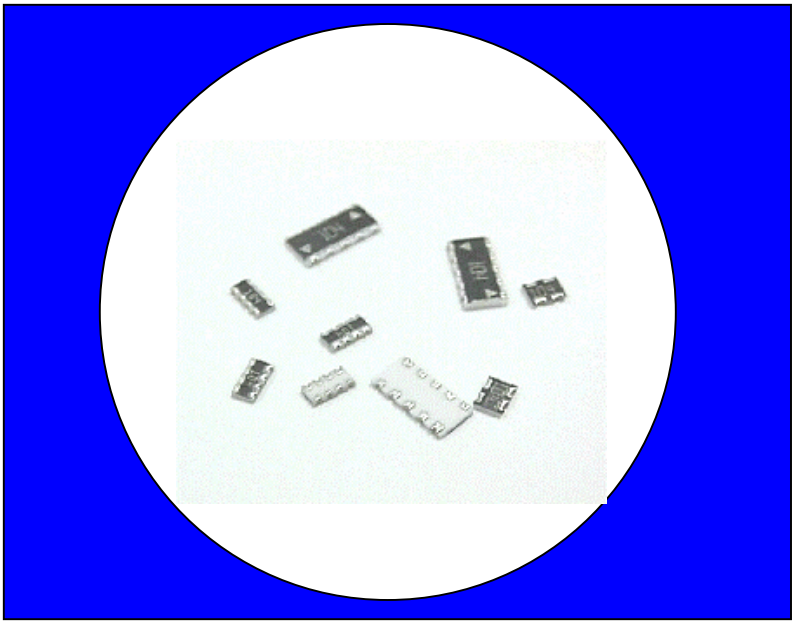
CTS

Chip Resistor Arrays
Technical Data



Features

- Low Cost
- Thick Film Technology
- High Density Packaging
- Leadless Surface Mount Construction
- Tape and Reel Packaging
- Solder Coated Nickel Barrier Pads
- Isolated and Bussed Circuits
- Concave and Convex Terminations
- RoHS Compliant Version Available

Product Benefits

- High Density Packaging
  - Up to 30% less space per resistor than 0603 chip resistors
  - Up to 75% less space per resistor than 0805 chip resistors
- Placement Efficiency
  - Networks require fewer placements than discrete components
  - Larger overall size eases handling compared to discrete components
- Low Profile; Can be used in PCMCIA cards

Electrical and Mechanical Specifications

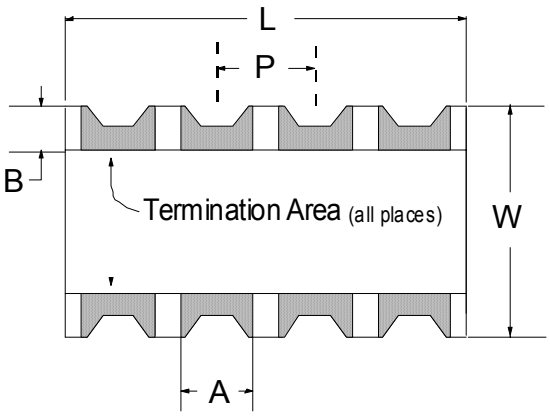
Series	PCB Area (in²) Per Resistor	Circuit Type	Resistance Range, Ohms	70°C Power Per Resistor*	Maximum Operating Voltage
741	0.0015	Isolated	10 - 1M	.063W	25V
742	0.0037	Isolated	10 - 1M	.063W	50V
743	0.0071	Isolated	10 - 1M	.100W	100V
744	0.0094	Isolated	10 - 1M	.125W	200V
745	0.0058	Bussed	33 - 470K	.063W	50V
746	0.0013	Bussed	33 - 100K	.031W	25V

*Total Rated Package Power equals total number of resistors times rated Power Per Resistor

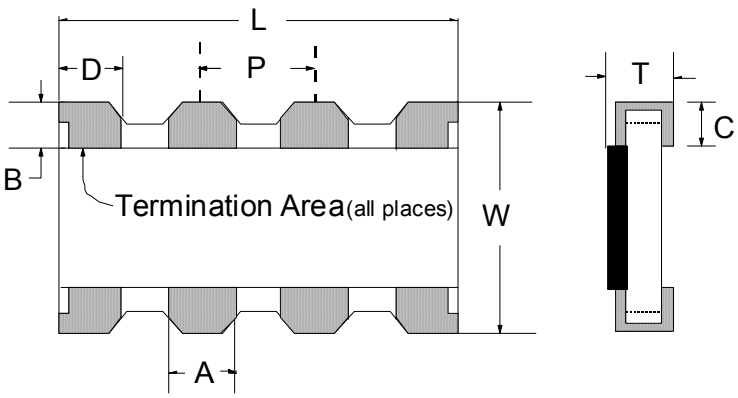
Resistance Tolerance	Standard: ±5% or .5Ω (whichever is greater)
Operating Temperature Range	-55°C to +125°C
Temperature Coefficient	Standard: 200PPM/°C

