SERIES 770

CONFORMAL COATED SIP RESISTOR NETWORK

FEATURES

- **High-Reliability Cermet Resistors**
- **Space Saving Over Individual Resistors**
- **Low Profile**
- Available in Odd or Even Number of Pins From 4 to 12 Leads
- 0.100 inch [2.54 mm] Pin Spacing
- Resistance Range 22Ω to 1 MΩ (E-24 Series)
- Temperature Coefficient of Resistance (T.C.R.) ±100ppm/°C
- Operating Temperature to -55°C to +125°C
- Epoxy Resin Coating
- Bulk Packaging
- **RoHS Compliant in Accordance with EU Directive 2005/95/EC**
  - Lead-Free Termination Finish
  - Exemption 5 for Pb in glass material and resistor elements

ORDERING INFORMATION

770 □ □ □ P

NUMBER OF PINS
4 - 12 Pins Available
Ex. 4 = 4 pins
Ex. 10 = 10 pins

RoHS COMPLIANT
Lead Finish: SnAgCu

RESISTOR CODE
Resistor Tolerance is ±2% for all part numbers.
For Schematics 1 & 3, refer to available resistor table on Page 2.
For Schematic 5 the following format is used.
Ex. 220/330 = 220Ω/330Ω
Ex. 470/1.2k = 470Ω/1200Ω
See tables below for example part numbers.
Refer to tables on Page 2 for available part numbers.

SCHEMATIC
1 - Bussed Circuit
3 - Isolated Circuit
5 - Dual Terminator Circuit

Not all pin count, schematic combinations and resistor values may be available.
Contact your local CTS Representative or CTS Customer Service for availability.

Schematic 5 Example Part Numbers

For R1 and R2 <1k Ohms			
R1 (ohms)	R2 (ohms)	R1/R2	Part Number
81	130	81/130	**77010581/130P**
100	200	100/200	**770105100/200P**
180	270	180/270	**770105180/270P**
220	330	220/330	**770105220/330P**

Schematic 5 Example Part Numbers

For R1 or R2 >1k Ohms			
R1 (ohms)	R2 (ohms)	R1/R2	Part Number
470	1k	470/1k	**770105470/1KP**
750	2.3k	750/2.3k	**770105750/2.3KP**
1k	2k	1k/2k	**7701051K/2KP**
1.1k	2.2k	1.1k/2.2k	**7701051.1/2.2KP ***
1.5k	3.3K	1.5k/3.3k	**7701051.5/3.3KP ***

* CTS Part Number limited to 15 characters maximum.
First k is omitted

ORDERING INFORMATION

AVAILABLE RESISTOR VALUES & EIA CODE (E-24 Series)

Ohms	Code	Ohms	Code	Ohms	Code	Ohms	Code	Ohms	Code	Ohms	Code	Ohms	Code	Ohms	Code	Ohms	Code
22	220	68	680	220	221	680	681	2.2K	222	6.8K	682	22.0K	223	68.0K	683	220K	224	680K	684
24	240	75	750	240	241	750	751	2.4K	242	7.5K	752	24.0K	243	75.0K	753	240K	244	750K	754
27	270	82	820	270	271	820	821	2.7K	272	8.2K	822	27.0K	273	82.0K	823	270K	274	820K	824
30	300	91	910	300	301	910	911	3.0K	302	9.1K	912	30.0K	303	91.0K	913	300K	304	910K	914
33	330	100	101	330	331	1.0K	102	3.3K	332	10.0K	103	33.0K	333	100K	104	330K	334	1M	105
36	360	110	111	360	361	1.1K	112	3.6K	362	11.0K	113	36.0K	363	110K	114	360K	364		
39	390	120	121	390	391	1.2K	122	3.9K	392	12.0K	123	39.0K	393	120K	124	390K	394		
43	430	130	131	430	431	1.3K	132	4.3K	432	13.0K	133	43.0K	433	130K	134	430K	434		
47	470	150	151	470	471	1.5K	152	4.7K	472	15.0K	153	47.0K	473	150K	154	470K	474		
51	510	160	161	510	511	1.6K	162	5.1K	512	16.0K	163	51.0K	513	160K	164	510K	514		
56	560	180	181	560	561	1.8K	182	5.6K	562	18.0K	183	56.0K	563	180K	184	560K	564		
62	620	200	201	620	621	2.0K	202	6.2K	622	20.0K	203	62.0K	623	200K	204	620K	624		

