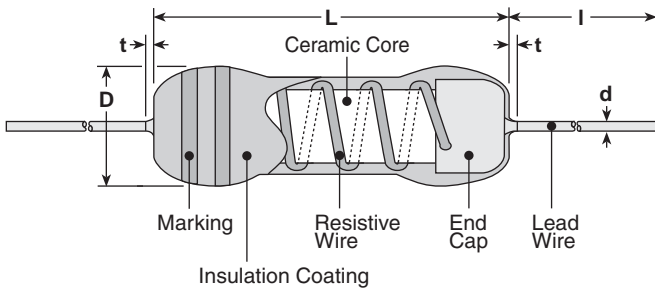


features

- Flameproof silicone coating (UL94V0)
- Suitable for automatic machine insertion
- Marking: Blue-gray body color with color-coded bands
Precision: Color-coded bands and alpha-numeric black marking
- Products with lead-free terminations meet EU RoHS and China RoHS requirements

dimensions and construction



Type	Dimensions inches (mm)				
	L	t (max.)	D	d (nom.)	l
CW1/4	.13±.012 (3.3±0.3)	.02 (0.5)	.075±.012 (1.9±0.3)	.018 (0.45)	
CW1/2	.256±.039 (6.5±1.0)	.039 (1.0)	.098±.039 (2.5±1.0)	.024 (0.6)	
CW1			.138±.039 (3.5±1.0)		
CW1X	.374±.039 (9.5±1.0)		.138 ^{+.039} ₋₀ (3.5 ^{+1.5} ₋₀)		
CW1P			.138±.039 (3.5±1.0)		
CW2			.157±.039 (4.0±1.0)		
CW2X	.472±.039 (12.0±1.0)	.118 (3.0)	.157 ^{+.039} ₋₀ (4.0 ^{+1.5} ₋₀)	.031 (0.8)	
CW2P			.157±.039 (4.0±1.0)		
CW3			.236±.039 (6.0±1.0)		
CW3X	.591±.039 (15.0±1.0)		.236 ^{+.039} ₋₀ (6.0 ^{+1.5} ₋₀)		
CW3P			.236±.039 (6.0±1.0)		
CW5	.945±.059 (24.0±1.5)		.354±.039 (9.0±1.5)		1.50±.118 (38.0±3.0)
CW1S	.256±.039 (6.5±1.0)	.039 (1.0)	.098±.039 (2.5±1.0)	.024 (0.6)	1.18±.118 (30.0±3.0)

ordering information

New Part #	CW	1/2	P	C	T52	A	103	F
Type	Power Rating	Style	Termination Material	Taping and Forming	Packaging	Nominal Resistance	Tolerance	
	1/4: 0.25W 1/2: 0.5W 1: 1W 2: 2W 3: 3W 5: 5W	Nil: Power P: Precision S: Small X: Power	C: SnCu (Other termination styles available, contact factory for options)	Axial: T26, T52, T521, T631 Stand-off Axial: L52A, L52B Radial: VTP, GT L forming	A: Ammo R: Reel	±2%, ±5%: 2 significant figures + 1 multiplier "R" indicates decimal on value <10Ω ±1%: 3 significant figures + 1 multiplier "R" indicates decimal on value <100Ω	C: ±0.25% D: ±0.5% F: ±1% G: ±2% J: ±5% K: ±10%	

For further information on packaging, please refer to Appendix C.

