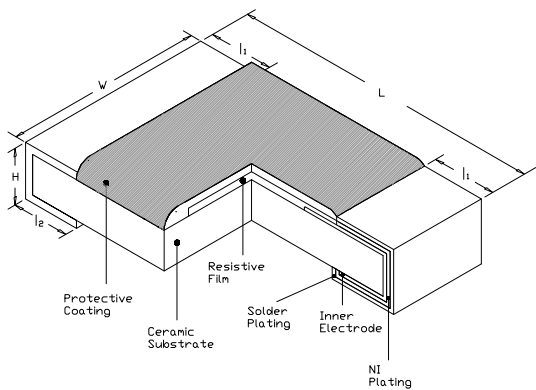


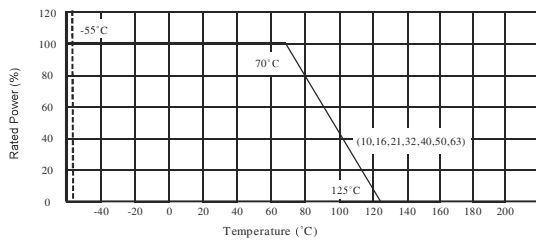
Features

- Tolerance 1%, Temperature Coefficient of Resistance 50ppm/°C
- Excellent stability
- Halogen Free Epoxy
- Products with lead free terminations meet RoHs requirements

Dimensions and Construction



Type	Dimensions				
	Inches (Millimeters)				
	L	W	H	l ₁	l ₂
CT10 0402 (1005)	0.040 ± 0.004 (1.00 ± 0.10)	0.020 ± 0.002 (0.50 ± 0.05)	0.012 ± 0.002 (0.30 ± 0.05)	0.008 ± 0.004 (0.20 ± 0.10)	0.010 ± 0.004 (0.25 ± 0.10)
CT16 0603 (1608)	0.063 ± 0.004 (1.60 ± 0.10)	0.031 ± 0.004 (0.80 ± 0.10)	0.018 ± 0.004 (0.45 ± 0.10)	0.010 ± 0.006 (0.25 ± 0.15)	0.010 ± 0.006 (0.25 ± 0.15)
CT21 0805 (2012)	0.079 ± 0.004 (2.00 ± 0.10)	0.049 ± 0.004 (1.25 ± 0.10)	0.020 ± 0.004 (0.50 ± 0.10)	0.014 ± 0.008 (0.35 ± 0.20)	0.014 ± 0.008 (0.35 ± 0.20)
CT32 1206 (3216)	0.122 ± 0.004 (3.10 ± 0.10)	0.063 ± 0.004 (1.60 ± 0.10)	0.022 ± 0.004 (0.55 ± 0.10)	0.018 ± 0.008 (0.45 ± 0.20)	0.016 ± 0.008 (0.40 ± 0.20)
CT40 1210 (3225)	0.122 ± 0.004 (3.10 ± 0.10)	0.102 ± 0.006 (2.60 ± 0.15)	0.022 ± 0.004 (0.55 ± 0.10)	0.020 ± 0.008 (0.50 ± 0.20)	0.020 ± 0.008 (0.50 ± 0.20)
CT50 2010 (5025)	0.200 ± 0.004 (5.00 ± 0.10)	0.098 ± 0.006 (2.50 ± 0.15)	0.022 ± 0.004 (0.55 ± 0.10)	0.024 ± 0.008 (0.60 ± 0.20)	0.020 ± 0.008 (0.50 ± 0.2)
CT63 2512 (6432)	0.250 ± 0.004 (6.35 ± 0.10)	0.126 ± 0.006 (3.20 ± 0.15)	0.022 ± 0.004 (0.55 ± 0.10)	0.024 ± 0.008 (0.60 ± 0.20)	0.020 ± 0.008 (0.50 ± 0.20)



