

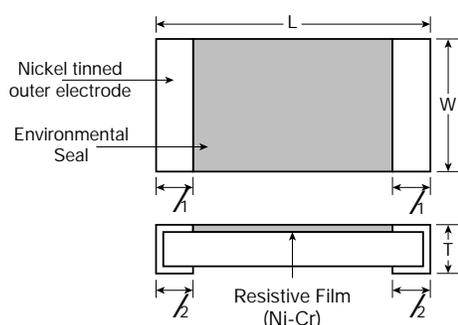
Rectangular Thin Film Chip Resistors

Features

These Thin Film Chip Resistors are designed for high precision, stability and reliability. Available in 0201, 0402, 0603, 0805 & 1206 sizes, having a TCR of either $\pm 25\text{PPM}/^\circ\text{C}$ or $\pm 50\text{PPM}/^\circ\text{C}$. Suitable for flow and reflow soldering.

Specifications

Unit: inches (mm)



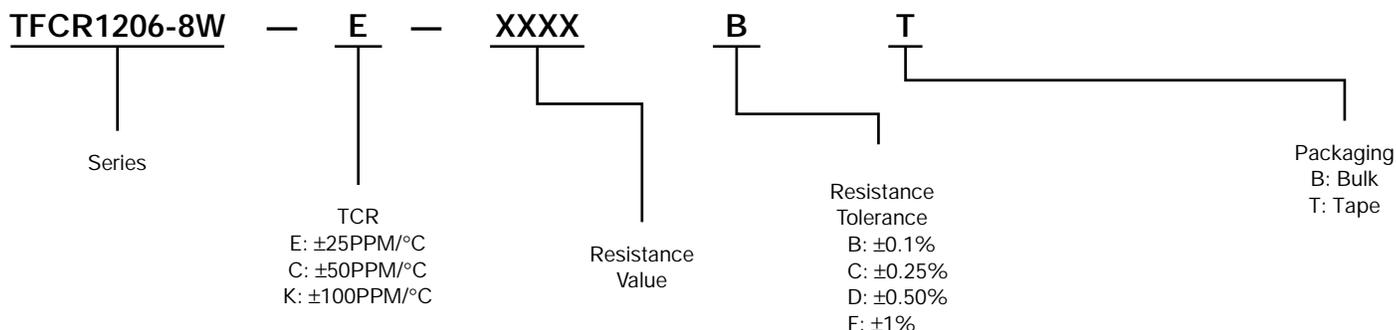
	TFCR0201	TFCR0402	TFCR0603	TFCR0805	TFCR1206	TFCR1210
L	0.024 ± .002 (0.6 ± 0.05)	0.040 ± .002 (1.0 ± 0.05)	0.063 ± .008 (1.6 ± 0.2)	0.079 ± .008 (2.0 ± 0.2)	0.126 ± .008 (3.2 ± 0.2)	0.126 ± .008 (3.2 ± 0.2)
W	0.012 ± .001 (0.3 ± 0.02)	0.020 ± .002 (0.5 ± 0.05)	0.031 ± .008 (0.8 ± 0.2)	0.050 ± .008 (1.25 ± 0.02)	0.063 ± .008 (1.6 ± 0.2)	0.098 ± .006 (2.50 ± 0.15)
T	0.010 ± .002 (0.25 ± 0.05)	0.014 ± .002 (0.35 ± 0.05)	0.014 ± .004 (0.45 ± 0.10)	0.018 ± .006 (0.45 ± 0.15)	0.022 ± .006 (0.57 ± 0.15)	0.022 ± .006 (0.56 ± 0.15)
A	0.006 ± .002 (0.15 ± 0.05)	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)	0.018 ± .008 (0.45 ± 0.2)
Z	0.006 ± .002 (0.15 ± 0.05)	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)	0.012 ± .008 (0.3 ± 0.2)

Rating

Series	Rated Power at 70°C	Maximum Working Voltage	Maximum Overload Voltage	Operating Temperature Range	Resistance Range
TFCR0201-20W	0.05W	15V	30V	-55°C ~ 150°C	33Ω ~ 22KΩ
TFCR0402-16W	0.063W	25V	75V	-55°C ~ 150°C	4.7Ω ~ 100KΩ
TFCR0603-16W	0.063W	75V	150V	-55°C ~ 150°C	4.7Ω ~ 332KΩ
TFCR0603-10W	0.10W	75V	150V	-55°C ~ 150°C	4.7Ω ~ 332KΩ
TFCR0805-10W	0.10W	100V	200V	-55°C ~ 150°C	4.7Ω ~ 1MegΩ
TFCR0805-8W	0.125W	100V	200V	-55°C ~ 150°C	4.7Ω ~ 1MegΩ
TFCR1206-8W	0.125W	150V	300V	-55°C ~ 150°C	4.7Ω ~ 1MegΩ
TFCR1206-4W	0.25W	150V	300V	-55°C ~ 150°C	4.7Ω ~ 1MegΩ
TFCR1210-4W	0.25W	200V	400V	-55°C ~ 150°C	4.7Ω ~ 1MegΩ
TFCR1210-2W	0.5W	200V	400V	-55°C ~ 150°C	4.7Ω ~ 1MegΩ

