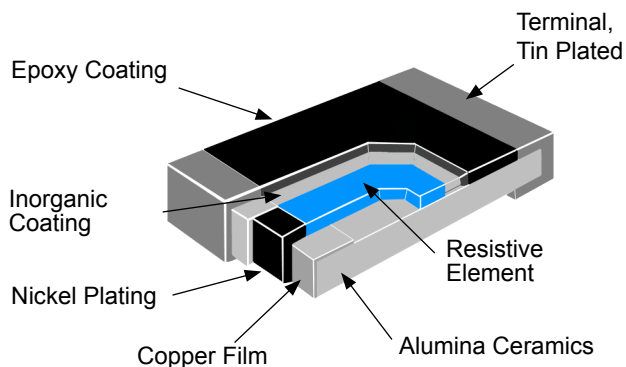


Data Sheet for Precision Resistors

SMD Resistor (metal thin film)

Series CPM



- High Precision Thin Film NiCr Chip Resistor
- Advanced Thin Film Technology
- Excellent Long Term Stability
- Low Noise Design
- Resistant to Corrosion (passivation)
- Resistance Tolerances up to $\pm 0,02\%$
- Temperature Coefficient: up to $\pm 5\text{ppm}/^\circ\text{C}$

Electrical Specification	CPM			
	0402	0603	0805	1206
Resistance range	47 Ω ..100k Ω	47 Ω ..270k Ω	47 Ω ..475k Ω	47 Ω ..1M Ω
Resistance tolerance	$\pm 0,02\%$.. $\pm 0,5\%$			
Power rating @ 85°C (0W @ +155°C)	1/16W	1/10W	1/8W	1/4W
Max. working voltage	75V	100V	150V	200V
TCR-rate	$\pm 5; \pm 10 \text{ ppm}/^\circ\text{C}$			
Working temperature range (max.)	-55..+155°C			

CPM	TCR ppm/°C	Resistance Tolerance			
		$\pm 0,02\%$	$\pm 0,05\%$	$\pm 0,1\%$	$\pm 0,5\%$
0402	± 5	100 Ω \leq R < 3k Ω			
	± 10	100 Ω \leq R < 3k Ω	47 Ω \leq R < 100k Ω		
0603	± 5	100 Ω \leq R < 5,1k Ω			
	± 10	100 Ω \leq R < 3k Ω	47 Ω \leq R < 270k Ω		
0805	± 5	100 Ω \leq R < 10,2k Ω			
	± 10	100 Ω \leq R < 3k Ω	47 Ω \leq R < 475k Ω		
1206	± 5	100 Ω \leq R < 33,2k Ω			
	± 10	100 Ω \leq R < 3k Ω	47 Ω \leq R < 1M Ω		

Mechanical Specification	
Resistance technology / material	Metal thin film / NiCr
Design	SMD: 0402, 0603, 0805, 1206
Housing material	Epoxy inorganic passivation layer
Connections	Axial tinned

