

SMD Widerstand (Metall-Dünnschicht)

Serie CPHV



- Aluminiumnitrid-Substrat mit hoher Wärmeleitfähigkeit
- Nennleistung bis zu 6,0 W
- Widerstand 50 Ω ~ 30,1 k Ω
- Widerstandstoleranz bis $\pm 0,1\%$
- TCR bis $\pm 25 \text{ ppm/}^\circ\text{C}$

Elektrische Spezifikation

Typ	Belastbarkeit bei 70°C	Temperaturbereich	Arbeitsspannung	Spannungsfestigkeit	Widerstandsbereich				TK-Wert (ppm/°C)
					$\pm 0,1\%$	$\pm 0,25\%$	$\pm 0,50\%$	$\pm 1,00\%$	
0603	1/2W ¹	-55~+155°C	75V	150V	50 Ω ...30,1k Ω				± 25 ± 50
0805	1,0W ¹	-55~+155°C	100V	200V					
1206	2,0W ¹	-55~+155°C	100V	200V					
2512	6,0W ¹	-55~+155°C	100V	200V					

¹ Abhängig von Montageprozessen

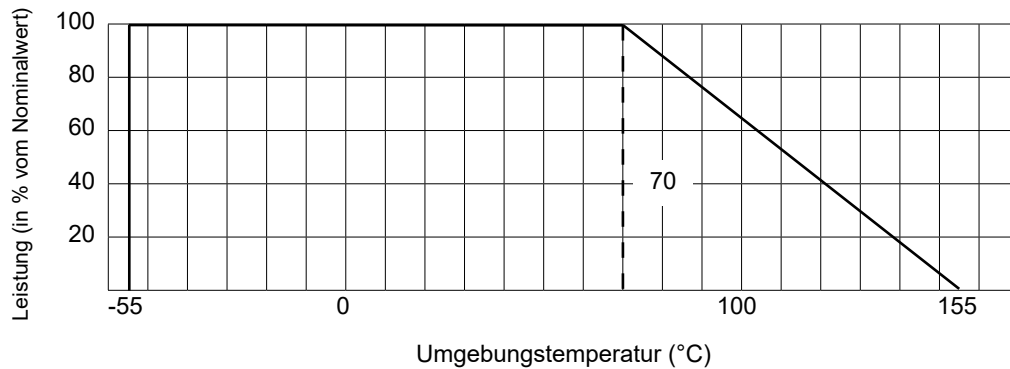
Mechanische Spezifikation

Widerstandstechnologie / -material	Metall-Dünnschicht / NiCr
Bauform	SMD: 0603, 0805, 1206, 2512
Gehäusematerial	Epoxyschicht ummantelt, anorganische Passivierung
Anschlüsse	Axial verzinkt

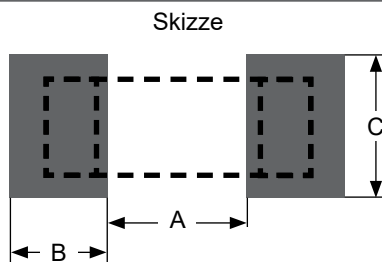
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Leistungsminderungskurve

