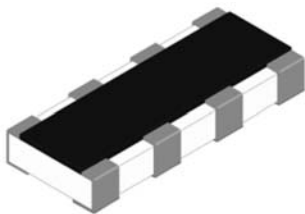


Thick Film Flat Chip Resistor Array

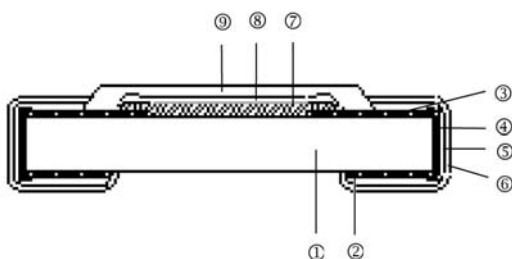
NCF 02-4, 02-2



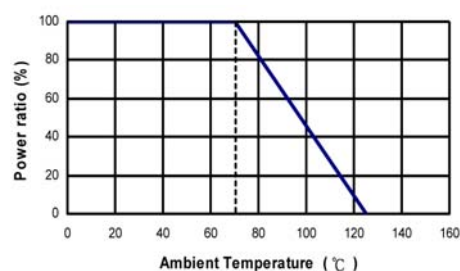
Applications

- Pull-up/ Pull-down resistors for digital circuits
- Interface circuits of LCD displays memory modules, etc.
- Communication Equipments

Construction

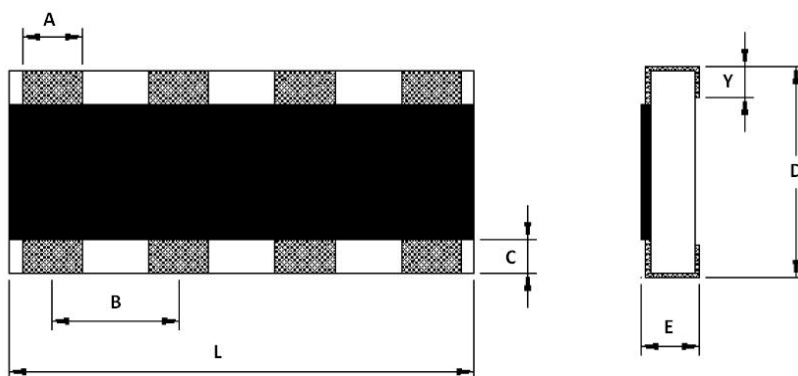


Derating Curve



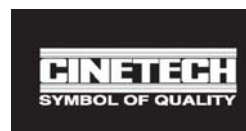
1	Alumina Substrate	4	Edge Electrode (NiCr)	7	Resistor Layer (RuO ₂ /Ag)
2	Bottom Electrode (Ag)	5	Barrier Layer (Ni)	8	Primary Overcoat (Glass)
3	Top Electrode (Ag-Pd)	6	External Electrode (Sn)	9	Secondary Overcoat (Epoxy)

Dimensions



Unit: mm

Type	Number of Resistors	L ±0.10	D ±0.10	E ±0.10	A ±0.10	B ±0.10	C ±0.10	Y ±0.10	Weight (g) (1000pcs)
NCF02	4	1.4	0.6	0.35	0.20	0.40	0.10	0.15	0.833
NCF02	2	0.8	0.6	0.35	0.30	0.50	0.15	0.15	0.50



Standard Electrical Specifications

Item Type	Poert Tsyinh / Rated Current	Operating Temp. Range	Max. Operating Voltage	Max.Overload Voltage	Number of Resistors	Resistance Range ±5%	TCR (PPM/°C)
NCF02-4	1/32W	-55 ~ + 125°C	12.5V	25V	4	10Ω-1MΩ	±200
NCF02-2	1/32W			25V	2	10Ω-1MΩ	

Operating Voltage= $\sqrt{P \cdot R}$ or Max. operating voltage listed above, whichever is lower.

Overload Voltage= $2.5 \cdot \sqrt{P \cdot R}$ or Max. overload voltage listed above, whichever is lower.

O ohm Jumper - 0.5A, resistance < 50m Ohm

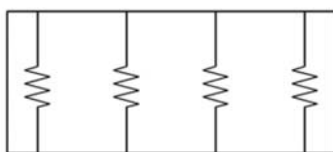
Characteristics

Item	Requirement		Test Method
	±5%	Jumper	
Temperature Coefficient Resistance (T.C.R)	As Spec.		-55°C ~ +125°C, 25°C is the reference temperature
Short Time overload	± (2.0%+0.1Ω)	<50mΩ	2.5 times RCWV or Max. overload voltage for 5 seconds
Insulation Resistance	≥ 10G		Max. overload voltage for 1 minute
Endurance	± (3.0%+0.1Ω)	<100mΩ	70± 2°C, Max. working voltage for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"
Damp Heat with Load	± (3.0%+0.1Ω)		40± 2°C, 90~95% R.H., Max. working voltage for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"
Dry Heat	± (3.0%+0.1Ω)	<100mΩ	at + 125°C for 1000 hrs
Bending Strength	± (1.0%+0.05Ω)	<50mΩ	Bending once for 5 seconds with 3mm
Solderability	>95% coverage		245±5°C for 3 seconds
Resistance to Soldering Heat	± (1.0%+0.05Ω)	<50mΩ	260±5°C for 10 seconds
Voltage Proof	No breakdown or flashover		1.42 times RCWV (RMS) for 1 minute
Rapid Change of Temperature	± (1.0%+0.05Ω)	<50mΩ	-55°C to + 125°C, 5 cycles

