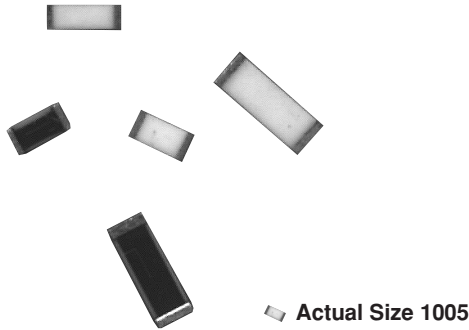


Low Value Thin Film Chip Resistors

SURFACE MOUNT CHIPS



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

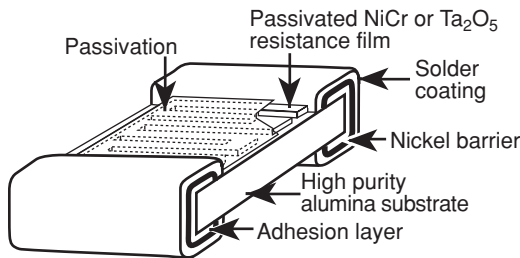
FEATURES

- NiCr + Ta₂O₅ resistive layer
- Pre-soldered or gold terminations
- No inductance for high frequency applications
- Alumina substrates for high power handling capacity

TYPICAL PERFORMANCE

	ABS
TCR	50
TOL	1.0

CONSTRUCTION



TOLERANCE AND TCR VERSUS OHMIC VALUE

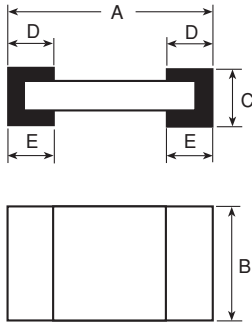
VALUE	MIN. TOLERANCE	BEST TCR
0.1 ohms	± 20%	± 300ppm/°C
0.25 ohms	± 10%	± 300ppm/°C
0.5 ohms	± 5%	± 100ppm/°C
1 ohms	± 3%	± 100ppm/°C
2 ohms	± 2%	± 100ppm/°C
10 ohms	± 1%	± 50 ppm/°C

STANDARD ELECTRICAL SPECIFICATIONS

TEST	SPECIFICATIONS	CONDITIONS
MATERIAL	NiCr + Ta ₂ O ₅	
Resistance Range	0.1 ohm to 10 ohms	
TCR:	Down to ± 50ppm/°C	
Tolerance:	± 1% to ± 20%	
Power Rating	Up to 1W	@ + 70°C
Voltage Coefficient	0.1ppm/Volt	
Operating Temperature Range	- 55°C to + 155°C	
Storage Temperature Range	- 55°C to + 155°C	
Noise	- 35dB typical	
Thermal EMF	0.1µV/°C	

CASE SIZE	0402	0505	0603	0705/0805	1005	1206	1505	2010
Power Rating - mW	50	125	125	200	250	330	500	1000
Working Voltage - V	37	50	50	50	50	50	50	50
Resistance Range - (Ω)	0.1 to 10	0.1 to 10	0.1 to 10	0.1 to 10	0.1 to 10	0.1 to 10	0.1 to 10	0.1 to 10

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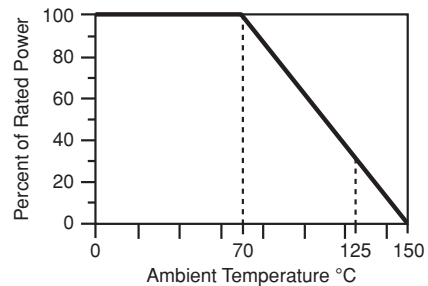
DIMENSIONS in inches (millimeters)


CASE SIZE	DIMENSIONS in inches (millimeters)			
	A	B	C	D/E
	Max. Tol. 0.006 (+ 0.152) Min. Tol. - 0.006 (- 0.152)	Max. 0.005 (+ 0.127) Min. - 0.005 (- 0.127)	Max. 0.005 (+ 0.127) Min. - 0.005 (- 0.127)	Max. 0.005 (+ 0.127) Min. - 0.005 (- 0.127)
0402	0.04 (1.00)	0.023 (0.6)	0.020 (0.5)	0.015 (0.38)
0505	0.053 (1.35)	0.050 (1.27)	0.020 (0.5)	0.015 (0.38)
0603	0.060 (1.52)	0.030 (0.75)	0.020 (0.5)	0.015 (0.38)
0705	0.075 (1.91)	0.050 (1.27)	0.020 (0.5)	0.015 (0.38)
0805				
1005	0.100 (2.54)	0.050 (1.27)	0.020 (0.5)	0.015 (0.38)
1206	0.120 (3.06)	0.063 (1.60)	0.020 (0.5)	0.015 (0.38)
1505	0.150 (3.81)	0.054 (1.32)	0.020 (0.5)	0.015 (0.38)
2010	0.200 (5.08)	0.100 (2.54)	0.020 (0.5)	0.015 (0.38)

SURFACE MOUNT CHIPS

ENVIRONMENTAL TEST				
TEST	CONDITIONS		VALUES AND DRIFTS	
			MIL-PRF-55342 REQUIREMENTS	TYPICAL PERFORMANCE
Thermal Shock	MIL-PRF-55342 F	MIL-STD-702, Method 107	± 0.25%	± 0.06%
Short Term Overload	MIL-PRF-55342 F	Para. 3.10.4.7.5	± 0.10%	± 0.05%
Low Temperature Operation	MIL-PRF-55342 F	Para. 3,9 & 4.7.4	± 0.25%	± 0.03%
Resistance to Solder Heat	MIL-PRF-55342 F	Para. 3.12, 4.7.7, 4.7.1.2	± 0.25%	± 0.05%
Moisture Resistance	MIL-PRF-55342 F	Para. 3.13 & 4.7.8 MIL-STD-202, Method 106	± 0.40%	± 0.35%
High Temperature	MIL-PRF-55342 F	Para. 3.11 & 4.7.6	± 0.20%	± 0.35%
Load Life	MIL-PRF-55342 F	2000 hours Pn at 70°C MIL-STD-202, Method 108	± 0.50%	± 0.12%

MECHANICAL SPECIFICATIONS	
Resistive element	NiCr + Ta ₂ O ₅
Substrate Material	Alumina
Body	Alumina
Coating	Silicone
Terminals: B type (for soldering):	Pre-tinned over nickel barrier
G type:	Gold over nickel barrier

DERATING CURVE




SURFACE MOUNT CHIPS

PACKAGING					
Several types of packaging are available: tube, waffle-pack and tape and reel.					
CASE	NUMBER OF PIECES PER PACKAGE				TAPE WIDTH
	TUBE	WAFFLE PACK (2 in. x 2 in.)	TAPE AND REEL		
			MIN.	MAX.	
0505	500	100	500	4000	8mm
0603					
0805					
0705					
1005	250	140	500	4000	8mm
1206		100			
1505					
2010	100	60			12mm*

*8mm on request.

How to Order

Series	Case Style	TCR	Ohmic value	Tolerance	Termination
L	0505	H	1R00	F	B
L = Standard chip	0402 0505 0603 0805 1005 1206 1505 2010	H = ±50 ppm/°C K = ±100 ppm/°C L = ±200 ppm/°C M = ±300 ppm/°C	R designates decimal point	F = ±1% G = ±2% H = ±3% J = ±5% K = ±10% M = ±20%	B: Tinned over nickel barrier G: Gold over nickel barrier



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