Ordering Code / Information

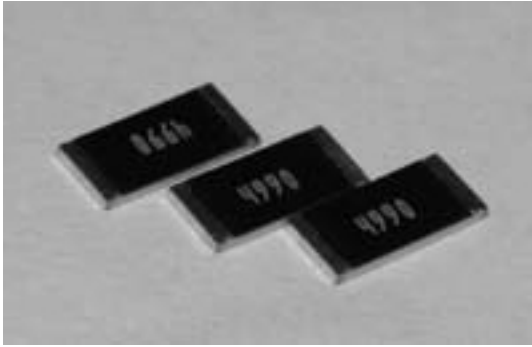
CT	10	-	XXXX	-	F	K
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Type	Size (Inch / mm)	Nominal Resistance			Resistance Tolerance	Packaging
General Purpose Thin Film Chip Resistors	10 (0402/1005) 16 (0603/1608) 21 (0805/2012) 32 (1206/3216) 40 (1210/3225) 50 (2010/5025) 63 (2512/6432)	Resistors	4-Digit	E96 Series 10.2Ω=10R2 10KΩ=1002	F = ±1%	E = 4,000 pcs Lead Free L = 5,000 pcs Lead Free K = 10,000 pcs Lead Free

Application and Ratings

Product Type	Power Rating @ 70°C	T.C.R (ppm/°C) Max	Resistance Range (E-96, E-24) F(±1%)	Max Working Voltage	Max Overload Voltage	Operating Temperature Range
CT10 0402 (1005)	1/16W	±50	10Ω - 121KΩ	50V	100V	-55°C to +125°C
CT16 0603(1608)	1/10W	±50	1Ω - 681KΩ	75V	150V	
CT21 0805 (2012)	1/8W	±50	1Ω - 1.5MΩ	150V	300V	
CT32 1206 (3216)	1/8W	±50	1Ω - 1.5MΩ	200V	400V	
CT40 1210 (3225)	1/4W	±50	1Ω - 1MΩ			
CT50 2010 (5025)	1/2W	±50	10Ω - 1MΩ			
CT63 2512 (6432)	3/4W	±50	10Ω - 1MΩ			

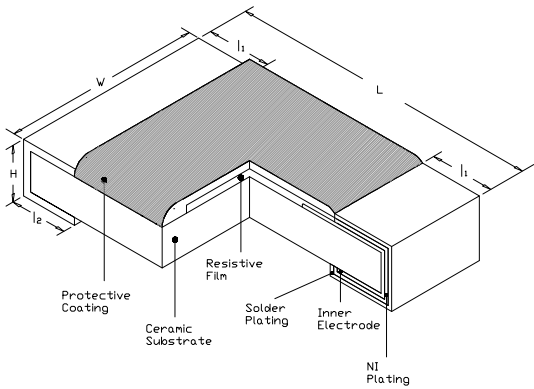
Test	Specification	Test Method
Resistance Value	Within Resistors specification	To be measure at 25°C
Resistance Temperature Coefficient	Within Specification of TCR	25°C/ +125°C
Short Time Overload	± (0.5%+0.05Ω), No visible damage	Apply 2.5 times of rated voltage or maximum overload voltage for 5secs which is lower
Resistance to Soldering Heat	± (0.5%+0.05Ω), No visible damage	260°C ± 5°C, 10 seconds ± 1 second
Load Life	± (0.5%+0.05Ω)	70°C ± 2°C , 1000 hours, 1.5 hours On, 0.5 hours Off cycle
High Temperature Exposure	± (0.5%+0.05Ω)	125°C , 1000 hours. Unpowered. Measurement at 24 ± 2 hours after test conclusion.



