 0.02; 0.05; 0.1; 0.25; 0.5; 1; 2; 5	C; Z; Y; E; H; K
	> 360 k to 511 k	> 1.4 M to 1.9 M	0.01; 0.02; 0.05; 0.1; 0.25; 0.5; 1; 2; 5	Z; Y; E; H; K
	> 511 k to 750 k	> 1.9 M to 2.9 M	0.05; 0.1; 0.25; 0.5; 1; 2; 5	E; H; K
	> 750 k to 8 M	> 2.9 M to 8 M	0.1; 0.25; 0.5; 1; 2; 5	H; K

STYLE	PREVIOUS RANGE (Ω)	NEW RANGE (Ω)	TOLERANCE ($\pm$ %)	TCR CODE
1206	10 to < 50	10 to < 50	0.1; 0.25; 0.5; 1; 2; 5	C; Z; Y; E; H; K
	50 to < 100	50 to < 100	0.05; 0.1; 0.25; 0.5; 1; 2; 5	C; Z; Y; E; H; K
	100 to < 250	100 to < 250	0.02; 0.05; 0.1; 0.25; 0.5; 1; 2; 5	C; Z; Y; E; H; K
	250 to < 1.3 M	250 to < 5 M	0.01; 0.02; 0.05; 0.1; 0.25; 0.5; 1; 2; 5	C; Z; Y; E; H; K
	> 1.3 M to 2 M	> 5 M to 6.9 M	0.01; 0.02; 0.05; 0.1; 0.25; 0.5; 1; 2; 5	Z; Y; E; H; K
	> 2 M to 3.5 M	> 6.9 M to 10 M	0.05; 0.1; 0.25; 0.5; 1; 2; 5	E; H; K
	> 3.5 M to 22 M	> 10 M to 22 M	0.1; 0.25; 0.5; 1; 2; 5	H; K
2010	10 to < 50	10 to < 50	0.1; 0.25; 0.5; 1; 2; 5	C; Z; Y; E; H; K
	50 to < 100	50 to < 100	0.05; 0.1; 0.25; 0.5; 1; 2; 5	C; Z; Y; E; H; K
	100 to < 250	100 to < 250	0.02; 0.05; 0.1; 0.25; 0.5; 1; 2; 5	C; Z; Y; E; H; K
	250 to < 3.8 M	250 to < 5 M	0.01; 0.02; 0.05; 0.1; 0.25; 0.5; 1; 2; 5	C; Z; Y; E; H; K
	> 3.8 M to 5 M	> 5 M to 10 M	0.01; 0.02; 0.05; 0.1; 0.25; 0.5; 1; 2; 5	Z; Y; E; H; K
	> 5 M to 7.5 M	> 10 M to 15 M	0.05; 0.1; 0.25; 0.5; 1; 2; 5	E; H; K
	> 7.5 M to 25 M	> 15 M to 25 M	0.1; 0.25; 0.5; 1; 2; 5	H; K
	> 25 M to 50 M	> 25 M to 50 M	0.25; 0.5; 1; 2; 5	H; K
	> 50 M to 62 M	> 50 M to 86 M	0.5; 1; 2; 5	H; K
2512	10 to < 50	10 to < 50	0.1; 0.25; 0.5; 1; 2; 5	C; Z; Y; E; H; K
	50 to < 100	50 to < 100	0.05; 0.1; 0.25; 0.5; 1; 2; 5	C; Z; Y; E; H; K
	100 to < 250	100 to < 250	0.02; 0.05; 0.1; 0.25; 0.5; 1; 2; 5	C; Z; Y; E; H; K
	250 to < 6.4 M	250 to < 6.4 M	0.01; 0.02; 0.05; 0.1; 0.25; 0.5; 1; 2; 5	C; Z; Y; E; H; K
	> 6.4 M to 8.6 M	> 6.4 M to 10 M	0.01; 0.02; 0.05; 0.1; 0.25; 0.5; 1; 2; 5	Z; Y; E; H; K
	> 8.6 M to 12.9 M	> 10 M to 15 M	0.05; 0.1; 0.25; 0.5; 1; 2; 5	E; H; K
	> 12.9 M to 25 M	> 15 M to 25 M	0.1; 0.25; 0.5; 1; 2; 5	H; K
	> 25 M to 50 M	> 25 M to 50 M	0.25; 0.5; 1; 2; 5	H; K
	> 50 M to 86 M	> 50 M to 86 M	0.5; 1; 2; 5	H; K



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The devices are designed for medical electronics; test and measurement equipment and instrumentation; aerospace and defense systems; industrial automation; high voltage power systems; and wherever precision, long term stability, and reliability are non-negotiable.

Need a specific value or tolerance?

Contact your local Vishay Sfernice representative or email

sferthinfilm@vishay.com — our engineering team will be glad to support your design.

Useful Links

- Product Page
www.vishay.com/ppg?53017

TEMPEATURE COEFFICIENT	
TCR	CODE
$\pm 5 \text{ ppm}/^{\circ}\text{C}$	C (-55 $^{\circ}\text{C}$; +155 $^{\circ}\text{C}$)
$\pm 5 \text{ ppm}/^{\circ}\text{C}$	Z (0 $^{\circ}\text{C}$; +70 $^{\circ}\text{C}$)
$\pm 10 \text{ ppm}/^{\circ}\text{C}$	Y (-55 $^{\circ}\text{C}$; +155 $^{\circ}\text{C}$)
$\pm 25 \text{ ppm}/^{\circ}\text{C}$	E (-55 $^{\circ}\text{C}$; +155 $^{\circ}\text{C}$)
$\pm 50 \text{ ppm}/^{\circ}\text{C}$	H (-55 $^{\circ}\text{C}$; +155 $^{\circ}\text{C}$)
$\pm 100 \text{ ppm}/^{\circ}\text{C}$	K (-55 $^{\circ}\text{C}$; +155 $^{\circ}\text{C}$)

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