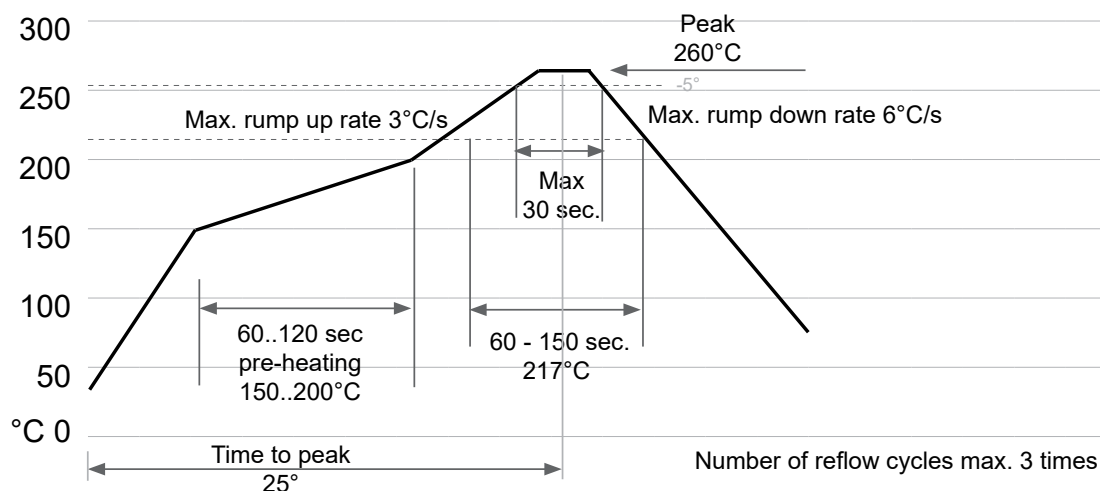


Empfohlene Lötanschlussfläche

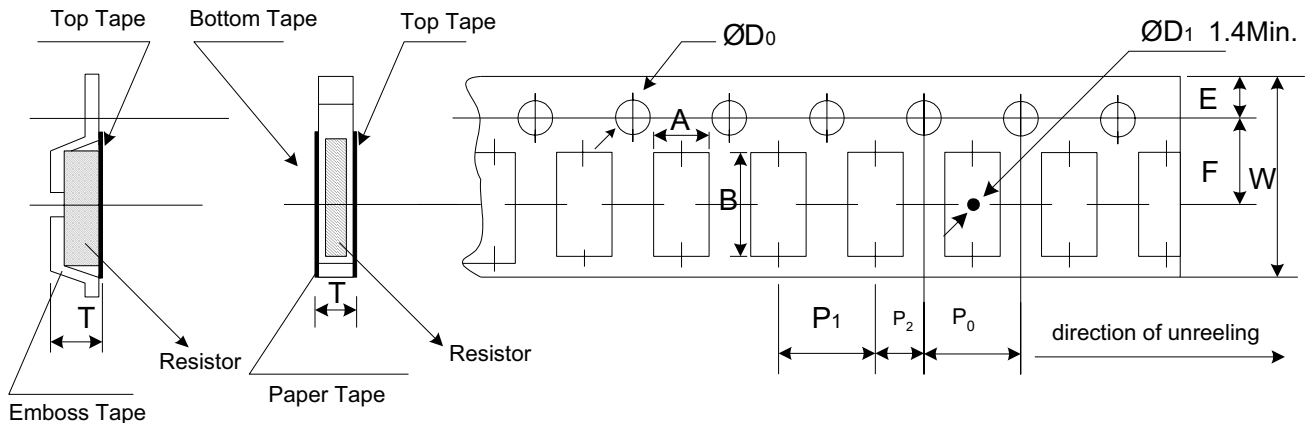


CPHV	A	B	C
0603	0,37 mm	0,99 mm	0,86 mm ±0,1
0805	0,50 mm	1,08 mm	1,32 mm ±0,1
1206	0,60 mm	1,90 mm	1,80 mm ±0,1
2512	2,77 mm	2,31 mm	3,20 mm ±0,2

