Ultra Low Value
Thin Film Resistors

With extremely low resistance and high power capabilities, these ultra low value resistors are available with solderable or weldable terminations.

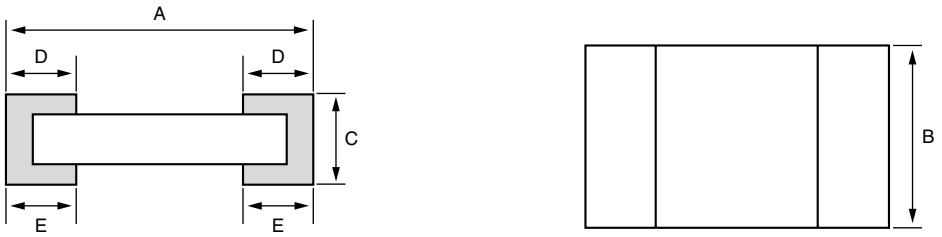
FEATURES

- NiCr + Ta_2O_5 resistive layer
- Pre-soldered or gold terminations
- No inductance for high frequency applications
- Alumina substrates for high power handling capability
- Resistance range: 0.1 Ω to 9.99 Ω
- TCR down to 100 ppm/°C
- Power rating: Up to 1 W at + 70 °C

Pb-free Available

RoHS* COMPLIANT

DIMENSIONS in millimeters [inches]



CASE SIZE	DIMENSION				POWER RATING mW	LIMITING ELEMENT VOLTAGE V	RESISTANCE RANGE
	A	B	C	D/E			
	MAX .TOL + 0.64 [+ 0.025] MIN. TOL. - 0.13 [- 0.005]	MAX. TOL. + 0.26 [+ 0.010] MIN. TOL. - 0.13 [- 0.005]	MAX. TOL + 0.64 [+ 0.025] MIN. TOL. - 0.13 [- 0.005]	MAX. TOL. + 0.13 [+ 0.005] MIN. TOL. - 0.13 [- 0.005]			
0505	1.27 [0.050]	1.27 [0.050]	0.38 [0.015]	0.38 [0.015]	125	50	0.1 Ω.. 9.99 Ω
0603	1.52 [0.060]	0.75 [0.030]	0.38 [0.015]	0.38 [0.015]	125	50	0.1 Ω.. 9.99 Ω
0705 0805	1.91 [0.075]	1.27 [0.050]	0.38 [0.015]	0.38 [0.015]	200	50	0.1 Ω.. 9.99 Ω
1005	2.54 [0.100]	1.27 [0.050]	0.38 [0.015]	0.38 [0.015]	250	50	0.1 Ω.. 9.99 Ω
1206	3.20 [0.126]	1.60 [0.063]	0.38 [0.015]	0.38 [0.015]	330	50	0.1 Ω.. 9.99 Ω
1505	3.81 [0.150]	1.27 [0.050]	0.38 [0.015]	0.38 [0.015]	500	50	0.1 Ω.. 9.99 Ω
2010	5.08 [0.200]	2.54 [0.100]	0.38 [0.015]	0.38 [0.015]	1000	50	0.1 Ω.. 9.99 Ω

* Pb containing terminations are not RoHS compliant, exemptions may apply

ELECTRICAL SPECIFICATIONS

Resistance range: 0.1 Ω to 9.99 Ω
Resistance tolerance: ± 1 % to ± 10 %
Power dissipation: 0.125 mW to 1 W at + 70 °C
Temperature coefficient: down to 100 ppm/°C

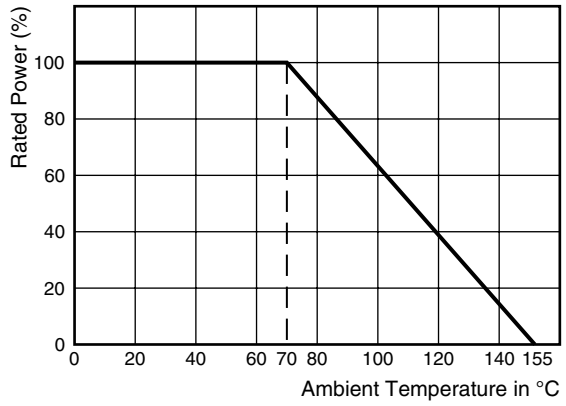
CLIMATIC SPECIFICATIONS

Operating temp. range: - 55 °C to + 155 °C

MECHANICAL SPECIFICATIONS

Substrate: Alumina
Resistive layer: NiCr + Ta_2O_5
Coating: Silicone
Terminations: Solderable
B type: SnPb over nickel barrier
N type: SnAg over nickel barrier
G type: gold over nickel barrier

