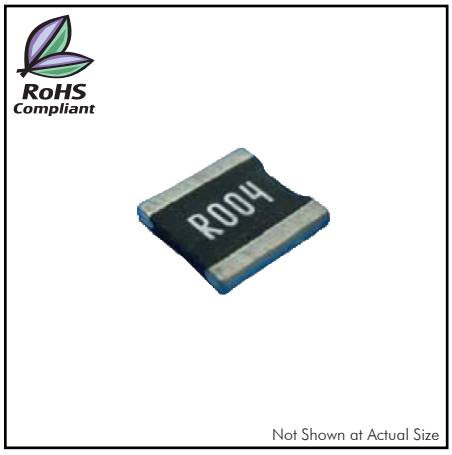
CTCSC Series



CHARACTERISTICS

Description: Metal Alloy Current Sensors
Features:
- LOW T.C.R
- Wide Resistance range
- Short time over load for 5 seconds
- High Surge Power
- RoHS, PFOS, PFOA, Halogen Free and REACH Compliant
- Anti-sulfurated

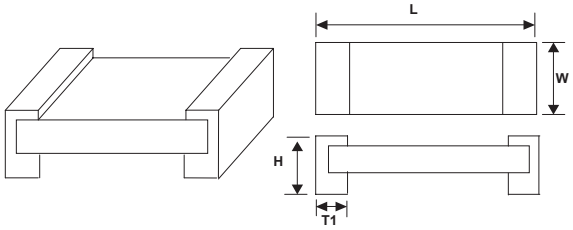
Operating Temperature: -55°C to +170°C
Applications: Power Converter, Overload Protection, Linear Motor Control, Switching Converter, Power Amplifier, RF Total Power
Samples available. See website for ordering information.

PRODUCT IDENTIFICATION

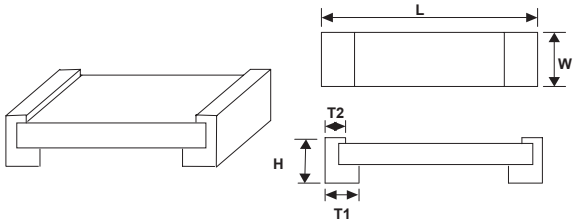
CTCSC	2512	1	R001XX	F
Product Series	**Dimensions Code (Inch)**	**Rated Power**	**Resistence (6 Digits)**	**Tolerance**
Metal Alloy Low Resistance Resistor	1206 2010 2512 2725 2728 4527 452S	C=0.5W 1=1.0W A=1.5W 2=2.0W 3=3.0W B=3.5W 4=4.0W 5=5.0W	R001XX=1mΩ R010XX=10mΩ R100XX=100mΩ R00025=0.25mΩ	D=±0.5% F=±1% G=±2% J=±5%

PHYSICAL DIMENSIONS

CTCSC1206/2010/2512/2725/2728



CTCSC452S/4527



CONFIGURATION AND DIMENSIONS

Type	Maximum Power Rating (Watts)	Resistance Range (mΩ)	Dimensions - in Inches (millimeters)			
			L	W	H	T1
CTCSC1206	0.5 & 1	0.3	0.126±0.010 (3.200±0.254)	0.063±0.010 (1.600±0.254)	0.039±0.010 (1.000±0.254)	0.022±0.010 (0.550±0.254)
		0.5~0.6				0.029±0.010 (0.725±0.254)
		1			0.025±0.010 (0.645±0.254)	0.020±0.010 (0.508±0.254)
		2~4			0.022±0.010 (0.545±0.254)	
		5				0.024±0.010 (0.600±0.254)
		6~50				0.020±0.010 (0.508 ± 0.254)
	1.5	0.3			0.039±0.010 (1.000±0.254)	0.022±0.010 (0.550±0.254)
		0.5~0.6				0.029±0.010 (0.725±0.254)
		1			0.025±0.010 (0.645±0.254)	0.020±0.010 (0.508±0.254)