SCHEMATIC 5, AVAILABE PART NUMBERS

Model 770105 For R1 and R2 <1k			
R1 (ohms)	R2 (ohms)	R1/R2	Part Number
81	130	81/130	**77010581/130P**
100	200	100/200	**770105100/200P**
100	150	100/150	**770105100/150P**
100	430	100/430	**770105100/430P**
106	169	106/169	**770105106/169P**
120	180	120/180	**770105120/180P**
121	195	121/195	**770105121/195P**
160	240	160/240	**770105160/240P**
162	260	162/260	**770105162/260P**
180	220	180/220	**770105180/220P**
180	270	180/270	**770105180/270P**
180	300	180/300	**770105180/300P**
180	390	180/390	**770105180/390P**
220	270	220/270	**770105220/270P**
220	330	220/330	**770105220/330P**
250	250	250/250	**770105250/250P**
270	470	270/470	**770105270/470P**
330	330	330/330	**770105330/330P**
330	390	330/390	**770105330/390P**
330	470	330/470	**770105330/470P**
360	720	360/720	**770105360/720P**
390	620	390/620	**770105390/620P**
470	680	470/680	**770105470/680P**
750	750	750/750	**770105750/750P**

Model 770105 For R1 or R2 >1k			
R1 (ohms)	R2 (ohms)	R1/R2	Part Number
470	1K	470/1K	**770105470/1KP**
560	1K	560/1K	**770105560/1KP**
750	2.3K	750/2.3K	**770105750/2.3KP**
1K	2K	1K/2K	**7701051K/2KP**
1.1K	2.2K	1.1K/2.2K	**7701051.1/2.2KP**
1K	3.3K	1K/3.3K	**7701051K/3.3KP**
1.5K	1.5K	1.5K/1.5K	**7701051.5/1.5KP**
1.5K	3.3K	1.5K/3.3K	**7701051.5/3.3KP**
2.2K	4.4K	2.2K/4.4K	**7701052.2/4.4KP**
2.2K	5.6K	2.2K/5.6K	**7701052.2/5.6KP**
3K	6.2K	3K/6.2K	**7701053K/6.2KP**
3.3K	4.7K	3.3K/4.7K	**7701053.3/4.7KP**
3.9K	3.3K	3.9K/3.3K	**7701053.9/3.3KP**
5K	5K	5K/5K	**7701055K/5KP**
22K	56K	22K/56K	**77010522K/56KP**

First K is omitted

PACKAGING INFORMATION

Standard packaging is bulk in bag. Device quantity is 250 pieces per bag.

ELECTRICAL CHARACTERISTICS

PRODUCT CHARACTERISTICS

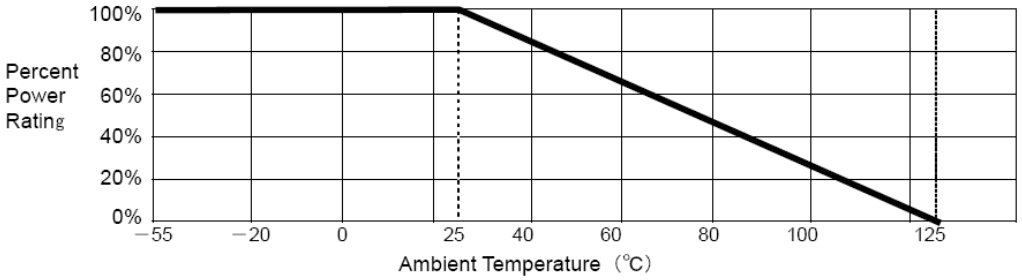
CIRCUIT SCHEMATIC	PIN COUNT	POWER RATING SINGLE RESISTOR ELEMENT		T.C.R. MAXIMUM	RESISTANCE RANGE	RESISTANCE TOLERANCE	MAXIMUM WORKING VOLTAGE	MAXIMUM OVERLOAD VOLTAGE	RATED AMBIENT TEMPERATURE	OPERATING TEMPERATURE RANGE
1 - Bussed	4 - 12	150mW [1] @ +25°C	100mW @ +70°C	±100ppm/°C	22 - 1M (E24) [2]	±2%	E = √P*R or 50, whichever is less [3]	E = (√P*R)2.5 or 100, whichever is less [3]	+25°C	-55°C to +125°C
3 - Isolated	4 - 12									
5 - Dual Terminator	6, 8, 10				Note 3					

Notes:
1 Power rating is based on continuous full load operation at an ambient temperature of +25°C.
For resistors operated at ambient temperatures above +25°C, power rating shall be derated per the Derating Curve below.
2 Except Part Number 77083120P (12 ohms).
3 See Page 2 for Schematic 5 available part numbers.
4 P = Power Rating, R = Resistance.

PACKAGE POWER RATINGS

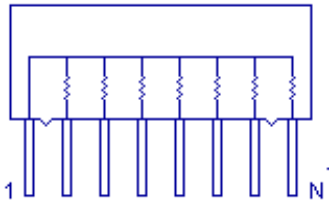
PIN COUNT	PACKAGE POWER @+25°C	PACKAGE POWER @+70°C
4	500mW	300mW
5	700mW	400mW
6	800mW	500mW
7	900mW	600mW
8	1.10W	700mW
9	1.20W	800mW
10	1.40W	900mW
11	1.50W	1.00W
12	1.60W	1.10W

PACKAGE POWER DERATING CURVE

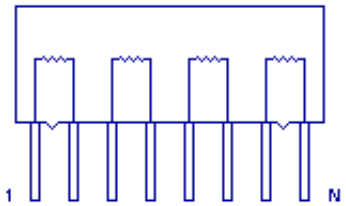


CIRCUIT SCHEMATICS

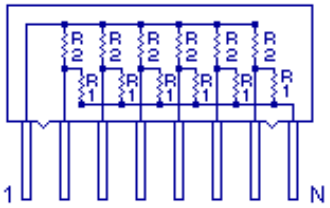
(1) BUSSED
Available in 4 to 12 pin configurations.