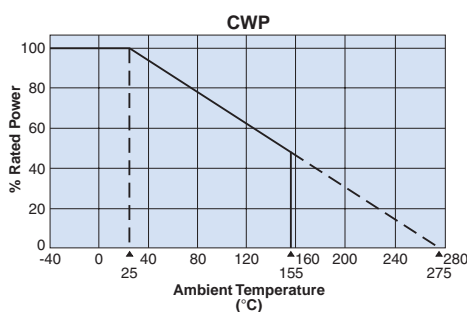
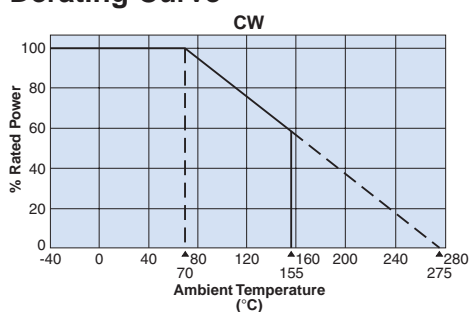
applications and ratings

Part Designation	Power Rating	T.C.R. (ppm/°C) Max.	Resistance Range (Ω)						Rated Ambient Temperature	Operating Temperature Range
			E-24, E-96 (C±0.25%)	E-24, E-96 (D±0.5%)	E-24, E-96 (F±1%)	E-24 (G±2%)	E-24 (J±5%)	E-24 (K±10%)		
CW1/4	0.25W	±250	—	—	—	—	0.47 - 15	0.47 - 15	+70°C	-40°C to +155°C
CW1/2	0.5W						0.1 - 100	0.1 - 100		
CW1	1.0W						0.1 - 430	0.1 - 430		
CW2	2.0W						0.1 - 2k	0.1 - 2k		
CW3	3.0W						0.1 - 3k	0.1 - 3k		
CW5	5.0W						0.1 - 4.7k	0.1 - 4.7k		
CW1X	1.0W	±500	—	—	—	0.01 - 0.091	0.01 - 0.091			
CW2X	2.0W					0.01 - 0.091	0.01 - 0.091			
CW3X	3.0W					0.01 - 0.091	0.01 - 0.091			
CW1S	1.0W	±250	—	—	—	—	0.1 - 100	0.1 - 100		
CW1P	1.0W	±90: R≥10Ω* ±50: R<10Ω	1 - 100	0.47 - 220	0.1 - 430	—	—	—		
CW2P	2.0W		1 - 430	0.47 - 750	0.1 - 2k					
CW3P	3.0W		1 - 620	0.47 - 1k	0.1 - 3k					

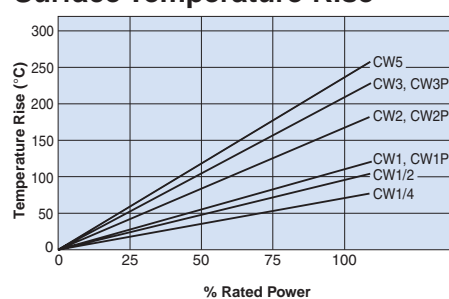
* T.C.R. = 20ppm/°C available on request

environmental applications

Derating Curve



Surface Temperature Rise



Performance Characteristics

Parameter	Requirement $\Delta R \pm(\% + 0.05\Omega)$		Test Method
	Limit	Typical	
Resistance	Within regulated tolerance	—	25°C
T.C.R.	±250ppm/°C: CW ±90, 20ppm/°C: CWP, R≥10 ±50ppm/°C: CWP, R<10	—	CW: Room temperature/100°C up CWP: +25°C/-40°C and +25°C/+155°C
Overload	1: CW 0.5: CWP	0.8: CW 0.4: CWP	CW: Power rating x 10 for 5 seconds CWP: Power rating x 6.25 for 5 seconds
Resistance to Solder Heat	1: CW 0.5: CWP	0.8: CW 0.4: CWP	350°C ± 10°C for 3.5 seconds or 260°C ± 5°C for 10 seconds
Moisture Resistance	5: CW 2: CWP	4: CW 1.6: CWP	Power rating x 1/10, 40°C, 90 - 95% RH, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle
Endurance @ 70°C	5: CW 2: CWP	4: CW 1.6: CWP	70°C, 1000 hours (CW), 25°C, 1000 hours (CWP) 1.5 hr ON, 0.5 hr OFF cycle
Resistance to Solvent	No evidence of damage to protective coating and marking	—	After immersing the sample in IPA for 3 min., the resistor surface should be wiped with a dry cloth (velvet or gauze)