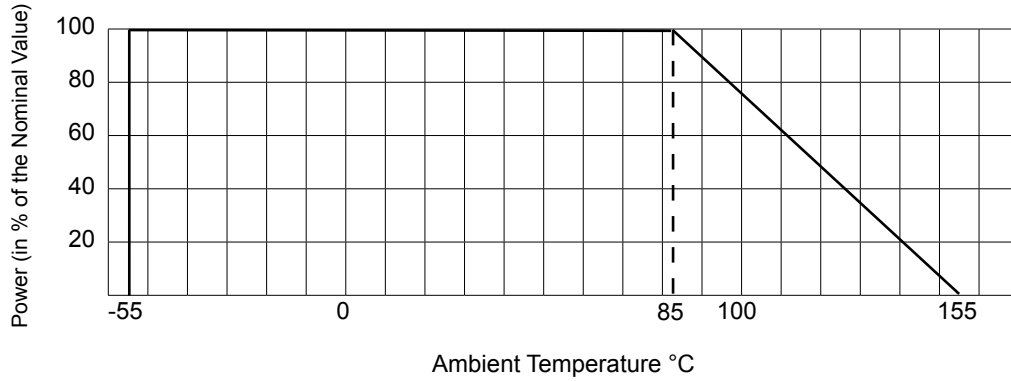
Parameters	Test Conditions	Specification	
		$\leq 47\Omega$	$\geq 47\Omega$
Short time overload	2,5 x rated voltage, 5 sec.	$\Delta R \pm 0,10\%$	$\Delta R \pm 0,05\%$
Life span (biased)	70°C, rated voltage, 90 min. on 30 min off, 1000 h	$\Delta R \pm 0,5\%$	$\Delta R \pm 0,25\%$
High temperature / humidity	85°C, 85% RH 1/10 rated power, 90 min. on 30 min off, 1000 h	$\Delta R \pm 0,5\%$	$\Delta R \pm 0,25\%$
Temperature shock	-55°C..+125°C (30 min), 1000 cycles	$\Delta R \pm 0,25\%$	$\Delta R \pm 0,10\%$
High temperature exposure	+155°C, no bias 1000 h	$\Delta R \pm 0,25\%$	$\Delta R \pm 0,10\%$
Resistance to soldering heat	260°C $\pm 5^\circ\text{C}$, 10 sec. (reflow)	$\Delta R \pm 0,10\%$	$\Delta R \pm 0,10\%$

Data Sheet for Precision Resistors

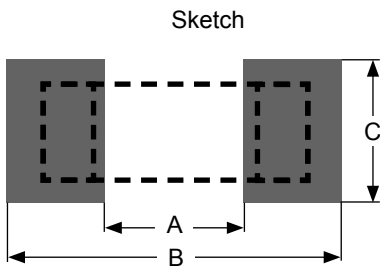
SMD Resistor (metal thin film)

Series CPM

Leistungsminderungskurve

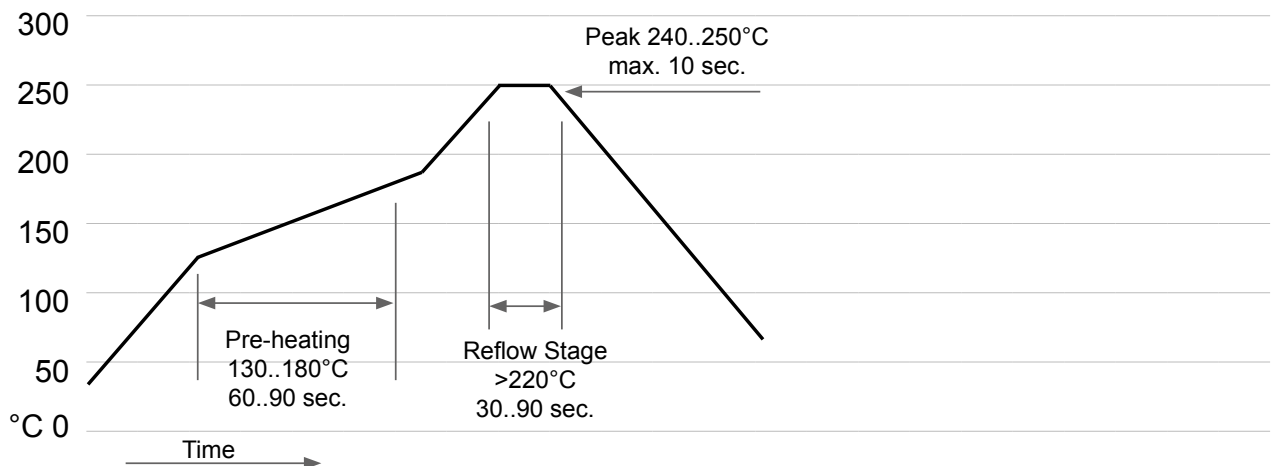


Recommended Foot Prints



CPM	A	B	C
0402	0,5 mm	1,6 mm	0,6 mm
0603	1,0 mm	3,0 mm	1,2 mm
0805	1,2 mm	4,0 mm	1,65 mm
1206	2,2 mm	5,0 mm	2,0 mm