POWER DERATING CURVE



TOLERANCE AND TCR VERSUS OHMIC VALUE

VALUE RANGE	TIGHTEST TOLERANCE %	BEST TCR (ppm/°C)	TERMINATIONS
0R1 < 0R25	1 %	300	N or B
0R25 < 0R5	1 %	200	N or B
0R5 < 9R99	1 %	100	N or B
0R1 < 0R5	10 %	300	G
0R5 < 9R99	5 %	200	G

PACKAGING

Several types of packaging are proposed: waffle-pack and tape and reel

SIZE	MOQ	NUMBER OF PIECES PER PACKAGE			TAPE WIDTH
		WAFFLE PACK 2" × 2"	TAPE AND REEL		
			MIN.	MAX.	
0402	100	100	100	4000	8 mm
0505					
0603					
0805 0705					
1005		221			
1206		140			
1505		60			
2010				2000	8 mm [1]

Note
[1] 12 mm on request

PACKAGING RULES

Waffle Pack
Can be filled up to maximum quantity indicated in the table here above, taking into account the minimum order quantity. When quantity ordered exceeds maximum quantity of a single waffle pack, the waffle packs are stacked up on the top of each other and closed by one single cover.
To get "not stacked up" waffle pack in case of ordered quantity > maximum number of pieces per package: Please concult Vishay/Sfernice for specific ordering code

Tape and Reel
Can be filled up to maximum quantity indicated in the table here above, taking into account the minimum order quantity. When quantity ordered is between the MOQ and the maximum reel capacity, only one reel is provided.
When several reels are needed for ordered quantity within MOQ and maximum reel capacity: Please concult Vishay/Sfernice for specific ordering code

PERFORMANCE

TESTS	CONDITIONS	VALUES AND DRIFT	
		MIL-R-55342 REQUIREMENTS	TYPICAL PERFORMANCES
Thermal shock	MIL-R-55342 C MIL-STD-702-Method 107	± 0.25 %	± 0.02 %
Short time overload	MIL-R-55342 C PARA 3.10.4.7.5	± 0.10 %	± 0.01 %
Low temperature operation	MIL-R-55342 C PARA 3.9 and 4.7.4	± 0.25 %	± 0.01 %
Resistance to solder heat	MIL-R-55342 C PARA 3.12, 4.7.7, 4.7.1.2	± 0.25 %	± 0.04 %
Moisture resistance	MIL-R-55342 C PARA 3.13 and 4.7.8 MIL-STD-202-Method 106	± 0.40 %	± 0.01 %
High temperature	MIL-R-55342 C PARA 3.11 and 4.7.6	± 0.20 %	± 0.075 %
Load life	MIL-R-55342 C 2000 h Pn at 70 °C MIL-STD-202-Method 108	± 0.50 %	± 0.15 %

GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: L0805K1R00FBT0046

L	0	8	0	5	K	1	R	0	0	F	B	T	0	0	4	6

GLOBAL MODEL	SIZE	TCR	VALUE	TOLERANCE	TERMINATION	PACKAGING (1)	OPTION
L	**0505** **0603** **0705** **0805** **1005** **1206** **1505** **2010**	**H** = ± 50 ppm **K** = ± 100 ppm **L** = ± 200 ppm **M** = ± 300 ppm	R designated decimal point For values under 1R if 3 significant digits: Rxxx if 2 significant digits: xRxx	**F** = ± 1 % **G** = ± 2 % **H** = ± 3 % **J** = ± 5 % **K** = ± 10 %	**B:** SnPb over nickel barrier **N:** SnAg over nickel barrier **G:** gold over nickel barrier	**blank:** Waffle pack **T:** Tape and reel	leave blank if no option

B: Lead bearing version
N and G: Lead (Pb)-free/ RoHS version

Historical Part Number example: L 0805 K 1R00 1 % B T R0046

L	0805	K	1R00	1 %	B	T	R0046
MODEL	SIZE	TCR	VALUE	TOLERANCE	TERMINATION	PACKAGING (1)	OPTION

Note

(1) For specific quantity of parts per packaging please consult Sfernice

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All product specifications and data are subject to change without notice.

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