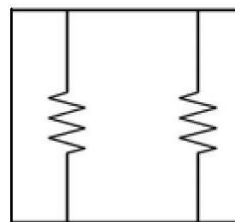
■ Reference Standards: IEC 60115-1, 600068-2-58; JIS-C 5201-1

■ Storage Temperature: 25±3°C; Humidity < 80%RH

Equivalent Circuit Diagram



NCF02-4



NCF02-2

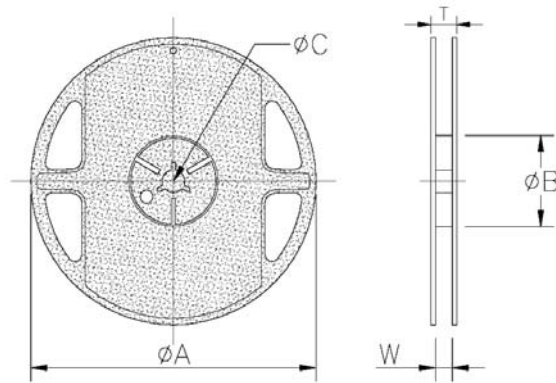
Parts Number system

NCF02	4	103	J	R
TYPE	No. of resistor	Resistance	Tolerance	Tape/Reel
0201X4	4	3-digit code	J = 5 %	10K/Reel
0201X2	2	103 = 10K OHM		



Packaging

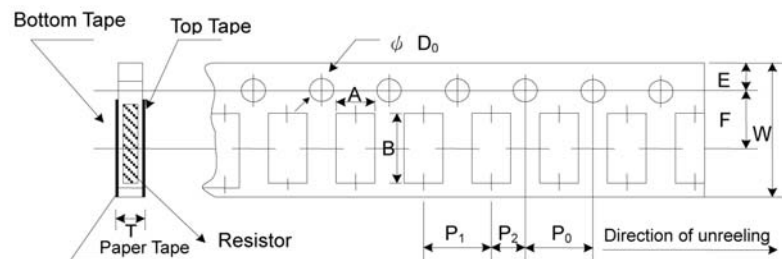
Reel Specifications & Packaging Quantit



unit: mm

Type	Packaging	Quantity	Tape Width	Reel Diameter	ΦA	ΦB	ΦC	W	T
NCF02-4	Paper	10K	8mm	7 inch	178.5 ±1.5	60	13±0.2	9.0±0.5	12.5±0.5
NCF02-2	Paper	10K	8mm	7 inch	178.5 ±1.5	60	13±0.2	9.0±0.5	12.5±0.5

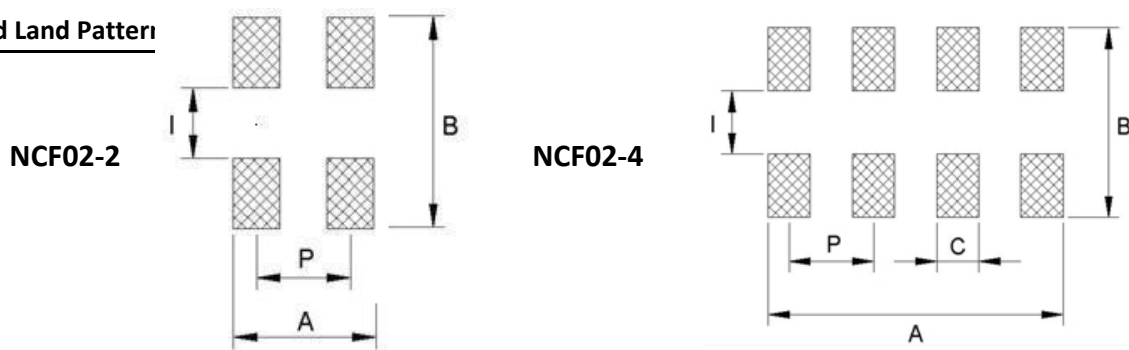
Paper tape Specifications



unit: mm

Type	A	B	W	E	F	P0	P1	P2	ΦD0	T
NCF02-4	0.77±0.05	1.57±0.05	8.0±0.20	1.75±0.10	3.5±0.05	4.0±0.10	2.0±0.05	2.0±0.05	1.5	0.5±0.10
NCF02-2	0.7±0.05	0.9±0.05	8.0±0.20	1.75±0.10	3.5±0.05	4.0±0.10	2.0±0.05	2.0±0.05	1.5	0.5±0.10

Recommend Land Pattern



Type	A	B	C	C1	I	I1	P	P1
NCF02-4	1.40	0.90	0.20	--	0.30	--	0.40	--
NCF02-2	0.80	0.90	--	--	0.30	--	0.50	--