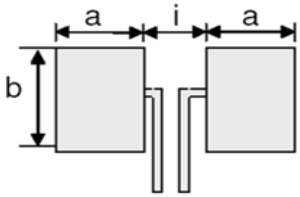
CONFIGURATION AND DIMENSIONS

Type	Maximum Power Rating (Watts)	Resistance Range (mΩ)	Dimensions - in Inches (millimeters)				
			L	W	H	T1	T2
CTCSC2010	1	0.5~0.9	0.200±0.010 (5.080±0.254)	0.100±0.010 (2.540±0.254)	0.031±0.010 (0.787±0.254)	0.057±0.010 (1.440±0.254)	
		1~3				0.051±0.010 (1.295±0.254)	
		3.1~4			0.025±0.010 (0.645±0.254)	0.031±0.010 (0.787±0.254)	
		4.1~100					
CTCSC2512	1 & 1.5	0.3	0.246±0.010 (6.248±0.254)	0.126±0.010 (3.202±0.254)	0.040±0.010 (1.000±0.254)	0.079±0.010 (2.02±0.254)	
		0.5~3			0.031±0.010 (0.787±0.254)	0.074±0.010 (1.880±0.254)	
		3.1~4					
		4.1~75			0.025±0.10 (0.645±0.254)	0.044±0.010 (1.118±0.254)	
		75.1~100			0.025±0.10 (0.645±0.254)	0.034±0.010 (0.868±0.254)	
	2	0.3			0.040±0.010 (1.000±0.254)	0.079±0.010 (2.02±0.254)	
		0.5~3			0.031±0.010 (0.787±0.254)	0.074±0.010 (1.880±0.254)	
		3.1~4			0.031±0.010 (0.787±0.254)	0.074±0.010 (1.880±0.254)	
		4.1~75			0.025±0.010 (0.645±0.254)	0.044±0.010 (1.118±0.254)	
	3	0.3			0.040±0.010 (1.000±0.254)	0.079±0.10 (2.02±0.254)	
		0.5			0.031±0.010 (0.787±0.254)	0.074±0.010 (1.880±0.254)	
		0.6~2.9				0.044±0.010 (1.118±0.254)	
		3~4				0.066±0.010 (1.676±0.254)	
		4.1~10			0.025±0.010 (0.645±0.254)	0.044±0.010 (1.118±0.254)	
CTCSC2725	4	0.2~0.5	0.268±0.010 (6.807±0.254)	0.254±0.010 (6.452±0.254)	0.039±0.010 (0.991±0.254)	0.085±0.010 (2.159±0.254)	
		0.6				0.071±0.010 (1.803±0.254)	
		1			0.043±0.010 (1.092±0.254)	0.085±0.010 (2.159±0.254)	
		1.5			0.039±0.010 (0.991±0.254)		
		2			0.035±0.010 (0.889±0.254	0.071±0.010 (1.803±0.254)	
		2.25~2.5				0.065±0.010 (1.651±0.254)	
		3				0.051±0.010 (1.295±0.254)	
CTCSC2728	3,3.5 & 4	4 ~100	0.264±0.010 (6.706±0.254)	0.283±0.010 (7.188±0.254)	0.039±0.010 (0.991±0.254)	0.045±0.10 (1.143±0.254)	
CTCSC452S (Without Heat Sink)	3	0.5	0.450±0.010 (11.43±0.254)	0.270±0.010 (6.85±0.254)	0.055±0.010 (1.40±0.254)	0.127±0.010 (3.215±0.254)	0.038±0.010 (0.965±0.254)
		0.6~3					
		4~5					
		5.1~20				0.071±0.010 (1.815±0.254)	

CONFIGURATION AND DIMENSIONS

CTCSC4527	5	0.5	0.450±0.010 (11.43±0.254)	0.270±0.010 (6.85±0.254)	0.059±0.010 (1.50±0.254)	0.127±0.010 (3.215±0.254)	0.038±0.010 (0.965±0.254)
		0.6~3					
		4~5					
		5.1~200				0.071±0.010 (1.815±0.254)	