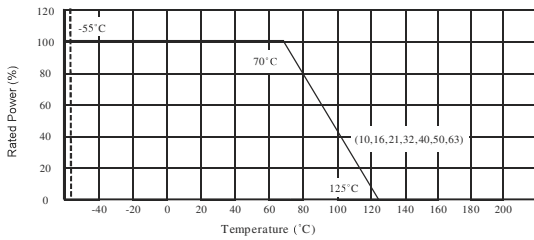
Features

- Precise Tolerance up to 0.05% and Low T.C.R down to 10ppm/°C
- Excellent stability
- Halogen Free Epoxy
- Products with lead free terminations meet RoHs requirements

Dimensions and Construction



Type	Dimensions				
	Inches (Millimeters)				
	L	W	H	l ₁	l ₂
CT10 0402 (1005)	0.040 ± 0.004 (1.00 ± 0.10)	0.020 ± 0.002 (0.50 ± 0.05)	0.012 ± 0.002 (0.30 ± 0.05)	0.008 ± 0.004 (0.20 ± 0.10)	0.010 ± 0.004 (0.25 ± 0.10)
CT16 0603 (1608)	0.063 ± 0.004 (1.60 ± 0.10)	0.031 ± 0.004 (0.80 ± 0.10)	0.018 ± 0.004 (0.45 ± 0.10)	0.010 ± 0.006 (0.25 ± 0.15)	0.010 ± 0.006 (0.25 ± 0.15)
CT21 0805 (2012)	0.079 ± 0.004 (2.00 ± 0.10)	0.049 ± 0.004 (1.25 ± 0.10)	0.020 ± 0.004 (0.50 ± 0.10)	0.014 ± 0.008 (0.35 ± 0.20)	0.014 ± 0.008 (0.35 ± 0.20)
CT32 1206 (3216)	0.122 ± 0.004 (3.10 ± 0.10)	0.063 ± 0.004 (1.60 ± 0.10)	0.022 ± 0.004 (0.55 ± 0.10)	0.018 ± 0.008 (0.45 ± 0.20)	0.016 ± 0.008 (0.40 ± 0.20)
CT40 1210 (3225)	0.122 ± 0.004 (3.10 ± 0.10)	0.102 ± 0.006 (2.60 ± 0.15)	0.022 ± 0.004 (0.55 ± 0.10)	0.020 ± 0.008 (0.50 ± 0.20)	0.020 ± 0.008 (0.50 ± 0.20)
CT50 2010 (5025)	0.200 ± 0.004 (5.00 ± 0.10)	0.098 ± 0.006 (2.50 ± 0.15)	0.022 ± 0.004 (0.55 ± 0.10)	0.024 ± 0.008 (0.60 ± 0.20)	0.020 ± 0.008 (0.50 ± 0.2)
CT63 2512 (6432)	0.250 ± 0.004 (6.35 ± 0.10)	0.126 ± 0.006 (3.20 ± 0.15)	0.022 ± 0.004 (0.55 ± 0.10)	0.024 ± 0.008 (0.60 ± 0.20)	0.020 ± 0.008 (0.50 ± 0.20)



Ordering Code / Information

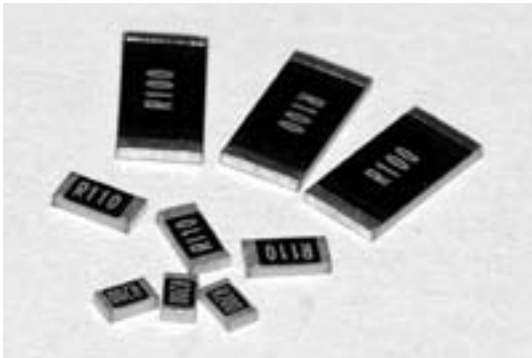
CT	10	-	XXXX	-	F	K	-	E
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Type	Size (Inch / mm)	Nominal Resistance			Resistance Tolerance	Packaging	T.C.R (ppm/°C)
Precision Thin Film Chip Resistors	10 (0402/1005) 16 (0603/1608) 21 (0805/2012) 32 (1206/3216) 40 (1210/3225) 50 (2010/5025) 63 (2512/6432)	Resistors	4-Digit	E24 & E96 Series 10.2Ω=10R2 10KΩ=1002	A = ±0.05% B = ±0.1% C = ±0.25% D = ±0.5%	E = 4,000 pcs Lead Free L = 5,000 pcs Lead Free K = 10,000 pcs Lead Free	B = ±10 C = ±15 D = ±25 E = ±50

