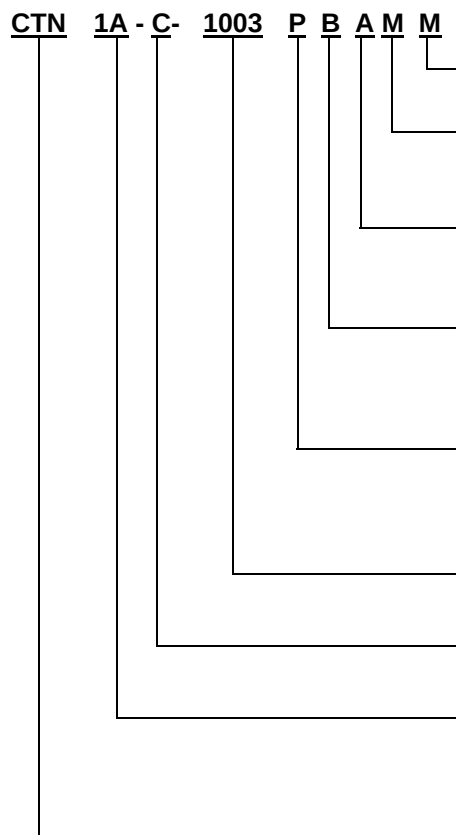


Custom solutions are available.

HOW TO ORDER



Packaging

M = Tape/Reel

Tracking TCR

L = 1 N = 3 Q = 10
M = 2 P = 5

Absolute TCR

P = ± 5 X = ± 25
Q = ± 10

Ratio Tolerance

T = 0.01 B = 0.1
Q = 0.02 C = 0.25
A = 0.05 D = 0.5

Absolute Tolerance (%)

A = ± 0.05 D = ± 0.5
B = ± 0.1 F = ± 1
C = ± 0.25

Resistance Value

3 sig. fig & 1 multiplier $\pm 1\%$

Circuit Layout

Refer to Specification

Model (Refer to Spec)

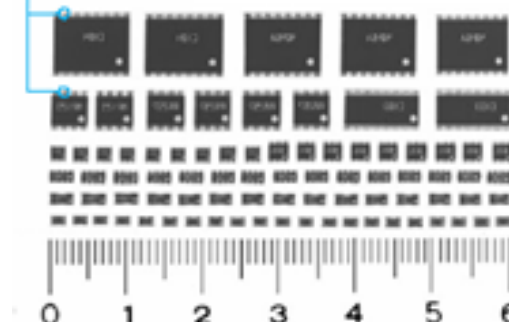
1A 6D S8D
1D S6D M16D
2D 8D 16D

Series

High Precision Resistor Array & Networks



U-Shaped Product
with Electrode Structure
Processed product with grooves



FEATURES

AAC thin film network resistors ensure stable high performance as indicated by the excellent ratio T.C.R as between elements 1pp/°C or less and absolute T.C.R as 5 pp/°C. The absolute tolerance as 0.5%.

- "U-type" electrodes offering excellent durability, ensuring superb durability for soldering flow, re-flow soldering, or dip soldering, and is also very beneficial for the durability of wire bonding
- A perfect solution to replace the network resistor of SOP, SIP or DIP types.
- Lead Free and RoHs Compliant
- Custom designed circuits are available upon special request

