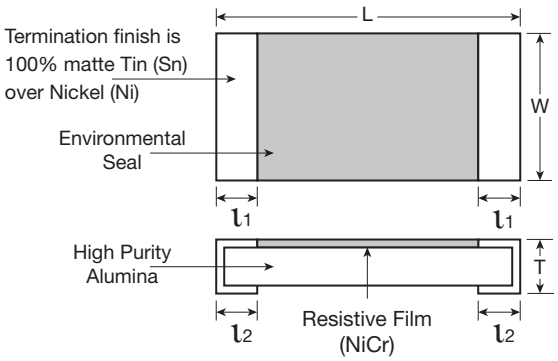
Ultra Precision Thin Film Chip Resistors

Features

- Minimized Aging
- TCR as low as ± 5PPM/°C and Tolerance as low as ± 0.01%
- Good high frequency characteristics
- Suitable for flow and reflow soldering

Dimensions

Unit: inches (mm)



	UPTF0402	UPTF0603	UPTF0805	UPTF1206	UPTF1210
L	0.040 ± .002 (1.0 ± 0.05)	0.063 ± .008 (1.6 ± 0.2)	0.079 ± .008 (2.0 ± 0.2)	0.126 ± .008 (3.2 ± 0.2)	0.124 ± .008 (3.1 ± 0.2)
W	0.020 ± .002 (0.5 ± 0.05)	0.031 ± .008 (0.8 ± 0.2)	0.050 ± .008 (1.25± 0.02)	0.063 ± .008 (1.6 ± 0.2)	0.095 ± .008 (2.4 ± 0.2)
T	0.014 ± .002 (0.35 ± 0.05)	0.018 ± .004 (0.45 ± 0.10)	0.020 ± .006 (0.50 ± 0.15)	0.022 ± .006 (0.55 ± 0.15)	0.022 ± .006 (0.55 ± 0.15)
l1	0.008 ± .004 (0.2 ± 0.01)	0.010 ± .006 (0.25 ± 0.15)	0.016 ± .008 (0.4 ± 0.2)	0.018 ± .008 (0.45 ± 0.2)	0.016 ± .01 (0.40 ± 0.25)
l2	0.008 ± .004 (0.2 ± 0.01)	0.010 ± .006 (0.25 ± 0.15)	0.012 ± .008 (0.3 ± 0.2)	0.012 ± .008 (0.3 ± 0.2)	0.022 ± .012 (0.55 ± 0.3)

Specifications

Tolerance	Series	UPTF0402	UPTF0603	UPTF0805	UPTF1206	UPTF1210
	Power Rating at 70°C (W)	0.063	0.063	0.10	0.125	0.50
	Max. Working Voltage	25V	50V	100V	150V	150V
	Max. Overload Voltage	50V	100V	200V	300V	300V
	TCR	Resistance Range	Resistance Range	Resistance Range	Resistance Range	Resistance Range
0.01% (U)	±5ppm (P)	49.9Ω – 3KΩ	25Ω – 15KΩ	25Ω – 30KΩ	25Ω – 50KΩ	25Ω – 50KΩ
	±10ppm (N)	50Ω – 12KΩ	25Ω – 100KΩ	25Ω – 200KΩ	25Ω – 500KΩ	25Ω – 500KΩ
	±25ppm (E)	50Ω – 12KΩ	25Ω – 100KΩ	25Ω – 200KΩ	25Ω – 500KΩ	25Ω – 500KΩ
0.05% (A)	±5ppm (P)	49.9Ω – 3KΩ	25Ω – 15KΩ	25Ω – 30KΩ	25Ω – 50KΩ	25Ω – 50KΩ
	±10ppm (N)	50Ω – 12KΩ	25Ω – 100KΩ	4.7Ω – 500KΩ	4.7Ω – 1MΩ	25Ω – 500KΩ
	±25ppm (E)	50Ω – 12KΩ	4.7Ω – 150KΩ	4.7Ω – 1MΩ	4.7Ω – 1MΩ	25Ω – 500KΩ
0.10% (B)	±5ppm (P)	49.9Ω – 3KΩ	25Ω – 15KΩ	25Ω – 30KΩ	25Ω – 50KΩ	25Ω – 50KΩ
	±10ppm (N)	50Ω – 12KΩ	4.7Ω – 332KΩ	4.7Ω – 500KΩ	4.7Ω – 1MΩ	4.7Ω – 1MΩ
0.25% (C)	±5ppm (P)	50Ω – 2KΩ	50Ω – 8KΩ	50Ω – 16KΩ	50Ω – 30KΩ	25Ω – 50KΩ
	±10ppm (N)	50Ω – 12KΩ	4.7Ω – 332KΩ	4.7Ω – 500KΩ	4.7Ω – 1MΩ	4.7Ω – 1MΩ
0.50% (D)	±5ppm (P)	50Ω – 2KΩ	50Ω – 8KΩ	50Ω – 16KΩ	50Ω – 30KΩ	25Ω – 50KΩ
	±10ppm (N)	50Ω – 12KΩ	4.7Ω – 332KΩ	4.7Ω – 500KΩ	4.7Ω – 1MΩ	4.7Ω – 1MΩ