Application and Ratings

Product Type	Power Rating @ 70°C	T.C.R (ppm/°C) Max	Resistance Range (E-96, E-24)				Max Working Voltage	Max Overload Voltage	Operating Temperature Range
			A(±0.05%)	B(±0.1%)	C(±0.25%)	D(±0.5%)			
CT10 0402 (1005)	1/16W	±50	-	10Ω - 121KΩ	10Ω -121KΩ	10Ω -121KΩ	50V	100V	-55°C to +125°C
		±25		10Ω - 121KΩ	10Ω -121KΩ	10Ω -121KΩ			
		±15		10Ω - 100KΩ	10Ω - 100KΩ	-			
		±10		10Ω - 100KΩ	10Ω - 100KΩ	-			
CT16 0603 (1608)	1/10W	±50	-	10Ω - 681KΩ	1Ω - 681KΩ	1Ω - 681KΩ	75V	150V	
		±25	1KΩ - 47KΩ	10Ω - 681KΩ	10Ω - 681KΩ	10Ω - 681KΩ			
		±15	1KΩ - 47KΩ	10Ω - 100KΩ	10Ω - 100KΩ	-			
		±10	1KΩ - 47KΩ	10Ω - 100KΩ	10Ω - 100KΩ	-			
CT21 0805 (2012)	1/8W	±50	-	10Ω - 1.5MΩ	1Ω - 1.5MΩ	1Ω - 1.5MΩ	150V	300V	
		±25	100Ω - 100KΩ	10Ω - 1.5MΩ	10Ω - 1.5MΩ	10Ω - 1.5MΩ			
		±15	100Ω - 100KΩ	10Ω - 100KΩ	10Ω - 100KΩ	-			
		±10	100Ω - 100KΩ	10Ω - 100KΩ	10Ω - 100KΩ	-			
CT32 1206 (3216)	1/8W	±50	-	10Ω - 1.5MΩ	1Ω - 1.5MΩ	1Ω - 1.5MΩ	200V	400V	
		±25	100Ω - 100KΩ	10Ω - 1.5MΩ	10Ω - 1.5MΩ	10Ω - 1.5MΩ			
		±15	100Ω - 100KΩ	10Ω - 100KΩ	10Ω - 100KΩ	-			
		±10	100Ω - 100KΩ	10Ω - 100KΩ	10Ω - 100KΩ	-			
CT40 1210 (3225)	1/4W	±50	-	10Ω - 1MΩ	1Ω - 1MΩ	1Ω - 1MΩ	200V	400V	
		±25	100Ω - 100KΩ	10Ω - 1MΩ	10Ω - 1MΩ	10Ω - 1MΩ			
		±15	100Ω - 100KΩ	10Ω - 100KΩ	10Ω - 100KΩ	-			
		±10	100Ω - 100KΩ	10Ω - 100KΩ	10Ω - 100KΩ	-			
CT50 2010 (5025)	1/2W	±50	-	10Ω - 1MΩ	10Ω - 1MΩ	10Ω - 1MΩ	200V	400V	
		±25	100Ω - 100KΩ	10Ω - 1MΩ	10Ω - 1MΩ	10Ω - 1MΩ			
		±15	100Ω - 100KΩ	10Ω - 100KΩ	10Ω - 100KΩ	-			
		±10	100Ω - 100KΩ	10Ω - 100KΩ	10Ω - 100KΩ	-			
CT63 2512 (6432)	3/4W	±50	-	10Ω - 1MΩ	10Ω - 1MΩ	10Ω - 1MΩ	200V	400V	
		±25	100Ω - 100KΩ	10Ω - 1MΩ	10Ω - 1MΩ	10Ω - 1MΩ			
		±15	100Ω - 100KΩ	10Ω - 100KΩ	10Ω - 100KΩ	-			
		±10	100Ω - 100KΩ	10Ω - 100KΩ	10Ω - 100KΩ	-			

