

PCK3822

SMD Shunt Wire - Wound Resistors

FEATURES

- Resistance from 0,005Ω
- 4 - Terminal (Kelvin) Connectors
- Resistance Tolerances to ±0,005%
- Good Pulse Handling Capabilities
- Flexible Terminals
- Non-Inductive Windings (Option)
- RoHS - compliant



RATED VALUES (IEC 60115-1)

Resistance Range	Ω	0,005Ω to 1KΩ
Resistance Tolerance	%	±0,005% to ± 0,1%
Temperature Coefficient	ppm/°C	±5ppm/°C; ±10ppm/°C; ±20ppm/°C; ±30ppm/°C;
Operating Voltage (U _{max})	V	$\sqrt{(P \times R)}$
Insulation Resistance (R _{ins})	Ω	1GΩ
Operating Temperature Range (T)	°C	-55°C to 275°C

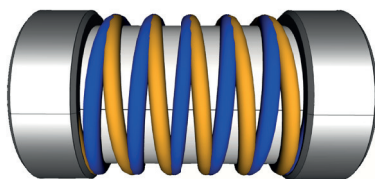
RESISTANCE RANGES

PCK3822	Tolerance	TCR	Power
0,005Ω - 1Ω	±0,1%	30ppm/°C	2W (Maximum permissible current: 25A)
1Ω - 10Ω	±0,05%	20ppm/°C	
10Ω - 100Ω	±0,01%	10ppm/°C	
100Ω - 1K	±0,005%	5ppm/°C	

CONSTRUCTION

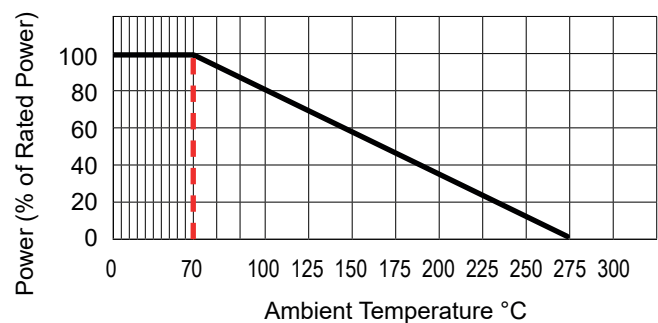
Resistance Material	Wire, Special Alloy
Winding	Wire Windings on Ceramics
Coating	Silicone
Lead Wires	Tin Plated Copper Wire

INDUCTANCE- REDUCED VERSION



Ayrton - Perry Winding, Option „N“
(Reduces the max. resistance value by half)