Recommendation for Reflow Soldering Profile

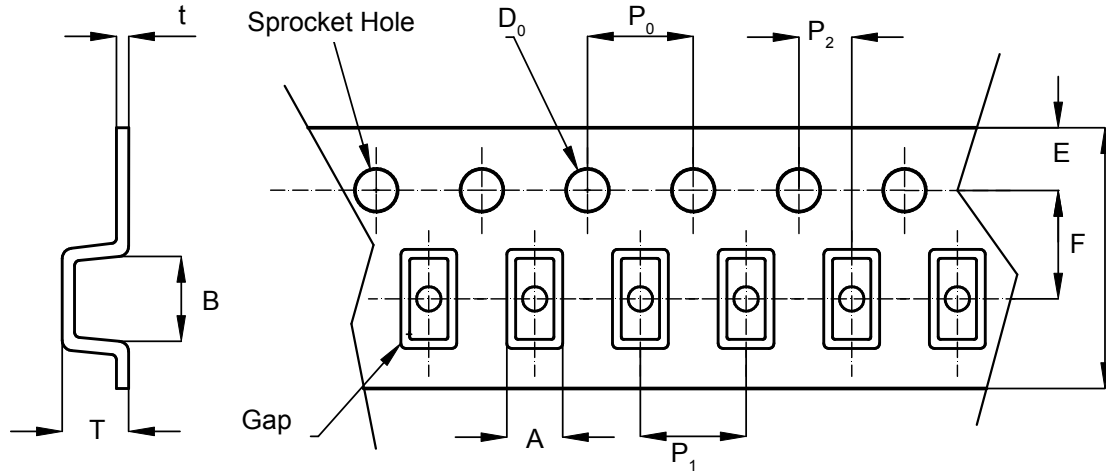


Data Sheet for Precision Resistors

SMD Resistor (metal thin film)

Series CPM

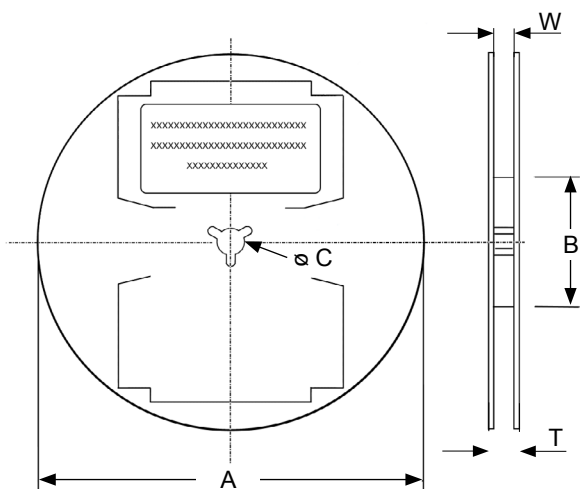
Abmessungen Blistergurt



CPM	A	B	E	F	W	P0	P1	P2	D_0	T	t
0402	$0,63 \pm 0,05$	$1,13 \pm 0,1$	$1,75 \pm 0,1$	$3,5 \pm 0,05$	$8 \pm 0,3$	$4 \pm 0,15$	$2 \pm 0,05$	$2 \pm 0,05$	$\varnothing 1,5 \pm 0,1$	$0,43 \pm 0,05$	0,3 max.
0603	$1,10 \pm 0,2$	$1,90 \pm 0,2$	$1,75 \pm 0,1$	$3,5 \pm 0,05$	$8 \pm 0,3$	$4 \pm 0,15$	$4 \pm 0,15$	$2 \pm 0,05$	$\varnothing 1,5 \pm 0,1$	$0,6 \pm 0,05$	0,3 max.
0805	$1,65 \pm 0,2$	$2,40 \pm 0,2$	$1,75 \pm 0,1$	$3,5 \pm 0,05$	$8 \pm 0,3$	$4 \pm 0,15$	$4 \pm 0,15$	$2 \pm 0,05$	$\varnothing 1,5 \pm 0,1$	$0,75 \pm 0,05$	0,3 max.
1206	$2,00 \pm 0,2$	$3,60 \pm 0,2$	$1,75 \pm 0,1$	$3,5 \pm 0,05$	$8 \pm 0,3$	$4 \pm 0,15$	$4 \pm 0,15$	$2 \pm 0,05$	$\varnothing 1,5 \pm 0,1$	$1,0 \pm 0,2$	0,3 max.