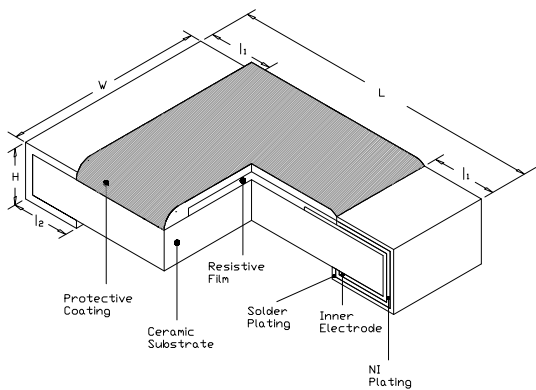
Test	Specification	Test Method
Resistance Value	Within Resistors specification	To be measure at 25°C
Resistance Temperature Coefficient	Within Specification of TCR	25°C/ +125°C
Short Time Overload	± (0.5%+0.05Ω). No visible damage	Apply 2.5 times of rated voltage or maximum overload voltage for 5 secs which is lower
Resistance to Soldering Heat	± (0.5%+0.05Ω). No visible damage	260°C ± 5°C, 10 seconds ± 1 second
Load Life	± (0.5%+0.05Ω)	70°C ± 2°C ,1000 hours, 1.5 hours On,0.5 hours Off cycle
High Temperature Exposure	± (0.5%+0.05Ω)	125°C , 1000 hours. Unpowered. Measurement at 24 ± 2 hours after test conclusion.



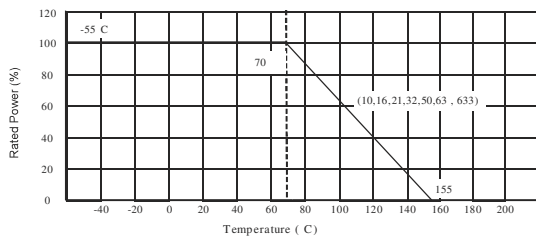
Features

- Thin film process
- High power rating up to 3 Watts in 2512 size
- Precise tolerance down to ±0.5%
- Extremely low TCR down to ±50 PPM/°C
- Resistance values from 50m to 1ohm
- High purity alumina substrate for high power dissipation

Dimensions and Construction



Type	Dimensions				
	Inches (Millimeters)				
	L	W	H	l ₁	l ₂
CT10 0402 (1005)	0.040 ± 0.002 (1.0 ± 0.05)	0.020 ± 0.002 (0.5 ± 0.05)	0.014 ± 0.004 (0.32 ± 0.10)	0.010 ± 0.004 (0.25 ± 0.10)	0.008 ± 0.004 (0.2 ± 0.10)
CT16 0603 (1608)	0.063 ± 0.004 (1.6 ± 0.10)	0.031 ± 0.004 (0.8 ± 0.10)	0.018 ± 0.004 (0.45 ± 0.10)	0.012 ± 0.008 (0.3 ± 0.20)	0.012 ± 0.008 (0.3 ± 0.20)
CT21 0805 (2012)	0.079 ± 0.006 (2.0 ± 0.15)	0.049 ± 0.006 (1.25 ± 0.15)	0.022 ± 0.004 (0.55 ± 0.10)	0.012 ± 0.008 (0.3 ± 0.20)	0.016 ± 0.010 (0.4 ± 0.25)
CT32 1206 (3216)	0.120 ± 0.006 (3.05 ± 0.15)	0.061 ± 0.006 (1.55 ± 0.15)	0.022 ± 0.004 (0.55 ± 0.10)	0.020 ± 0.012 (0.5 ± 0.30)	0.016 ± 0.010 (0.4 ± 0.25)
CT50 2010 (5025)	0.200 ± 0.008 (5.0 ± 0.20)	0.096 ± 0.006 (2.45 ± 0.15)	0.024 ± 0.006 (0.6 ± 0.15)	0.024 ± 0.012 (0.6 ± 0.30)	0.020 ± 0.010 (0.5 ± 0.25)
CT63 CT633 2512 (6432)	0.25 ± 0.008 (6.35 ± 0.20)	0.124 ± 0.006 (3.15 ± 0.15)	0.024 ± 0.004 (0.6 ± 0.10)	0.024 ± 0.012 (0.6 ± 0.30)	0.022 ± 0.010 (0.55 ± 0.25)