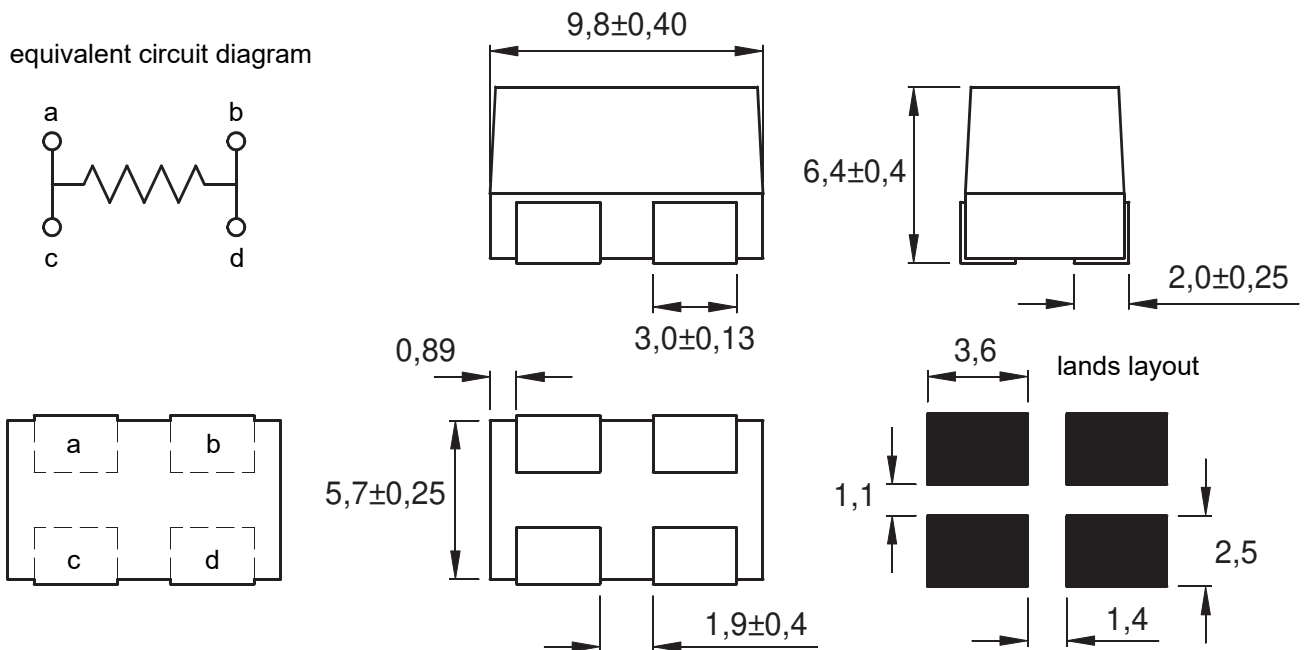
POWER DERATING CURVE



PERFORMANCE

IEC 60115-1	Test	Conditions of Test	Specification ΔR
4.23	Moisture Resistance	+40°C, 90-95% R.H., Rated Voltage, 0,1Watts, 1000h	$\pm(1,0\% R + 0,05\Omega)$
4.19	Thermal Shock	-40°C 30 Minute, +125°C 30 Minute, 5 Cycles	$\pm(0,5\% R + 0,05\Omega)$
4.6	Dielectric Strength	U_{ins} 1000V, 1 Minute	1G Ω
4.13	Short Time Overload	5x Rated Voltage U_{max} , 5s	$\pm(0,2\% R + 0,05\Omega)$
4.25	Endurance	+70°C, U_{max} 1,5h „ON“ and 0,5h „OFF“, 1000h	$\pm(1,0\% R + 0,05\Omega)$
4.22	Vibration	Frequency 10Hz to 500Hz, in x,y,z Direction	$\pm(0,1\% R + 0,05\Omega)$
4.16	Shock	5 Impulses at 100g for 5ms	$\pm(0,5\% R + 0,05\Omega)$
4.18	Soldering Resistance	260°C, max. 10s	$\pm(0,5\% R + 0,05\Omega)$

DIMENSIONS

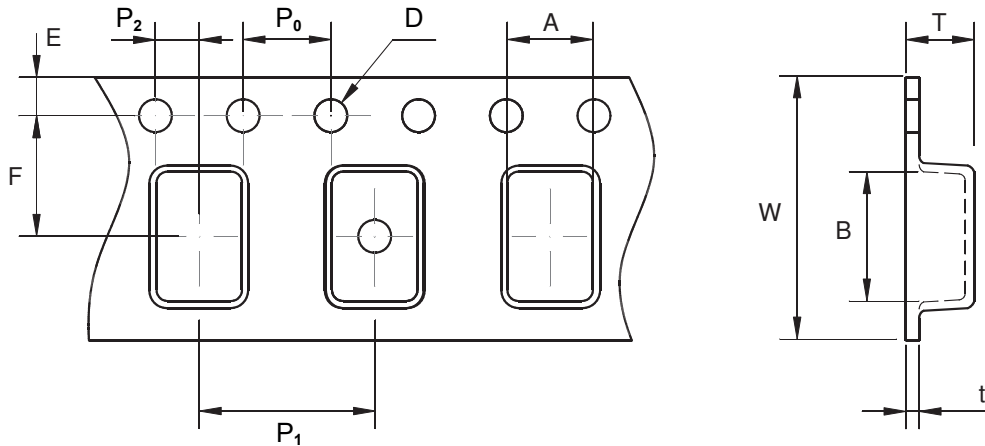


All Dimension in mm

- Remark: The wiring of the current and voltage taps a/b and c/d is mutually exchangeable. In the case of Pick & Place placement, no direct oriented alignment is required.

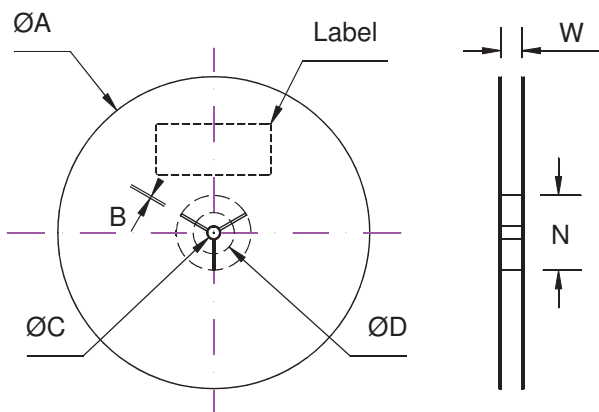
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	W	A	B	T	P ₀	P ₁	P ₂	E	F	t	D
PCK3822	24,0 ±0,2	6,73 ±0,1	11,5 ±0,1	7,20 ±0,1	4,0 ±0,1	12,0 ±0,1	2,0 ±0,1	1,75 ±0,1	11,5 ±0,1	0,6 max.	1,5 +0,1/-0,0
(IEC 60286-3, EIA 481 compliant) All Dimension in mm											

