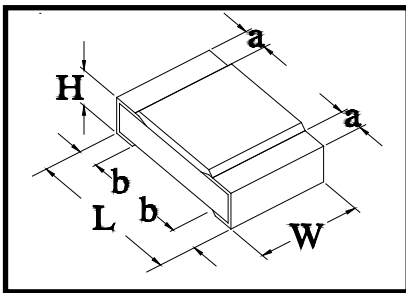


Series: E Precision Surface Mount Resistors

Codeco's film chip resistors are designed for high precision, stability and reliability. Available in all standard sizes from the 0402 to the 2512 package, having a TCR as low as $\pm 25\text{PPM}/^\circ\text{C}$ and tolerances down to 0.01% on some sizes. These parts are suitable for flow and reflow soldering. We are currently offering the following four types:



- Series EU: Thin Film Ultra-Precision
- Series EP: Thin Film Precision
- Series ES: Thick Film Semi-Precision
- Series EG: Thick Film General Purpose
- All E series parts are RoHS compliant

Package	L	$\frac{\text{inches}}{\text{mm}}$	W	H	a	b
EA - 0201	.024 \pm .002 0.60 \pm 0.05		.012 \pm .002 0.30 \pm 0.05	.009 \pm .001 0.23 \pm 0.03	.005 \pm .002 0.12 \pm 0.05	.005 \pm .002 0.12 \pm 0.05
E1 - 0402	.039 \pm .003 1.00 \pm .007		.020 \pm .003 0.50 \pm .007	.014 \pm .002 0.35 \pm 0.05	.008 \pm .004 0.20 \pm 0.10	.010 \pm .006 0.25 \pm 0.15
E2 - 0603	.063 \pm .004 1.60 \pm 0.10		.031 \pm .006 0.80 \pm 0.10	.018 \pm .004 0.45 \pm 0.10	.010 \pm .004 0.25 \pm 0.10	.012 \pm .008 0.30 \pm 0.15
E3 - 0805	.078 \pm .008 2.00 \pm 0.20		.049 \pm .008 1.25 \pm 0.20	.018 \pm .004 0.45 \pm 0.10	.016 \pm .008 0.40 \pm 0.20	.012 \pm .006 0.30 \pm 0.15
E4 - 1206	.122 \pm .004 3.10 \pm 0.10		.061 \pm .004 1.55 \pm 0.10	.021 \pm .003 0.55 \pm 0.07	.018 \pm .008 0.45 \pm 0.20	.012 \pm .008 0.30 \pm 0.15
E5 - 1210	.122 \pm .004 3.10 \pm 0.10		.100 \pm .004 2.55 \pm 0.10	0.21 \pm .003 0.55 \pm 0.07	.018 \pm .008 0.45 \pm 0.20	.012 \pm .006 0.30 \pm 0.15
E6 - 2010	.197 \pm .008 5.00 \pm .020		.098 \pm .008 2.50 \pm 0.20	.021 \pm .004 0.55 \pm 0.10	.020 \pm .008 0.50 \pm 0.20	.020 \pm .008 0.50 \pm 0.20
E7 - 2512	.248 \pm .008 6.30 \pm 0.20		.124 \pm .008 3.15 \pm 0.20	.021 \pm .004 0.55 \pm 0.10	.020 \pm .008 0.50 \pm 0.20	.020 \pm .008 0.50 \pm 0.20



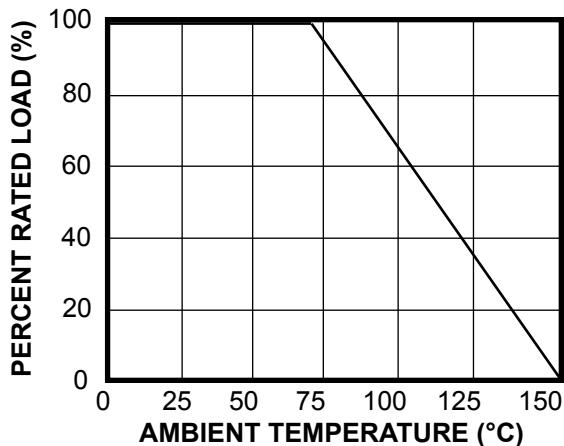
CODECO CORPORATION OF VERMONT

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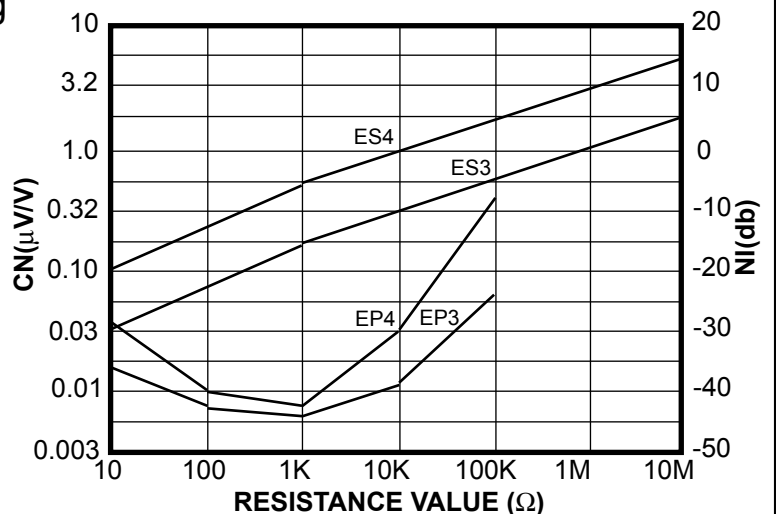
EU SERIES, EP SERIES, ES SERIES

