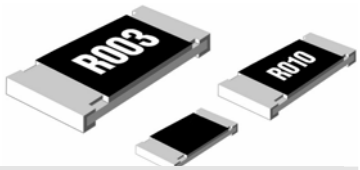
CURRENT SENSE RESISTORS

The content of this specification may change without notification 06/08/07

CTL05/CTL16/CTL10/CTL18/CTL12/CTL01 Series Chip Resistor

Custom solutions are available.



HOW TO ORDER

CTL 10 R015 F J M

Packaging
M = 7" Reel (10" Reel for 2512)
V = 13" Reel

TCR (ppm/°C)
J = ±75 K = ±100 L = ±200
N = ±350 P = ±500

Tolerance (%)
F = ± 1.0 G = ± 2.0 J = ± 5.0

EIA Resistance Code
Three significant digits and # of zeros

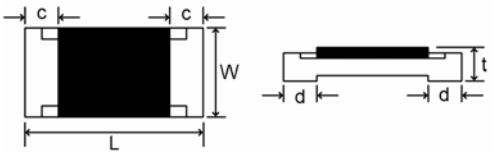
Size
05 = 0402 10 = 0805 12 = 2010
16 = 0603 18 = 1206 01 = 2512

Series
Precision Current Sense Resistor

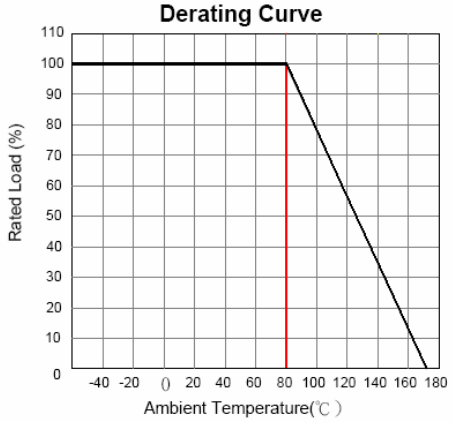
FEATURES

- Resistance as low as 0.001 ohms
- Ultra Precision type with high reliability, stability and quality
- RoHS Compliant
- Extremely Low TCR, as low as ± 75 ppm
- Wrap Around Terminal for Flow Soldering
- Anti-Leaching Nickel Barrier Terminations
- ISO 9002 Quality Certified
- Applicable Specifications: EIA575, IEC 60115-1, JISC5201-1, CECC 40401, MIL-R-55342D

SCHEMATIC



Derating Curve



DIMENSIONS (mm)

Series	Size	L	W	c	t
CTL05	0402	1.00 ± 0.10	0.50 ± 0.10	0.20 ± 0.10	0.35 ± 0.10
CTL16	0603	1.60 ± 0.10	0.80 ± 0.10	0.20 ± 0.10	0.45 ± 0.10
CTL10	0805	2.00 ± 0.20	1.25 ± 0.20	0.60 ± 0.15	0.50 ± 0.15
CTL18	1206	3.20 ± 0.20	1.60 ± 0.15	1.00 ± 0.15	0.50 ± 0.15
CTL12	2010	5.00 ± 0.20	2.50 ± 0.20	1.70 ± 0.15	0.50 ± 0.15
CTL01	2512	6.40 ± 0.20	3.20 ± 0.20	2.00 ± 0.15	0.50 ± 0.15

ELECTRICAL CHARACTERISTICS

Size	Rated Power	Tol	Max TCR (ppm/°C)					Max Working Voltage	Max Overload Voltage
			±75ppm	±100ppm	±200ppm	±350ppm	±500ppm		
0402	.125W	2%			0.100 ~ 4.70			25V	50V
		5%			0.100 ~ 4.70				
0603	.125W	1%			0.100 ~ 0.680			50V	100V
		2%			0.100 ~ 0.680				
		5%			0.100 ~ 0.680				
0805	.250W	1%	0.100 ~ 0.500		0.022 ~ 0.080	0.01 ~ 0.039		150V	300V
		2%			0.022 ~ 0.080	0.01 ~ 0.039			
		5%			0.022 ~ 0.080	0.022 ~ 0.068			
1206	.50W	.5%	0.100 ~ 0.500	0.068 ~ 0.470	0.033 ~ 0.047	0.018 ~ 0.027		200V	400V
		1%		0.056 ~ 0.470	0.033 ~ 0.047	0.027			
		2%		0.056 ~ 0.470	0.033 ~ 0.047	0.018 ~ 0.027	0.01 ~ 0.015		
2010	.75W	.5%						200V	400V
		1%	0.100 ~ 0.500	0.056 ~ 0.470	0.001 ~ 0.0649	0.027			
		2%		0.056 ~ 0.470	0.001 ~ 0.0649	0.018 ~ 0.027	0.01 ~ 0.015		
2512	1.0W	.5%		0.056 ~ 0.470	0.001 ~ 0.0649	0.018 ~ 0.027		200V	400V
		1%	0.100 ~ 0.500	0.056 ~ 0.470	0.001 ~ 0.0649	0.027			
		2%		0.056 ~ 0.470	0.001 ~ 0.0649	0.018 ~ 0.027	0.01 ~ 0.015		