ELECTRICAL CHARACTERISTICS

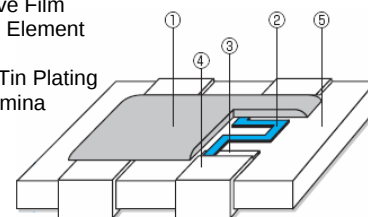
Model	Total Rated Power	Resistance Range (Ω) by Circuit Configuration		
		B	2B	C
CTN1A	0.125 W	10 ~ 50K		10.0 ~ 100K
CTN1D	0.125 W	10 ~ 50K		10.0 ~ 100K
CTN2D	0.100 W	10 ~ 25K		10.0 ~ 50.0K
CTN6D	0.250 W		10.0 ~ 100K	10.0 ~ 100K
CTNS6D	0.150 W		10.0 ~ 10.0K	10.0 ~ 50.0K
CTN8D	0.500 W			10.0 ~ 200K (1.00M ~ Total)
CTN8U	0.500 W			
CTNS8D	0.125 W			10.0 ~ 50.0K
CTNM16D	1.00 W			2.00M Total
CTNM16U	1.00 W			2.00M Total
CTN16D	1.50 W			10.0M Total
CTN16U	1.50 W			10.0M Total

APPLICATIONS

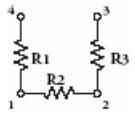
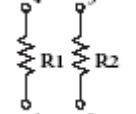
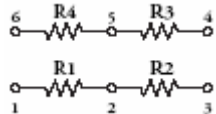
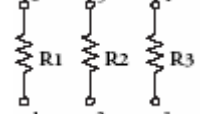
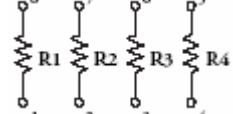
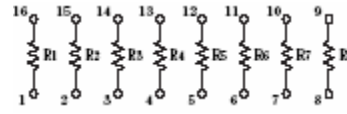
- Medical Instrument
- Test Equipment For Semiconductor
- Precision Measuring Equipment
- Electric Components For Automotive

CONSTRUCTION

1. Epoxy Protective Film
2. Ni-Cr Resistive Element
3. Cu Electrode
4. Ni Plating and Tin Plating
5. High Purity Alumina Substrate



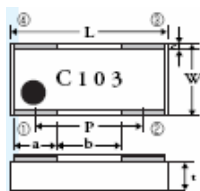
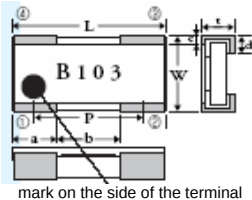
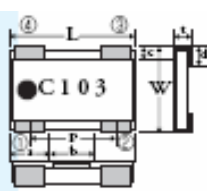
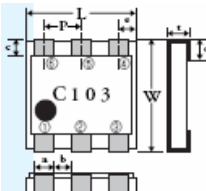
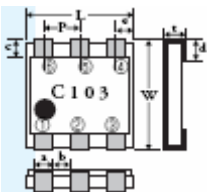
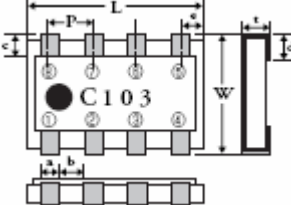
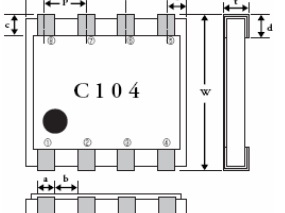
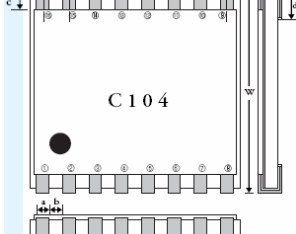
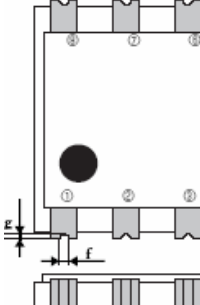
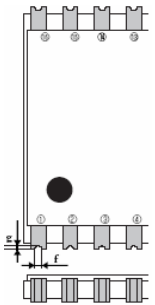
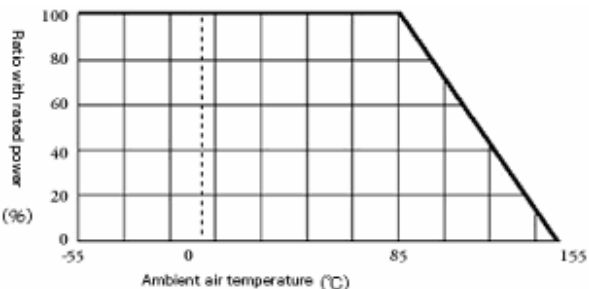
CIRCUIT LAYOUT