Package Outlines

Concave Termination – Type C

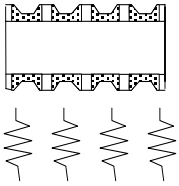


Convex Termination – Type X

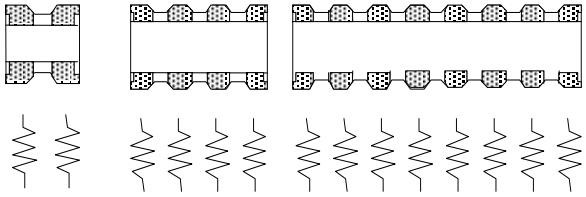


Dimensions: mm/inch												
Part Code	Configuration	# Pads	# Res.	Circuit	L	W	P	T	A	B	C	D
741X043	0402 X 2	4	2	Isolated	1.00 ±0.10 .039 ±.004	1.00 ±0.10 .039 ±.004	0.65 ±0.10 .026 ±.004	0.35 ±0.10 .014 ±.004	0.33 ±0.10 .013 ±.004	0.15 ±0.10 .006 ±.004	0.38 Max. .015 Max.	N/A
741X083	0402 X 4	8	4	Isolated	2.00 ±0.10 .079 ±.004		0.50 ±0.10 .020 ±.004		0.30 ±0.15 .012 ±.006			
741C083	0402 X 4	8	4	Isolated					0.28 ±0.10 .011 ±.004			
741X163	0402 X 8	16	8	Isolated	3.80 ±0.10 .150 ±.004	1.60 ±0.10 .063± .004		0.45 ±0.10 .018 ±.004	0.30 ±0.10 .012 ±.004	0.30 ±0.10 .012 ±.004	0.30 ±0.10 .012 ±.004	
742C043	0603 X 2	4	2	Isolated	1.60 ±0.20 .063 ±.008	1.60 ±0.20 .063 ±.008	0.80 ±0.05 .032 ±.002	0.60 +0.10 -0.25 .024 +.004 -.010	0.50 ±0.15 .020 ±.006	0.30 ±0.20 .012 ±.008	0.40 ±0.15 .016 ±.006	N/A
742X083 742C083	0603 X 4	8	4	Isolated	3.20 ±0.20 .126 ±.008						0.30 ±0.15 .012 ±.006	
742C163	0603 X 8	16	8	Isolated	6.40 ±0.20 .252 ±.008						0.40 ±0.15 .016 ±.006	
743C043	0805 X 2	4	2	Isolated	2.54 ±0.20 .100 ±.008	2.00 ±0.20 .079 ±.008	1.27 ±0.05 .050 ±.002	0.60 ±0.10 .024 ±.004	0.80 ±0.10 .031 ±.006	0.40 ±0.20 .016 ±.008	0.40 ±0.15 .016 ±.006	N/A
743C083	0805 X 4	8	4	Isolated	5.08 ±0.30 .200 ±.012							
744C043	1206 X 2	4	2	Isolated	2.54 ±0.20 .100 ±.008	3.20 ±0.20 .126 ±.008	1.27 ±0.05 .050 ±.002	0.60 ±0.10 .024 ±.004	0.80 ±0.10 .031 ±.006	0.50 ±0.20 .020 ±.008	0.50 ±0.15 .020 ±.006	N/A
744C083	1206 X 4	8	4	Isolated	5.08 ±0.30 .200 ±.012							
745C101 745C102		10	8	Bussed	6.40 ±0.20 .252 ±.008	3.20 ±0.20 .126 ±.008	1.27 ±0.05 .050 ±.002	0.60 ±0.10 .024 ±.004	0.60 ±0.15 .024 ±.006	0.35 ±0.15 .013 ±.006	0.55 ±0.15 .022 ±.006	N/A
745X101 745X102		10	8	Bussed	6.40 ±0.20 .252 ±.008	3.20 ±0.20 .126 ±.008	1.27 ±0.05 .050 ±.002	0.60 ±0.10 .024 ±.004	0.90 ±0.15 .035 ±.006	0.50 ±0.20 .020 ±.008	0.50 ±0.15 .020 ±.006	1.10 ±0.15 .043 ±.006
746X101		10	8	Bussed	3.30 ±0.10 .130 ±.004	1.65 ±0.15 .065 ±.006	0.64 ±0.05 .025 ±.002	0.60 ±0.10 .024 ±.004	0.35 ±0.05 .014 ±.002	0.40 ±0.10 .016 ±.004	0.45 ±0.10 .018 ±.004	0.50 ±0.05 .020 ±.002