RECOMMENDED LAND PATTERN



Type	Maximum Power Rating (Watts)	Resistance Range (mΩ)	Dimensions - in Millimeters		
			a	b	i
CTCSC1206	0.5 & 1 & 1.5	0.3~0.6	1.65	2.18	0.9
		1~50	1.6		1
CTCSC2010	1	0.5~3	2.89	2.92	1.22
		3.1~100	2.29		2.41
CTCSC2512	1 & 1.5	0.3~4	3.05	3.68	1.27
		4.1~100	2.11		3.18
	2	0.3~4	3.05		1.27
		4.1~75	2.11		3.18
	3	0.3~0.5	3.05		1.27
		0.6~2.9	2.19		3
		4.1~10			
		3~4	2.79		1.8
CTCSC2725	4	0.2~3	3.18	6.86	1.32
CTCSC2728	3 & 3.5 & 4	4.~100	2.75	7.82	3.51
CTCSC452S	3	0.5~5	4.8	8.74	5.51
		5.1~20	3.4		8.31
CTCSC4527	5	0.5~5	4.8	8.74	5.51
		5.1~200	3.4		8.31

MATERIAL OF ALLOY

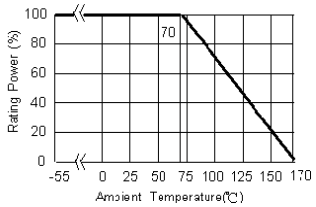
Type	Watts	Material	Resistance
CTCSC1206	0.5	Copper - Manganese Alloy Iron - Chromium Aluminium Alloy	≤4.0mΩ
	1		
	1.5		>4.0mΩ
CTCSC2010	1	Copper - Manganese Alloy	≤4.0mΩ
		Iron - Chromium Aluminium Alloy	>4.0mΩ
CTCSC2512	1	Copper - Manganese Alloy Iron - Chromium Aluminium Alloy	<3.5mΩ
	1.5		
	2		≥3.5mΩ
	3	Copper - Manganese Alloy	≤2.5mΩ
		Iron - Chromium Aluminium Alloy	≥3.0mΩ
CTCSC2725	4	Copper - Manganese Alloy	≤0.5mΩ
		Iron - Chromium Aluminium Alloy	>0.5mΩ
CTCSC2728	3	Iron - Chromium Aluminium Alloy	All
	3.5		
	4		
CTCSC452S	3	Copper - Manganese Alloy	≤3.0mΩ
CTCSC4527	5	Iron - Chromium Aluminium Alloy	≥4.0mΩ

ELECTRICAL CHARACTERISTICS

Type	Rating Power (W) Max.	Rating Current (A) Max.	Overload Current (A) Max.	T.C.R (ppm/°C)	Resistance Range (mΩ) Tolerance (±%)		Operating Temperature Range
					0.5%	1%,±2%±5%	
CTCSC1206	0.5	40.82	81.64	0.3mΩ: ≤±450 0.5~0.9mΩ: ≤±175 1~15mΩ: ≤±75 15.1~50mΩ: ≤±50	7~50	0.3~50	-55~170°C
	1	57.74	115.47	0.3mΩ: ≤±450 0.5~0.9mΩ: ≤±175 1~15mΩ: ≤±75 15.1~50mΩ: ≤±50	7~50	0.3~50	
	1.5	70.71	141.42	0.3mΩ: ≤±450 0.5~0.9mΩ: ≤±175 1~15mΩ: ≤±75 1mΩ: ≤±75	-	0.3~1	
CTCSC2010	1	44.72	89.44	0.5~0.9mΩ: ≤±100 1~1.9mΩ: ≤±75 2~6.9mΩ: ≤±50 7~100mΩ: ≤±25	7~49	0.5~100	
CTCSC2512	1	57.74	129.1	0.3mΩ: ≤±150 0.5~1mΩ: ≤±75 1.1~3mΩ: ≤±50 3.1~100mΩ: ≤±25	7~50	0.3~100	
	1.5	70.71	158.11				
	2	81.65	182.57	0.3mΩ: ≤±150 0.5~1mΩ: ≤±75 1.1~3mΩ: ≤±50 3.1~75mΩ: ≤±25	7~50	0.3~75	
	3	100	173.21	0.3mΩ: ≤±150 0.5~1mΩ: ≤±75 1.1~2.5mΩ: ≤±50 2.6~10mΩ: ≤±25	7~10	0.3~10	
CTCSC2725	4	126.49	252.95	0.2mΩ: ≤±100 0.25~3mΩ: ≤±50	-	0.20~3	
CTCSC2728	3	27.39	47.43	4~100mΩ: ≤±25	4~19	4~100	
	3.5	29.58	51.23	4~100mΩ: ≤±25	4~19	4~100	
	4	31.62	63.25	4~50mΩ: ≤±25	4~19	4~50	
CTCSC452S (Without Heat Sink)	3	77.5	134	0.5~1mΩ: ≤±75 1.1~20mΩ: ≤±50	7~20	0.5~20	
CTCSC4527	5	100	173	0.5~1mΩ: ≤±75 1.1~200mΩ: ≤±50	7~120	0.5~200	