CTN1A, CTN1D, CTN2D		CTNS6D, CTN6D		CTNS8D, CTN8D, CTN8U	CTNM16D, CTNM16U, CTN16D, CTN16U
B	C	2B	C	C	C
					

DIMENSIONS (mm)

Model	L	W	P	a	b	c	d	e	f	g	t
CTN1A	3.2 ± 0.2	1.6 ± 0.2	2.0 ± 0.1	1.0 ± 0.1	1.0 ± 0.1	0.15 ± 0.05					0.55 max
CTN1D							0.4 ± 0.1				
CTN2D	2.0 ± 0.2	1.25 ± 0.2	1.3 ± 0.2	0.7 ± 0.2	0.6 ± 0.2	0.1 ± 0.05	0.25 ± 0.1				0.55 max
CTN6D	2.54 ± 0.1	2.54 ± 0.1	0.86 ± 0.1	0.43 ± 0.1	0.43 ± 0.2	0.41 ± 0.2	0.5 ± 0.2	0.41 ± 0.1			0.55 max
CTNS6D	2.0 ± 0.1	2.0 ± 0.1	0.72 ± 0.1	0.36 ± 0.1	0.36 ± 0.1	0.28 ± 0.2	0.4 ± 0.2	0.28 ± 0.1			0.55 max
CTN8D	5.08 ± 0.2	5.1 ± 0.2	1.27 ± 0.2	0.635±0.1	0.635±0.1	0.6 ± 0.2	0.8 ± 0.2	0.635±0.1			0.9 max
CTN8U									0.2	0.1	
CTNS8D	3.2 ± 0.2	1.6 ± 0.2	0.8 ± 0.1	0.4 ± 0.1	0.4 ± 0.1	0.3 ± 0.2	0.4 ± 0.2	0.3 ± 0.1			0.55 max
CTNM16D	10.16 ± 0.2	5.1 ± 0.2	1.27 ± 0.2	0.635±0.1	0.635±0.1	0.6 ± 0.2	0.8 ± 0.2	0.635±0.1			0.9 max
CTNM16U									0.2	0.1	
CTN16D		8 ± 0.2									
CTN16U									0.2	0.1	

SCHEMATIC

CTN1A 	CTN1D 	CTN2D 	CTN6D 
CTNS6D 	CTNS8D 	CTN8D 	CTNM16D & CTN16D 
CTN8U 	CTNM16U & CTN16U 	DERATING CURVE 	

PERFORMANCE

Item	Test Condition	Specification
Short Time Overload	Application of 2.5 times the rated voltage for 5 seconds	$\pm (0.1\% + 0.05\Omega)$
Heat Resistance During Soldering	Dip in Solder at $260^\circ\text{C} \pm 5^\circ\text{C}$ for 10 ± 1 seconds	$\pm (0.05\% + 0.05\Omega)$
Temperature Cycles	100 cycles between $-55^\circ\text{C} \sim +125^\circ\text{C}$	$\pm (0.1\% + 0.05\Omega)$
Service Life Under Heavy Load	1,000 hours at 85°C , rated voltage with intermittent load	$\pm (0.1\% + 0.05\Omega)$
Longevity Under Heavy Humidity Load	95% RH for 1000 hrs at 40°C , rated voltage with intermittent load	$\pm (0.1\% + 0.05\Omega)$
Absolute Value indicating Secular Change	1 year at ambient temperature, normal humidity without load	$\pm 50\text{ppm}$ (within $\pm 50\text{ppm} / \text{year}$)
Relative Value Indicating Secular Change	1 year at ambient temperature, normal humidity without load	$\pm 10\text{ppm}$ (within $\pm 10\text{ppm} / \text{year}$)