Types of Circuits



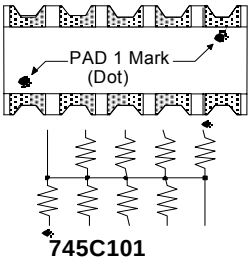
741C083
4 Resistors
8 Terminations



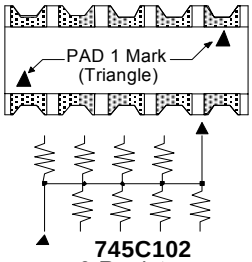
741X043
2 Resistors
4 Terminations

741X083
4 Resistors
8 Terminations

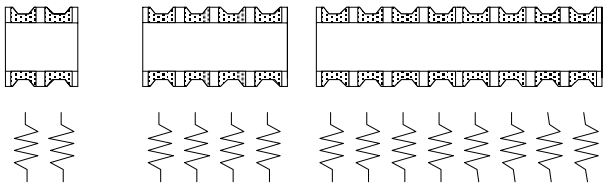
741X163
8 Resistors
16 Terminations



745C101
8 Resistors
10 Terminations



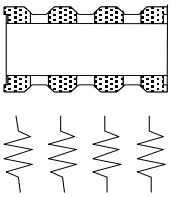
745C102
8 Resistors
10 Terminations



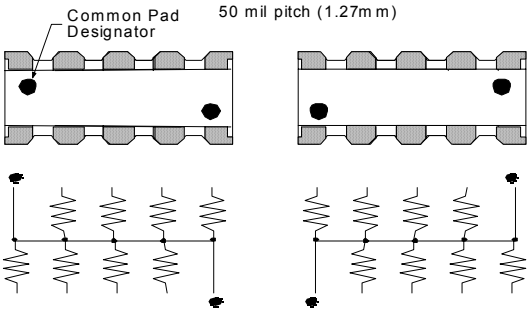
742C043
2 Resistors
4 Terminations

742C083
4 Resistors
8 Terminations

742C163
8 Resistors
16 Terminations



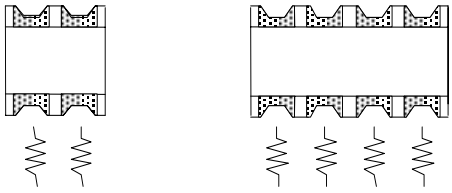
742X083
4 Resistors
8 Terminations



745X101
8 Resistors
10 Terminations

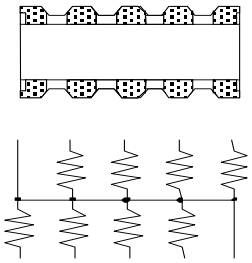
745X102
8 Resistors
10 Terminations

Note: The Marking Concept for Convex and Concave Series 745 is Different.