REEL DIMENSIONS



Reel	A	B	C	D	N	W
330,0 13"	330 ±1,5	2,5 +0,1	12,75 +0,15	21,8 ±1,0	79,0 +1,0	12,0 +0,5
	330 ±1,5	2,5 +0,1	12,75 +0,15	21,8 ±1,0	79,0 +1,0	16,0 +0,5
	330 ±1,5	2,5 +0,1	12,75 +0,15	21,8 ±1,0	79,0 +1,0	24,0 +0,5
	330 ±1,5	2,5 +0,1	12,75 +0,15	21,8 ±1,0	79,0 +1,0	32,0 +0,5
All Dimension in mm						

PACKAGING

Reel	750 pieces
The reels are packed according to MSL - 2 (30 ° C / 60% R.H.) and are provided with indicators.	

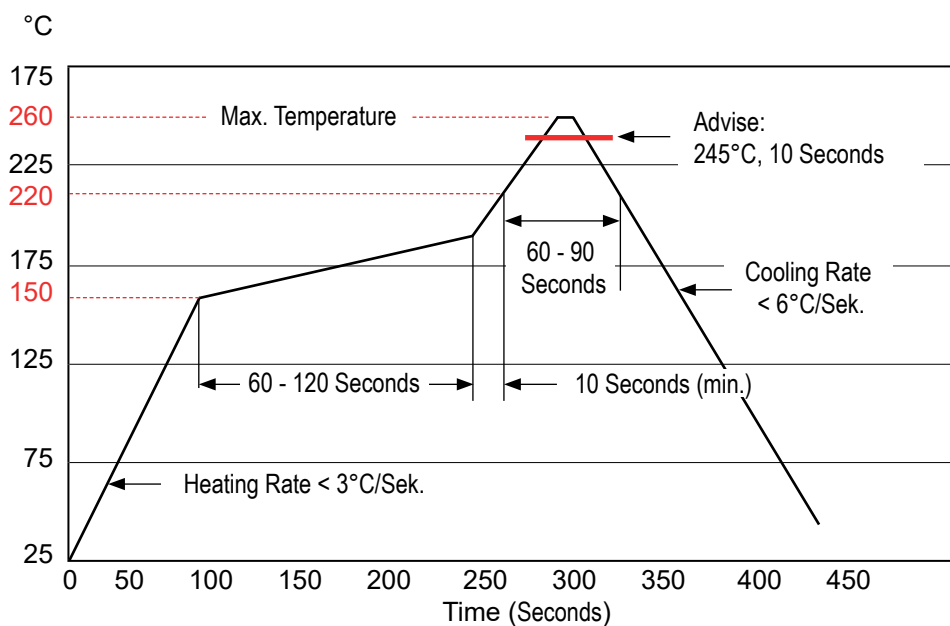
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SMD Shunt Wire - wound resistors

OPTIONS

Inductance - reduced Version (N)	Nominal Resistance Value x 0,5
Non- Standard Values	Other Resistance Values or Temperature Coefficients on Request

SOLDERING RECOMMENDATIONS



- Hint: The reflow soldering profile is a recommendation based on EN 61760-1, system and environmental specific, critical influences are not taken into account. Resistors of a closer precision range (resistance tolerance $< 0.1\%$ in combination with resistance values $\leq 1\Omega$) should be hand-soldered by trained personnel, otherwise a change of nominal values (drift) can occur.

ORDERING INFORMATION

PCK3822 100R00 0,1% TK20 T (PCK3822; 100Ω; $\pm 0,1\%$; $\pm 20\text{ppm}/^{\circ}\text{C}$; Tape on Reel)

Type	Resistance Value	Tolerance	Temperature Coefficient	Power	Options	Packaging
PCK3822	0R0050	0,005%	TK30	-	-	T (Tape&Reel) B (Bulk)
	1R0000	0,05%	TK20			
	10R000	0,01%	TK10			
	100R00	0,1%	TK5 (on request)			
	1K0000					

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