

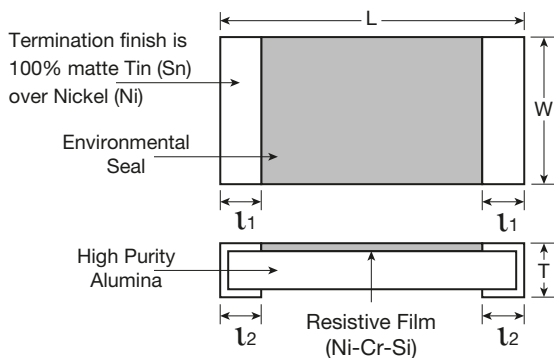
Ultra Precision Thin Film Chip Resistors

Features

- Minimized Aging
- TCR as low as $\pm 5\text{PPM}/^\circ\text{C}$ and Tolerance as low as $\pm 0.01\%$
- Good high frequency characteristics
- Suitable for flow and reflow soldering

Dimensions

Unit: inches (mm)



	UPTF0402	UPTF0603	UPTF0805	UPTF1206
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)
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)
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 (0.57 ± 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)
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)

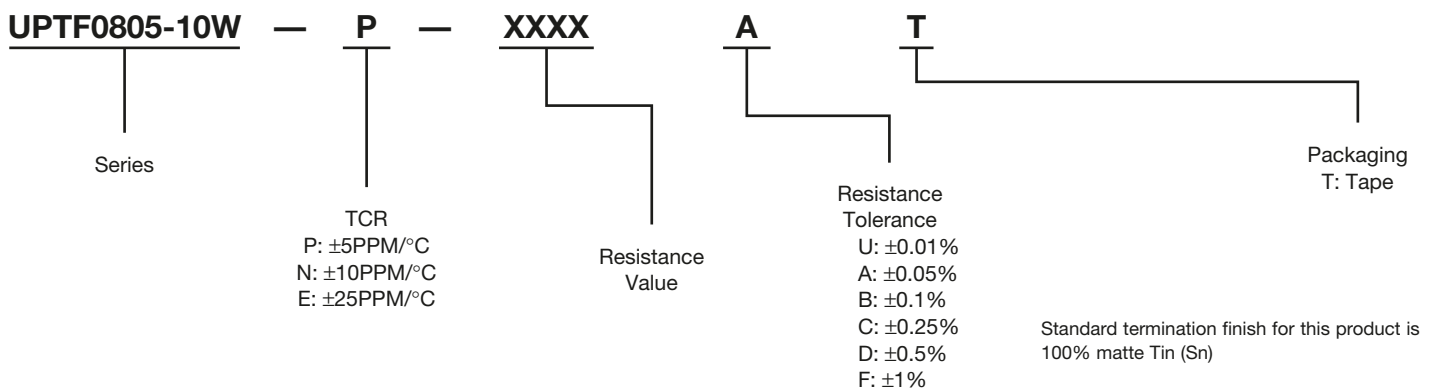
Specifications

Series	Power Rating At 70°C (W)	Resistance Range	Specific Resistance Range*	Tolerance Available	Temperature Coefficient of Resistance (10 ⁻⁶ /°C PPM)	Operating Temperature Range (°C)
UPTF0402	0.063	10Ω - 100KΩ	100Ω - 3KΩ (>.05%)	U, A, B, C, D, F	10	-55 ~ +150
			10Ω - 100KΩ	U, A, B, C, D, F	25	
UPTF0603	0.063 0.10	10Ω - 150KΩ	10Ω - 50KΩ (>.05%)	U, A, B, C, D, F	5, 10	-55 ~ +150
			10Ω - 150KΩ	U, A, B, C, D, F	25	
UPTF0805	0.10 0.125	10Ω - 500KΩ	10Ω - 150KΩ (>.05%)	U, A, B, C, D, F	5, 10	-55 ~ +150
			10Ω - 500KΩ	U, A, B, C, D, F	25	
UPTF1206	0.125 0.25	10Ω - 500KΩ	10Ω - 470KΩ (>.05%)	U, A, B, C, D, F	5, 10	-55 ~ +150
			10Ω - 500KΩ	U, A, B, C, D, F	25	

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

** Please see TFCR series for maximum working and overload voltage specifications on page 46.

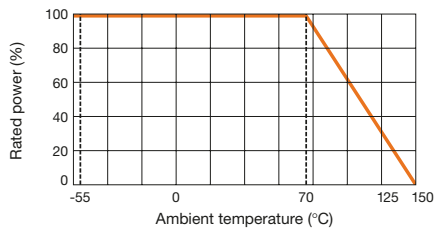
How To Order



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

Characteristics

DERATING CURVE



Description	Requirements	Test method JIS C 5202
Short-time Overload	Within $\pm (0.1\% + 0.05\Omega)$ No major visible damage	2.5 times rated voltage 5 seconds
Insulation Resistance	At least 1,000 M Ω	100V 1 minute
Withstanding Voltage	Within $\pm (0.5\% + 0.05\Omega)$ no flashover, scorching or insulation breakdown	1/10: AC 150V 1 minute 1/8: AC 300V 1 minute
Terminal Strength	Within $\pm (0.5\% + 0.05\Omega)$ No mechanical damage	Install a sample on the board and bend the board 3/45mm for 10 seconds
Solder Heat Resistance	Within $\pm (0.05\% + 0.05\Omega)$ 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 $\pm (0.1\% + 0.05\Omega)$ No major visible damage Markings Legible	Cycle between -55°C and + 150°C for 5 cycles
Load Life in Moisture	Within $\pm (0.25\% + 0.05\Omega)$ 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 $\pm (0.25\% + 0.05\Omega)$ 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.

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

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

- 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.