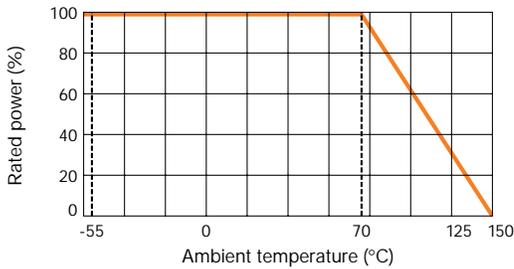
NOTE: Markings on Thin Film Chip Resistors may have an internal lot identification code or the E-24 (5%) or E-96 (1%) marking code. If value identification is required, please consult your sales person for availability. Values available in the E-24 Series that are crossover values (same value for 1% and 5%) will typically be marked with a 3-digit E-24 Series marking code.

How To Order



Characteristics

DERATING CURVE

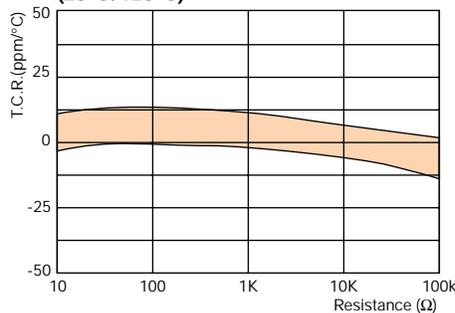


Description	Requirements	Test method JIS C 5202
Resistance Value	Within specified tolerance	
Temperature Coefficient of Resistance (T.C.R.)	T.C.R./E.: Within $\pm 25\text{PPM}/^\circ\text{C}$ C.: Within $\pm 50\text{PPM}/^\circ\text{C}$	Measuring temperature +25/ + 125°C
Short-time Overload	Within $\pm (0.5\% + 0.05\Omega)$ 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 $\pm (0.5\% + 0.05\Omega)$ 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 $\pm (0.5\% + 0.05\Omega)$ No major visible damage Markings Legible	Cycle between -55°C and + 125°C for 5 cycles
Load Life in Moisture	Within $\pm (0.5\% + 0.05\Omega)$ 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 $\pm (0.5\% + 0.05\Omega)$ No major visible damage Markings Legible	Rated voltage 1.5 hours "ON" 0.5 hours "OFF" 70°C 1,000 hours

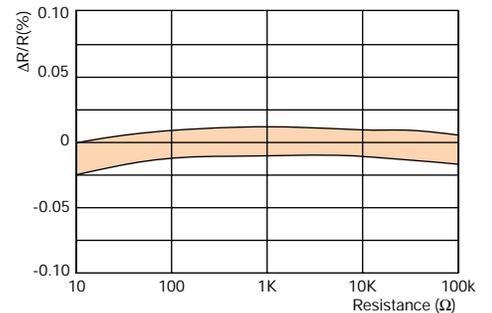
* NOTE: These specifications are typical and are based on standard operating conditions.

Examples of Typical Characteristics

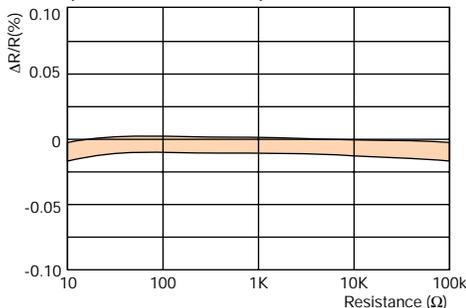
Temperature Coefficient of Resistance (25°C/125°C)



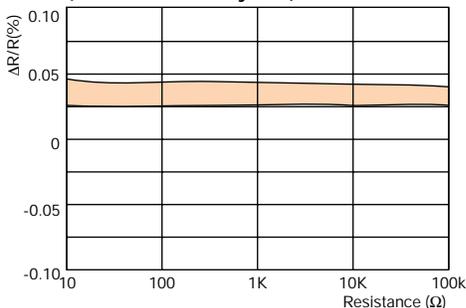
Short-time Overload



Solder Heat Resistance (260°C, 10 seconds)



Temperature Cycle (-55°C/125°C, 5 cycles)



Load Life in Moisture (40°C, 90-95% RH, RCWV 1,000 hours)

