

## CTTFR Series

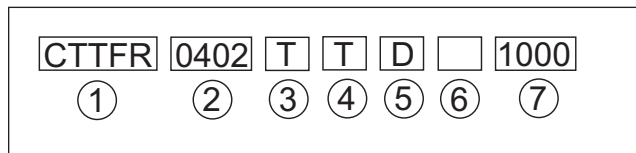
### FEATURES

- Thin Film Passivated NiCr Resistor
- Very Tight Tolerance from  $\pm 0.01\%$ ~ $1\%$
- Extremely Low TCR from  $\pm 5$ ~ $\pm 50$  PPM/ $^{\circ}\text{C}$
- Wide R-Value Range

### APPLICATIONS

- Medical Equipment
- Testing / Measurement Equipment
- Consumer Product
- Printer Equipment
- Automatic Equipment Controller
- Converters
- Communication Device, Cell phone, GPS, PDA

### PART NUMBERING



#### 1. Product Type

Product Type	Thin Film Precision Chip Resistor
CTTFR	

#### 2. Dimensions (LxW)

EIA	Dimensions(LxW)
0402	1.00x0.50mm
0603	1.60x0.80mm
0805	2.00x1.25mm
1206	3.00x1.50mm

#### 3. Resistance Tolerance

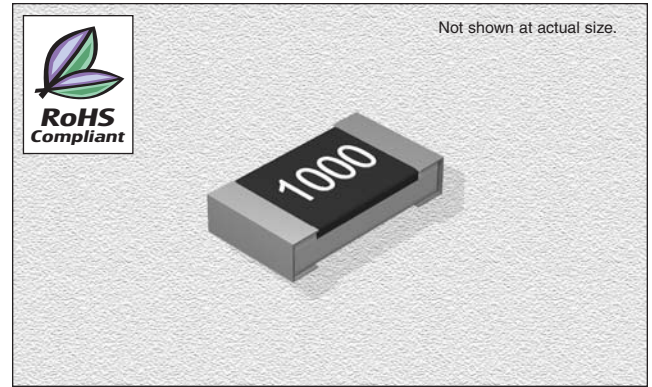
Codes	Resistance Tolerance
T	$\pm 0.01\%$
B	$\pm 0.10\%$
C	$\pm 0.25\%$
D	$\pm 0.50\%$
F	$\pm 1.00\%$

#### 4. Packaging

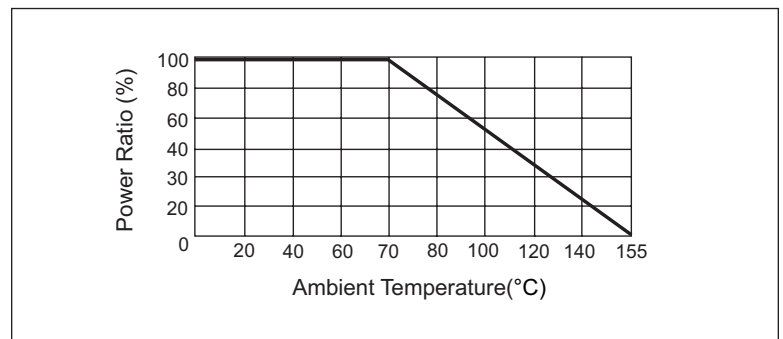
Codes	Type
T	Tape & Reel
B	Bulk

#### Tape & Reel QTY's

CTTFR0402 = 10,000pcs  
 CTTFR0603 = 5,000pcs  
 CTTFR0805 = 5,000pcs  
 CTTFR1206 = 5,000pcs



### DERATING CURVE



#### 5. TCR

Codes	Type
S	$\pm 5$ PPM/ $^{\circ}\text{C}$
B	$\pm 10$ PPM/ $^{\circ}\text{C}$
N	$\pm 15$ PPM/ $^{\circ}\text{C}$
C	$\pm 25$ PPM/ $^{\circ}\text{C}$
D	$\pm 50$ PPM/ $^{\circ}\text{C}$

#### 6. High Power Rating

Codes	Power Rating
	Standard / Special
V	1/4W
W	1/8W
X	1/10W

#### 7. Resistance

Codes	Type
1000	100 $\Omega$
2201	2200 $\Omega$
1002	10000 $\Omega$
4992	49900 $\Omega$
1003	100000 $\Omega$

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### PHYSICAL DIMENSIONS

Type	L	W	T	D1	D2
CTTFR0402	1.00±0.05	0.50±0.05	0.30±0.05	0.20±0.10	0.20±0.10
CTTFR0603	1.55±0.10	0.80±0.10	0.45±0.10	0.30±0.20	0.30±0.20
CTTFR0805	2.00±0.15	1.25±0.15	0.55±0.10	0.30±0.20	0.40±0.25
CTTFR1206	3.05±0.15	1.55±0.15	0.55±0.10	0.42±0.20	0.35±0.25

Unit: mm

### STANDARD ELECTRICAL SPECIFICATIONS

Type	Power Rating at 70°C	Operating Temp. Range	Max. Operating Voltage	Max. Overloading Voltage	Resistance Tolerance (±)	Resistance Range	TCR (±PPM/°C)
CTTFR0402	1/16W	-55°C to +155°C	25V	50V	0.01%, 0.05%, 0.1%, 0.25%, 0.5%	50Ω-2KΩ	5
					0.01%, 0.05%, 0.1%, 0.25%, 0.5%	50Ω-12KΩ	10, 15
CTTFR0603	1/16W	-55°C to +155°C	50V	100V	0.01%, 0.05%, 0.1%, 0.25%, 0.5%	50Ω-8KΩ	5
					0.01%, 0.05%, 0.1%, 0.25%, 0.5%	25Ω-100KΩ	10, 15
					0.01%	25Ω-100KΩ	25, 50
					0.05%	4.7Ω-150KΩ	25, 50
CTTFR0805	1/10W	-55°C to +155°C	100V	200V	0.01%, 0.05%, 0.1%, 0.25%, 0.5%	50Ω-16KΩ	5
					0.01%, 0.05%, 0.1%, 0.25%, 0.5%	25Ω-200KΩ	10, 15
					0.01%	25Ω-200KΩ	25, 50
					0.05%	4.7Ω-500KΩ	25, 50
CTTFR1206	1/8W	-55°C to +155°C	150V	300V	0.01%, 0.05%, 0.1%, 0.25%, 0.5%	50Ω-30KΩ	5
					0.01%, 0.05%, 0.1%, 0.25%, 0.5%	25Ω-500KΩ	10, 15
					0.01%	25Ω-500KΩ	25, 50
					0.05%	4.7Ω-1MΩ	25, 50
					0.1%, 0.25%, 0.5%, 1%	4.7Ω-1MΩ	25, 50
					0.25%, 0.5%, 1%	1Ω-4.6Ω	25, 50
						1MΩ-2MΩ	

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