(3) ISOLATED
Available in 4, 6, 8, 10, 12 pin configurations.



(5) DUAL TERMINATOR
Available in 6, 8, 10 pin configurations.

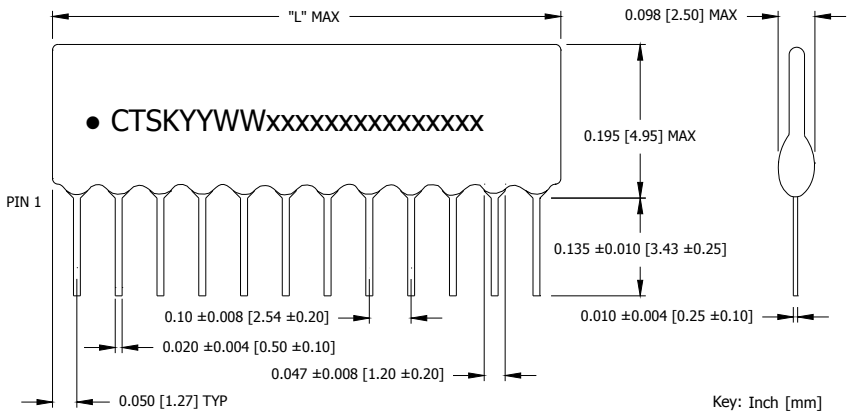


ENVIRONMENTAL SPECIFICATIONS

TEST		DELTA RESISTANCE TYPICAL	DELTA RESISTANCE LIMIT	TEST CONDITION
Temperature Cycling		±0.25%	±0.5%	-40°C (30 minutes), +85°C (30 minutes), 5 cycles
Short Time Overload		±0.25%	±0.5%	2.5 times rated voltage, 5 seconds (100V maximum)
Moisture Resistance	R ≤ 100Ω		±1.00%	+40°C ±2°C, 90%/95% R.H., 1000 hours
	R > 100Ω		±2.00%	
Temperature Coefficient (T.C.R.)			±100ppm/°C	+25°C/-55°C, +25°C/+125°C
Life at Elevated Temperature		±3.00%		+125°C, 1000 hours, no load
Load Life	R ≤ 100Ω		±1.00%	+70°C ±2°C, 1000 hours, rated load
	R > 100Ω		±2.00%	
Insulation Resistance			10G Ω min.	200V
Dielectric Strength		±0.25%	±0.5%	200V
Terminal Strength	Lead Pull	±0.25%	±0.5%	9.8N pull 10 seconds
	Lead Bend	three 45° bends		2.45N
Resistance to Solder Heat		±0.25%	±0.5%	+260°C ±5°C, 10 seconds ±1 second
Solderability				RMA Flux, +230°C, 5 seconds dip, 95% coverage
Mechanical Shock		±0.25%	±0.5%	100g, 1 msec., 3 shocks each plane
Vibration		±0.25%	±0.5%	20g, 10-2000Hz, 4 hours/plane
Flammability				Conforms to UL94V-0
Non-Fungus per MIL-STD 810C				
Resistance to Solvents				Isopropyl alcohol

MECHANICAL SPECIFICATIONS

PACKAGE DRAWING



PACKAGE LENGTHS

PIN COUNT	"L" MAXIMUM Inch [mm]
4	0.40 [10.16]
5	0.50 [12.70]
6	0.60 [15.24]
7	0.70 [17.78]
8	0.80 [20.32]
9	0.90 [22.86]
10	1.00 [25.40]
11	1.10 [27.94]
12	1.20 [30.48]

MARKING INFORMATION

1. ● – Pin 1 identifier.
2. CTSK – CTS identifier.
4. YYWW – Date code, YY – year, WW – week.
5. xxxxxxxxxxxxxx – Reserved for CTS part number, Ex. 77083472P.

For parts with reduced marking (8 pins or less), the part series 770 may be omitted from the part number portion of the marking code.
Ex. CTSK434729

Complete CTS part number and date code information must appear on reel and carton labels.

NOTES

1. Copper (Cu) plated iron (Fe) leads.
2. Termination finish (e1); tin (Sn) silver (Ag) copper (Cu).
3. Reflow conditions per JEDEC J-STD-020, +260°C maximum.

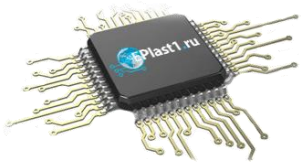
Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits,General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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