Ordering Code / Information

CT	10	-	R500	-	F	K	-	E
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Type	Size (Inch / mm)	Nominal Resistance			Resistance Tolerance	Packaging	T.C.R (ppm/°C)
Thin Film Current Sensing Chip Resistors	10 (0402/1005) 16 (0603/1608) 21 (0805/2012) 32 (1206/3216) 50 (2010/5025) 63 (2512/6432) 633 (2512/6432)	Resistors	4-Digit	E96 & E24 Series 0.47Ω=R470 0.499Ω=R499	D = ±0.5% F = ±1%	E = 4,000 pcs L = 5,000 pcs K = 10,000 pcs	E = ± 50 F = ± 100 G = ± 200

Application and Ratings

Product Type	Power Rating @ 70°C	T.C.R (ppm/°C) Max	Resistance Range		Maximum Working Voltage	Maximum Overload Voltage	Operating Temperature Range
			D(±0.5%)	F(±1%)			
CT10 0402 (1005)	1/16W	±50, ±100	0.5Ω ≤ R < 1Ω		√(P*R)	2.5*√(P*R)	-55°C + 155°C
CT16 0603 (1608)	1/10W	±100	0.2Ω - 0.3Ω				
		±50	0.301Ω ≤ R < 1Ω				
CT21 0805 (2012)	1/8W	±100	0.2Ω - 0.3Ω				
		±50	0.301Ω ≤ R < 1Ω				
CT32 1206 (3216)	1/4W	±200	-	0.05Ω - 0.1Ω			
		±100	0.101Ω - 0.3Ω				
		±50	0.301Ω ≤ R < 1Ω				
CT50 2010 (5025)	3/4W	±200	0.05Ω - 0.1Ω				
CT63 2512 (6432)	1W	±100	0.101Ω - 0.3Ω				
		±50	0.301Ω ≤ R < 1Ω				
CT633 2512 (6432)	2W	±100	-	0.1Ω ≤ R < 1Ω			

Test	Specification	Test Method
Resistance Value	Within Resistors specification	To be measure at 25°C
Resistance Temperature Coefficient	As Spec.	As Spec. +25/-55/+25/+125/+25°C
Short Time Overload	±1%	RCWV*2.5 or Max. overload voltage for 5 seconds
Insulation Resistance	>1000MΩ	Apply 100VDC for 1 minute
Endurance	±1%	70 ± 2°C, Max. working voltage for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"
Damp Heat with Load	±0.5%	40 ± 2°C, 90 ~ 95% R.H. Max. working voltage for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"
Bending Strength	As Spec.	Bending amplitude 3mm for 10 seconds
Solderability	95% min. coverage	245 ± 5°C for 3 seconds
Resistance to Soldering Heat	±0.5%	260 ± 5°C for 10 seconds
Dielectric Withstand Voltage	By Type	Apply Max. Overload Voltage for 1 minute
Thermal Shock	±0.5%	-55°C ~150°C, 100 cycles
Low Temperature Operation	±0.5%	1 hour, -65°C followed by 45 minutes of RCWV