Empfehlung zum Reflow-Lötprofil



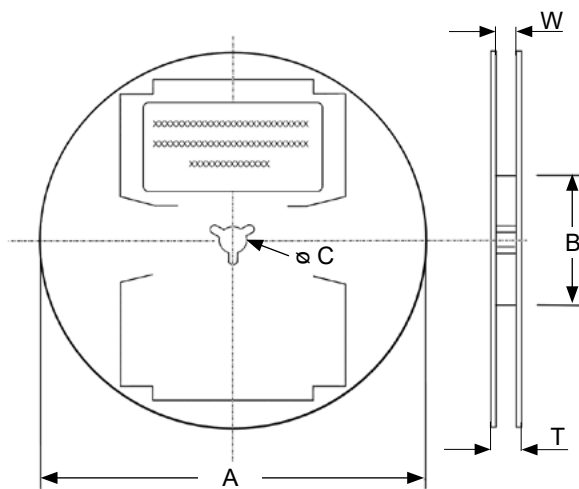
Abmessungen Blistergurt



Unit: mm

Type	A	B	W	E	F	P ₀	P ₁	P ₂	ØD ₀	T
0603	1.10±0.05	1.90±0.05	8.00±0.10	1.75±0.05	3.5±0.05	4.00±0.10	4.00±0.10	2.00±0.05	1.55±0.05	0.60±0.03
0805	1.60±0.05	2.37±0.05	8.00±0.10	1.75±0.05	3.5±0.05	4.00±0.10	4.00±0.10	2.00±0.05	1.55±0.05	0.75±0.05
1206	2.00±0.05	3.55±0.05	8.00±0.10	1.75±0.05	3.5±0.05	4.00±0.10	4.00±0.10	2.00±0.05	1.55±0.05	0.75±0.05
2512	3.40±0.10	6.65±0.10	12.0±0.10	1.75±0.10	5.5±0.05	4.00±0.10	4.00±0.10	2.00±0.05	1.50±0.10	1.00±0.20

Abmessungen Rolle, Menge & Verpackung

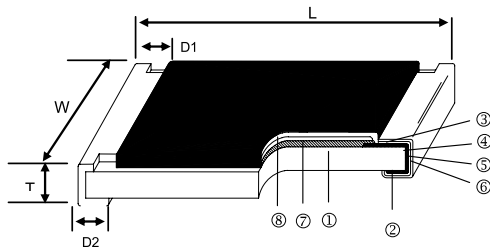


Unit :mm

Type	ØA	ØB	ØC	W	T	Paper Tape (EA)	Emboss Plastic Tape (EA)
0603	178.0±1.0	60.0±1.0	13.5±0.7	9.5±1.0	11.5±1.0	5,000	-
0805	178.0±1.0	60.0±1.0	13.5±0.7	9.5±1.0	11.5±1.0	5,000	-
1206	178.0±1.0	60.0±1.0	13.5±0.7	9.5±1.0	11.5±1.0	5,000	-
2512	178.0±1.0	60.0±1.0	13.5±0.7	13.5±1.0	15.5±1.0	-	4,000

Technische Zeichnung

Construction



① Alumina Nitride Substrate	④ Edge Electrode	⑦ Resistor Layer
② Bottom Electrode	⑤ Barrier Layer	⑧ Overcoat
③ Top Electrode	⑥ External Electrode	

Dimensions

Unit: mm

Size (Inch)	L	W	T	D1	D2	Weight (g) (1000pcs)
0603	1.55±0.10	0.80±0.10	0.43±0.15	0.30±0.15	0.50±0.20	1.73
0805	2.00±0.15	1.25±0.15	0.43±0.15	0.35±0.15	0.60±0.20	3.95
1206	3.05±0.20	1.55±0.20	0.43±0.15	0.50±0.15	1.20±0.20	10.98
2512	6.30±0.20	3.10±0.20	0.43±0.15	0.70±0.25	1.60±0.25	42.32

Bestellschlüssel

Beschreibung	Auswahl: Standard=schwarz/fett , mögliche <i>Optionen=grau/kursiv</i>				
Serie:	CPHV				
Bauform / Größe: 0603 0805 1206 2512		0603 0805 1206 2512			
Widerstandstoleranz: ±1% ±0,5% ±0,25% ±0,1%			W1% W0,5% W0,25% W0,1%		
Temperaturkoeffizient: ±50ppm/°C ±25ppm/°C				TK50 TK25	
Widerstandswert - bitte wählen: Von 50 Ω bis max. 30,1 kΩ					xxkxxx

Bestellbeispiel	Serie	Bauform	Widerstandstoleranz	Temperaturkoeffizient	Widerstandswert
Auswahl	CPHV	0603	±0,1%	±25ppm/°C	10,1kΩ
Schlüssel	CPHV	0603	W0,1%	TK25	10k100