NOTE: The temperature range is -55℃ ~ +150℃

Rated Voltage = $\sqrt{P*R}$

American Accurate Components, Inc.
188 Technology Drive, Unit H, Irvine, CA 92618
TEL: 949-453-9888 ◆ FAX: 949-453-8889

CTL05/CTL16/CTL10/CTL18/CTL12/CTL01 Series Chip Resistor

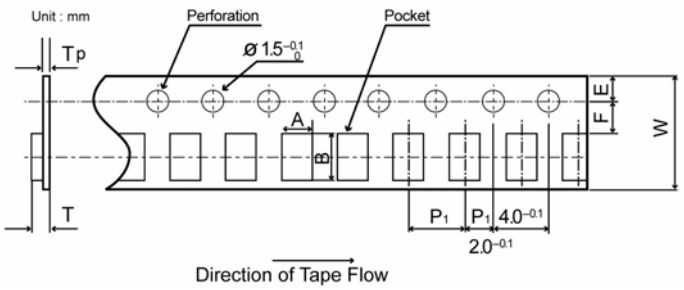
PERFORMANCE

Test Item	Maximum ΔΩ		Condition
	F	G, J	
Short Time Overload	± 0.1%	± 0.5%	2.5 times of the rated voltage shall be applied for 5 seconds
Load Life	± 0.25%	± 0.5%	The resistor shall be subjected to rated voltage for 90 min. followed by a pause of 30 min. at a temperature of 70±3ºC. This constitutes 1 cycle. Cycles shall be repeated for 1000 hours.
Moisture Load Life	± 0.25%	± 0.5%	The resistor subjected to rated voltage for 90 min followed by a pause for 30 min at a temperature of 60±2ºC with relative humidity of 90% to 95%. This constitutes 1 cycles. Cycles shall be repeated for 1000 hours.
Temperature Cycle	± 0.1%	± 0.5%	[-55ºC 30 min → +125ºC 30 min → R.T. 3 min] The resistor shall be subjected to 5 continuous cycles
Resistance to Solder Heat	± 0.1%	± 0.5%	The resistor shall withstand dipped into solder for 10±1 sec. At 260±5ºC
Terminal Strength	± 0.1%	± 0.5%	Distance between fulcrums: 90mm; Bending width: 3 mm
Insulation Resistance	DC 500V for 1 min.		1000 Meg Ω or over
Solderability			A new uniform coating of solder shall cover minimum of 95% of surface being immersed The resistor shall be dipped into the solder of 215±5ºC for 3±0.5 seconds

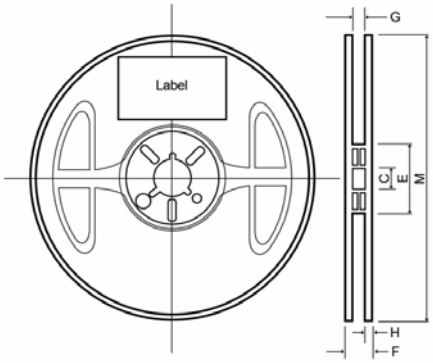
PACKAGE QUANTITY

Package Type	CTL05	CTL16	CTL10	CTL18	CTL12	CTL01	CTL1S
M	10,000	5,000	5,000	5,000	5,000	5,000	2,000

TAPE SCHEMATIC



REEL SCHEMATIC



TAPE DIMENSIONS (mm)

	A	B	W	E	F	P_1	T	T_p
CTL05	0.65±0.1	1.15±0.1	8.0±0.2	1.75±0.10	3.5±0.05	2.0±0.05	0.55±0.1	0.20±0.05
CTL16	1.1±0.2	1.9±0.2	8.0±0.2	1.75±0.1	3.5±0.05	4.0±0.1	0.70±0.1	0.20±0.05
CTL10	1.65±0.2	2.4±0.2	8.0±0.2	1.75±0.1	3.5±0.05	4.0±0.1	0.85±0.1	0.20±0.05
CTL18	2.0±0.15	3.6±0.15	8.0±0.2	1.75±0.1	3.5±0.05	4.0±0.1	0.85±0.1	0.20±0.05
CTL12	2.9±0.1	5.3±0.1	12.0±0.2	1.75±0.1	5.5±0.05	4.0±0.1	1.0±0.1	0.25±0.1
CTL01	3.4±0.1	6.6±0.1	12.0±0.2	1.75±0.1	5.5±0.05	4.0±0.1	1.0±0.1	0.25±0.1
CTL1S	3.4±0.1	6.6±0.1	12.0±0.2	1.75±0.1	5.5±0.05	4.0±0.1	1.0±0.1	0.25±0.1

REEL DIMENSIONS (mm)

Reel	M	H	C	G	E	F
7”	180 ± 3.0	1.20	13.0 ± 0.2	9.0 ± 0.3	60 ± 1.0	11.4 ± 1.0
10”						
13”						

* The suffix “L” indicates that this item is lead free. As of September 2004, all new production items of this are lead free and in compliance with Lead Free/RoHS.

LABEL DESCRIPTION

One side surface of a reel is marked with a label with the following items of information.

1. Chip Resistor
2. Part Number
3. Tolerance
4. Quantity
5. Lot # for production month/year/suffix L*
6. Manufacturer’s name or symbol