Note: When ordering, please specify tolerance code. Tolerance: F= ±1%, G=±2%, J= ±5%, D=0.5%

- Power Derating Curve: Operating Temperature Range: -55~+170°C
  For resistors operated in ambient temperatures 70°C, power rating shall be derated in accordance with the curve below:



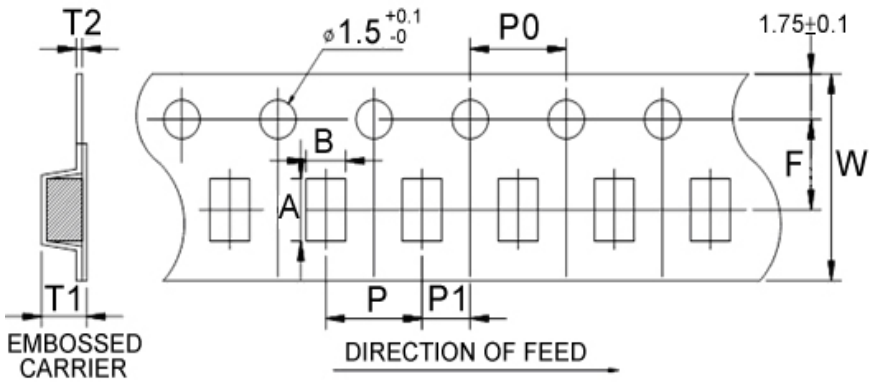
- Rating Current: The resistor shall have a DC continuous working current or a RMS (Root Mean Square)AC continuous working current at commercial-line frequency and wave form corresponding to the power rating, as determined from the following:.
  Remark: I: Rating Current.(A), P: Rating Power.(W), R: Resistance.(Ω)

$$I = \sqrt{P/R}$$

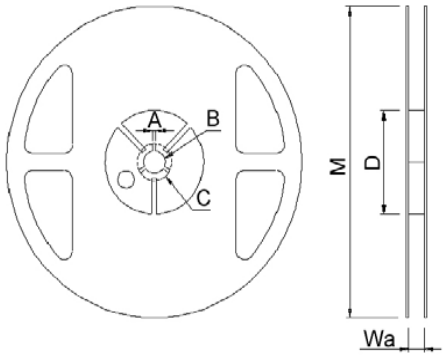
Please be sure to request approval specifications that provide further details of the products. Kindly note that the content of these specifications are subject to change or may be discontinued without advance notice. Please contact our sales department before ordering.

Packaging Specifications

Tape Dimensions



Reel Dimensions



Dimensions in mm

TYPE	Tape Dimensions									Reel Dimensions						Quantity
	A	B	W	F	T1	T2	P	P0	P1	M	Wa	A	B	C	D	PCS / REEL
CTCSC1206 (0.3~0.6mΩ)	3.50	1.90	8	3.5	1.27	0.23	4	4	2	178	9.0	2	13.5	21	60	2000
CTCSC1206 (≥1.0mΩ)	3.48	1.83	8	3.5	1.10	0.20	4	4	2	178	9.0	2	13.5	21	60	4000
CTCSC2010	5.45	2.90	12	5.5	1.33	0.23	4	4	2	178	13.8	2	13.5	21	80	2000
CTCSC2512 (0.3mΩ)	6.74	3.50	12	5.5	1.60	0.24	8	4	2	178	13.8	2	13.5	21	80	1000
CTCSC2512	6.75	3.50	12	5.5	1.30	0.20	4	4	2	178	13.8	2	13.5	21	80	4000
CTCSC2725	7.15	6.75	12	5.5	1.95	0.25	8	4	2	178	13.8	2	13.5	21	80	1000
CTCSC2728	7.15	7.70	12	5.5	1.45	0.25	12	4	2	178	13.8	2	13.5	21	80	1000
CTCSC452S CTCSC4527	11.80	7.20	24	11.5	2.00	0.30	12	4	2	178	25	2	13.2	17.7	60	500