Dimensions in mm

Reel Dimensions



	CPM
$\varnothing A$	180 -1,5
$\varnothing B$	60 +1,0
$\varnothing C$	13 $\pm 0,2$
W	9 +1,0
T	11,4 $\pm 1,0$

Dimensions in mm

Packaging

CPM 0402

CPM 0603, 0805, 1206

1000Stk. / 5000Stk. / 10000Stk.
Tape on Reel

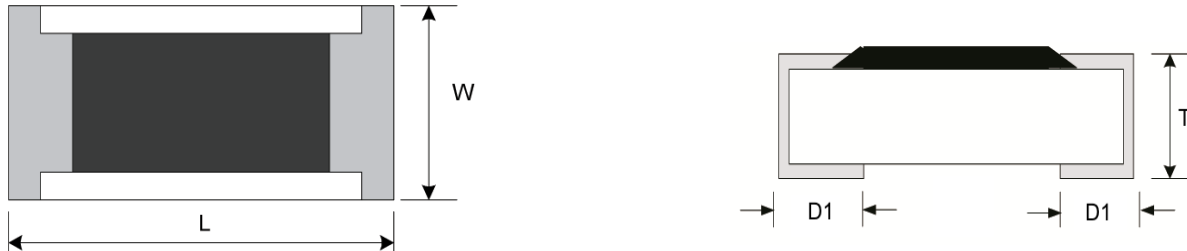
1000Stk. / 5000Stk.
Tape on Reel

Data Sheet for Precision Resistors

SMD Resistor (metal thin film)

Series CPM

Technical Drawing



CPM	L	W	T	D1
0402	1,0 ± 0,05	0,5 ± 0,05	0,35 ± 0,05	0,25 ± 0,05
0603	1,6 ± 0,2	0,8 ± 0,2	0,4 ± 0,1	0,3 ± 0,2
0805	2,0 ± 0,2	1,25 ± 0,2	0,4 ± 0,1	0,4 ± 0,2
1206	3,2 ± 0,2	1,6 ± 0,2	0,4 ± 0,1	0,5 ± 0,2

Dimensions in mm

Order code

Description

Selection: standard=black/bold, possible options=grey/cursive

Series:	CPM			
Type / size: 0402 (max. 100kΩ) 0603 (max. 270kΩ) 0805 (max. 475kΩ) 1206 (max. 1MΩ)		0402 0603 0805 1206		
Resistance tolerance: ±0,5% ±0,1% ±0,05% ±0,02% - see condition below for 0402 100Ω ≤ R < 3kΩ for 0603 100Ω ≤ R < 5,1kΩ for 0805 100Ω ≤ R < 10,2kΩ for 1206 100Ω ≤ R < 33,2kΩ			W0,5% W0,1% W0,05% W0,02%	
Temperature coefficient: 10ppm/°C - see condition below for 0402 47Ω ≤ R < 100kΩ @±0,05..±0,5% for 0603 47Ω ≤ R < 270kΩ @±0,05..±0,5% for 0805 47Ω ≤ R < 475kΩ @±0,05..±0,5% for 1206 47Ω ≤ R < 1MΩ @±0,02..±0,5% 5ppm/°C - see condition below for 0402 100Ω ≤ R < 3kΩ @±0,02..±0,5% for 0603 100Ω ≤ R < 5,1kΩ @±0,02..±0,5% for 0805 100Ω ≤ R < 10,2kΩ @±0,02..±0,5% for 1206 100Ω ≤ R < 33,2kΩ @±0,02..±0,5%				TK10 TK5
Resistance value - please choose: From 47Ω to max. Ω see type				xxkxxx

Order Example	Series	Type	Resistance tolerance	Temperature coefficient	Resistance value
Choice	CPM	0603	±0,1%	5ppm/°C	10,1kΩ
Code	CPM	0603	W0,1%	TK5	10k100