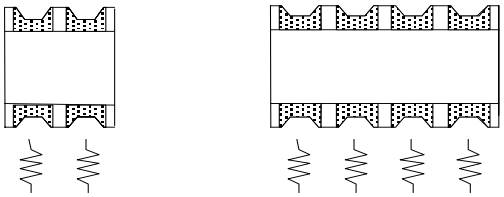


743C043
2 Resistors
4 Terminations

743C083
4 Resistors
8 Terminations



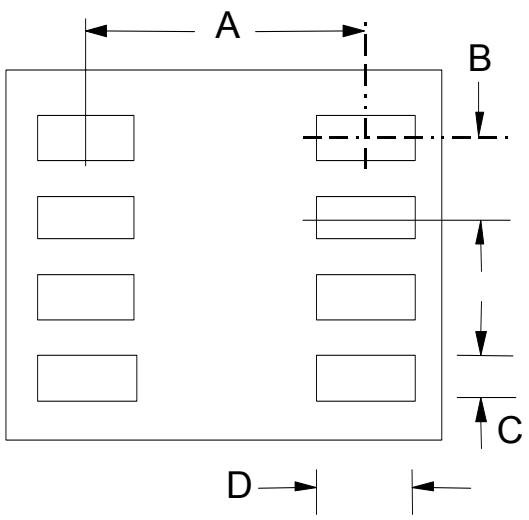
746X101
8 Resistors
10 Terminations



744C043
2 Resistors
4 Terminations

744C083
4 Resistors
8 Terminations

Recommended Land Patterns



SERIES	DIMENSIONS mm/in			
	A	B	C	D
741X043	1.00	0.65	0.33	0.50
	0.039	0.026	0.013	0.020
741X083	1.00	0.50	0.30	0.50
	0.039	0.020	0.012	0.020
741C083	1.00	0.50	0.28	0.50
	0.039	0.020	0.011	0.020
741X163	1.60	0.50	0.30	0.80
	0.063	0.020	0.012	0.031
742	1.60	0.80	0.50	0.90
	0.063	0.032	0.020	0.035
743	2.00	1.27	0.80	1.00
	0.079	0.050	0.031	0.051
744	3.20	1.27	0.80	1.00
	0.126	0.050	0.031	0.039
745	3.20	1.27	0.90	1.30
	0.126	0.050	0.035	0.039
746	1.65	0.64	0.35	0.80
	0.065	0.025	0.014	0.032

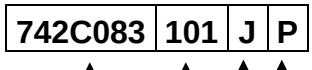
Environmental Performance Specifications

Test	Max. Delta R		Test Description
	741	742-746	
Thermal Cycle	1.00%	1.00%	5 Cycles -55°C to +125°C
Short Time Overload	2.50%	1.00%	2½ X Rated Working Voltage for 5 Seconds
Moisture Resistance	5.00%	2.00%	240 Hours 10% rated load, -10°C to +65°C, 90% R.H.
High Temperature Exposure	1.00%	1.00%	1000 Hours, no load, +125°C
Load Life	5.00%	2.00%	1000 Hours @ 70°C, rated load
Resistance to Solder Heat	2.50%	1.00%	10 Seconds @ 260°C solder
Resistance to Solvents			Isopropyl alcohol, Freon TMC
Solderability			RMA Flux, 230°C, 5 Seconds dip, 95% coverage

Standard Resistor Values & EIA Code

Ohms	Code	Ohms	Code	Ohms	Code	Ohms	Code	Ohms	Code	Ohms	Code
0	000X	68	680	470	471	3.9K	392	33K	333	270K	274
10	100	75	750	510	511	4.7K	472	39K	393	330K	334
12	120	82	820	560	561	5.1K	512	47K	473	390K	394
15	150	100	101	680	681	5.6K	562	51K	513	470K	474
18	180	110	111	820	821	6.8K	682	56K	563	510K	514
22	220	120	121	1K	102	8.2K	822	68K	683	560K	564
27	270	150	151	1.2K	122	10K	103	82K	823	680K	684
33	330	180	181	1.5K	152	12K	123	100K	104	820K	824
39	390	220	221	1.8K	182	15K	153	120K	124	1M	105
47	470	270	271	2.2K	222	18K	183	150K	154		
51	510	330	331	2.7K	272	22K	223	180K	184		
56	560	390	391	3.3K	332	27K	273	220K	224		

How to Order



Part Code
See Standard Package Outlines (Page 2)

Resistor Code

RoHS Compliant (matte Sn finish)
Insert "P" for RoHS; Otherwise blank

Tolerance
J = ±5% (Standard) 3-digit code
G = ±2% 3-digit code (741-745 only)
F = ±1% 4-digit code (741-745 only)
X for zero ohm jumper

3 Digit Resistor Code – Refer to the EIA Code noted above

4 Digit Resistor Code (used only for 1% tolerance) – The first three digits are significant and fourth digit is multiplier; "R" indicates decimal on values less than 100 ohms.

Examples: 10R0 = 10 ohms
49R9 = 49.9 ohms
1000 = 100 ohms
1001 = 1,000 ohms
1002 = 10,000 ohms

Example: 742C08310R0F

Part Marking	J & G tol.	F tol.	
	E-24 Value	E-24 Value	E-96 Value
741	3 Digit	3 Digit	4 Digit
742	3 Digit	3 Digit	4 Digit
743	3 Digit	4 Digit	4 Digit
744	3 Digit	4 Digit	4 Digit
745	3 Digit	4 Digit	4 Digit
746	3 Digit	4 Digit	4 Digit

Tape & Reel Information

Reel Diameter 7"	741X043 741C083 741X083	742C043 741X163	742C083 742X083	742C163	743C043	743C083	744C043	744C083	745C101 745C102	745X101 745X102	746X101
Parts/Reel	10000	5000	5000	4000	4000	4000	4000	2000	4000	4000	5000
Pitch	2mm	4mm	4mm	4mm	4mm	4mm	4mm	8mm	4mm	4mm	4mm
Carrier Width	8mm	8mm	8mm	12mm	8mm	12mm	8mm	12mm	12mm	12mm	8mm
Material	Paper	Paper	Paper	Plastic	Plastic	Plastic	Plastic	Plastic	Plastic	Plastic	Paper