Type	Size	Power Working	Maximum Overload	Maximum Range	Resistance (PPM)	Best TC (Best)	Tolerance Rating	Current
EU2	0603	0.063W	50V	100V	10Ω-360K	10	0.05%	
EU3	0805	0.10W	100V	200V	10Ω-1M	2	0.01%	
EU4	1206	0.125W	150V	300V	10Ω-1M	2	0.01%	
EU5	1210	0.25W	200V	400V	25.5Ω-1M	10	0.1%	
EPA	0201	0.05W	25V	50V	33Ω-22K	25	0.5%	
EP1	0402	0.063W	50V	100V	10Ω-100K	25	0.1%	
EP2	0603	0.063W	75V	150V	10Ω-332K	25	0.1%	
EP3	0805	0.10W	100V	200V	10Ω-332K	25	0.1%	
EP4	1206	0.125W	150V	300V	10Ω-1M	25	0.1%	
EP5	1210	0.25W	200V	400V	10Ω-1M	25	0.1%	
EP6	2010	0.5W	250V	500V	10Ω-1M	25	0.1%	
ES1	0402	0.063W	50V	100V	Zero-3.3M	100	0.5%	1
ES2	0603	0.063W	50V	100V	Zero-20M	100	0.5%	1
ES3	0805	0.10W	150V	300V	Zero-22M	100	0.5%	2
ES4	1206	0.125W	200V	400V	Zero-22M	100	0.5%	2
ES5	1210	0.25W	200V	400V	Zero-3.3M	100	0.5%	4
ES6	2010	0.50W	250V	500V	Zero-2.2M	100	0.5%	5
ES7	2512	1.00W	350V	700V	Zero-2.2M	100	0.5%	5

Power - Temperature Derating



Current Noise





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E SERIES: THICK FILM GENERAL PURPOSE RESISTORS

Type	Size	Power Working	Maximum Overload	Maximum Range	Resistance (PPM)	TC (Best)	Tolerance Rating	Current
EG1	0402	0.063W	50V	100V	2.2Ω-9.1Ω	350	5%	1
					10Ω-10M	200	5%	1
					10Ω-1M	200	1%	1
EG2	0603	0.063W	50V	100V	1Ω-9.1Ω	350	5%	1
					10Ω-1M	200	5%	1
					1.1M-20M	350	5%	1
					10Ω-3.24M	100	1%	1
					3.6M-100G	500	1%	1
EG3	0805	0.10W	150V	300V	0.02Ω-9.1Ω	350	5%	2
					10Ω-1M	200	5%	2
					1.1M-20M	350	5%	2
					1Ω-9.76Ω	350	1%	2
					10Ω-1M	100	1%	2
					1.02M-3.24M	350	1%	2
					3.6M-100G	500	1%	2
EG4	1206	0.125W	200V	400V	0.02Ω-9.1Ω	350	5%	2
					10Ω-1M	200	5%	2
					1.1M-33M	500	5%	2
					1Ω-9.76Ω	350	1%	2
					10Ω-1M	100	1%	2
					1.02M-20M	350	1%	2
					20M-100G	500	1%	2
EG5	1210	0.25W	200V	400V	1Ω-9.1Ω	350	5%	3
					10Ω-1M	200	5%	3
					1.1M-10M	350	5%	3
					10Ω-1M	100	1%	3
					1M-100G	500	1%	3
EG6	2010	0.50W	200V	400V	0.02Ω-9.1Ω	350	5%	3
					10Ω-1M	200	5%	3
					10Ω-1M	100	1%	3
					1M-100G	500	1%	3
EG7	2512	1.0W	200V	400V	0.02Ω-9.1Ω	350	5%	3
					10Ω-8.2M	200	5%	3
					10Ω-1M	100	1%	3
					1M-100G	500	1%	3



E Series Performance Specifications

The Codeco E series chip resistors are designed to meet or exceed the performance requirements of MIL-R55342. While we do cover the whole spectrum of surface mount resistors, our speciality is the area of precision and ultra-precision tolerance and temperature coefficients.

Performance Characteristics

Requirements	Characteristics	Test Method
Short time Overload	$\pm 0.1\% + 0.05\Omega$	Rated Power x 2.5, 5 seconds at 25°C
Resistance to Soldering Heat	$\pm 0.05\% + 0.05\Omega$	260°C \pm 5°C for 5 seconds
Dielectric Withstanding Voltage	$\pm 0.1\% + 0.05\Omega$	250V for 60 Seconds
Temperature Cycling	$\pm 0.1\% + 0.05\Omega$	-55°C to 125°C for .5 hours (5 cycles)
Moisture Resistance	$\pm 0.25\% + 0.05\Omega$	per EIA RS-186
Load Life	$\pm 0.25\% + 0.05\Omega$	Rated Voltage for 1,000 hours at 25°C
Insulation Resistance	Over 10 ⁴ MΩ	MIL-STD-202, Method 302
Body Strength	$\pm 0.1\% + 0.05\Omega$	MIL-R-55342, 4.7.12
Vibration	$\pm 0.1\% + 0.05\Omega$	10Hz to 55Hz to 10Hz for one minute
Electrode Solderability	Over 95%	MIL-STD-202, Method 208
Operating Temperature	-55°C to +125°C	MIL-R-10509