Test Daten

Environmental Characteristics

Item	Requirement	Test Method
Temperature Coefficient of Resistance (T.C.R.)	As Spec.	MIL-STD-202 Method 304 +25/-55/+25/+125/+25°C
Short Time Overload ⁽²⁾	$\Delta R \pm 0.5 \%$	Actual power handling capability is limited by the end user mounting process. As with any high power chip resistor the ability to remove the heat is critical to the overall performance of the device
Insulation Resistance	>9999M Ω	MIL-STD-202 Method 302 Apply 100V _{DC} for 1 minute
Endurance	$\Delta R \pm 1 \%$	MIL-STD-202 Method 108 70 $\pm$ 2°C, RCWV for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"
Damp Heat with Load	$\Delta R \pm 0.4 \%$	MIL-STD-202 Method 103 40 $\pm$ 2°C, 90~95% R.H. RCWV for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"
Solderability	95% min. coverage	MIL-STD-202 Method 208 245 $\pm$ 5°C for 3 seconds
Resistance to Soldering Heat	$\Delta R \pm 0.2 \%$	MIL-STD-202 Method 210 260 $\pm$ 5°C for 10 seconds
Low Temperature Operation	$\Delta R \pm 0.2 \%$	JIS-C-5201-1 4.36 1 hour, -65°C, followed by 45 minutes of RCWV
High Temperature Exposure	$\Delta R \pm 0.2 \%$	MIL-STD-202 Method 108 At + 155°C for 1000hrs
Thermal Shock	$\Delta R \pm 0.2 \%$	MIL-STD-202F Method 107 -55°C ~150°C, 100 cycles

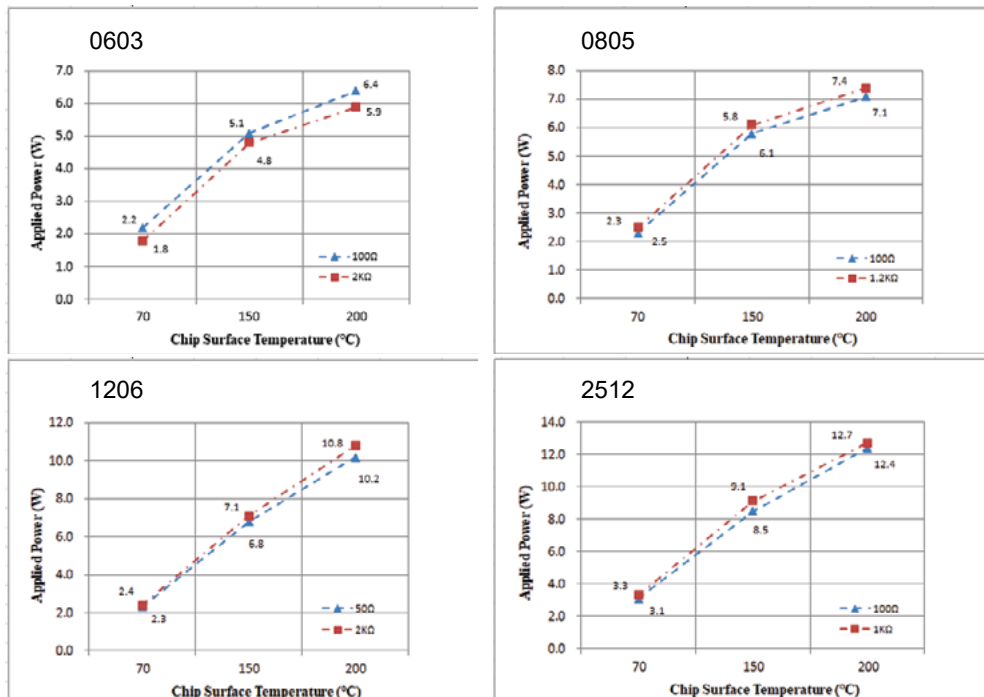
RCWV(Rated continuous working voltage)= $\sqrt{P \cdot R}$ or Max. Operating voltage whichever is lower

■ Reference Standards: MIL-STD-202, JIS-C 5201

■ Storage Temperature: 15~28°C; Humidity < 80%RH

■ Shelf Life: 2 years from production date.

Chiptemperatur vs. aufgebrachte Leistung



⁽²⁾ Chip surface temperature measured using FLIR ETS-320 thermal imaging system with an approximate test card surface temperature