Operating Temperature Range (°C) –55 ~ +150.

* Please consult your salesperson for values available outside this range and for non-standard values.

** Any values and corresponding ranges available in 5ppm or 10ppm are also available in 25ppm.

All components in this section are RoHS compliant per the EU directives and definitions.

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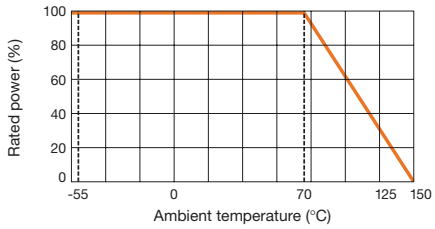
VENKEL LTD.

Characteristics

DERATING CURVE



Description	Requirements	Test method JIS C 5202
Short-time Overload	Within ± (0.1% +0.05Ω) No major visible damage	2.5 times rated voltage 5 seconds
Insulation Resistance	At least 1,000 MΩ	100V 1 minute
Withstanding Voltage	Within ± (0.5% +0.05Ω) no flashover, scorching or insulation breakdown	1/10: AC 150V 1 minute 1/8: AC 300V 1 minute
Terminal Strength	Within ± (0.5% +0.05Ω) No mechanical damage	Install a sample on the board and bend the board 3/45mm for 10 seconds
Solder Heat Resistance	Within ± (0.05% +0.05Ω) No major visible damage	Dip into 260°C solder bath for 10 seconds
Solderability	At least 95% of the dipping surface must be covered by new solder	235°C 2 seconds
Temperature Cycle	Within ± (0.1% +0.05Ω) No major visible damage Markings Legible	Cycle between -55°C and + 150°C for 5 cycles
Load Life in Moisture	Within ± (0.25% +0.05Ω) No major visible damage Markings Legible	Rated voltage 1.5 hours "ON" 0.5 hours "OFF" 40°C, 95% RH 1,000 hours
Load Life	Within ± (0.25% +0.05Ω) No major visible damage Markings Legible	Rated voltage 1.5 hours "ON" 0.5 hours "OFF" 70°C 1,000 hours

NOTE: These specifications are typical and are based on standard operating conditions.

How To Order

UPTF0805-10W — P — XXXX A □ T

- **UPTF0805-10W** — Series
- **P** — TCR
  - P: ±5PPM/°C
  - N: ±10PPM/°C
  - E: ±25PPM/°C
- **XXXX** — Resistance Value
- **A** — Resistance Tolerance
  - U: ±0.01%
  - A: ±0.05%
  - B: ±0.1%
  - C: ±0.25%
  - D: ±0.5%
  - F: ±1%
- **□** — Leave blank for standard termination. Standard termination finish for this product is 100% matte Tin (Sn). Add Pb above for Lead Termination.
- **T** — Packaging T: Tape

Part Marking Description

Series	E24 Values	E96 Values
UPTF0603	Standard 3 Digit Marking	Alpha code system (Alpha numeric code - see pg. 60)
UPTF0805	Standard 3 Digit Marking	Standard 4 Digit Marking
UPTF1206	Standard 3 Digit Marking	Standard 4 Digit Marking
UPTF1210	Standard 3 Digit Marking	Standard 4 Digit Marking

Examples:	
3 Digit (alpha numeric)	30C = 20KΩ
Standard 3 Digit	103 = 10KΩ
Standard 4 Digit	2491 = 2.49KΩ

- If the component is a crossover value (both available in E-24 and E-96) then the 3 digit E-24 series marking will typically be used.
- 0402 size resistors are not marked.

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