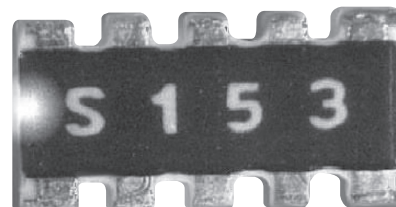


Thick Film Chip Arrays

BCN Series

- Sulphur resistant version available (Tested to ASTM-B809)
- AEC-Q200 (BCN10, BCN164AB and BCN4D)
- Convex terminations
- Isolated and bussed versions



Note - BCN4D will be End of Life in September 2021



All parts are Pb-free and comply with EU Directive 2011/65/EU amended by (EU) 2015/863 (RoHS3)

Summary of Types

Type	Part Number Start	Width (mm)	Resistor Elements	Circuit	Package Size	Scalloped Convex	Square Convex	
BCN10	BCN104AB	1.0	0402 x 4	Isolated	0804			
BCN164	BCN164A	1.6	0603 x 4		1206			
	BCN164AB							
BCN168	BCN168SB		0603 x 8	Bussed				
	BCN168RB							
BCN4D	BCN4D	3.1	1206 x 4	Isolated	2112			

Electrical Data

		BCN10	BCN164	BCN168	BCN4D
Resistor power rating @70°C	mW	63		32	125
Package power rating @70°C	mW	250			500
Limiting element voltage	V	25	50	25	75
Maximum overload voltage	V	63	125	63	188
Resistance range	ohms	10R – 1M0		100R – 1M0	10R – 1M0
Resistance tolerance	%	1, 5	1, 2, 5	5	1, 5
TCR	ppm/°C	±200			
Standard values		E24 (for 2% or 5% tolerance), E96 (for 1% tolerance)			
Ambient temperature range	°C	-55 to +155			

General Note

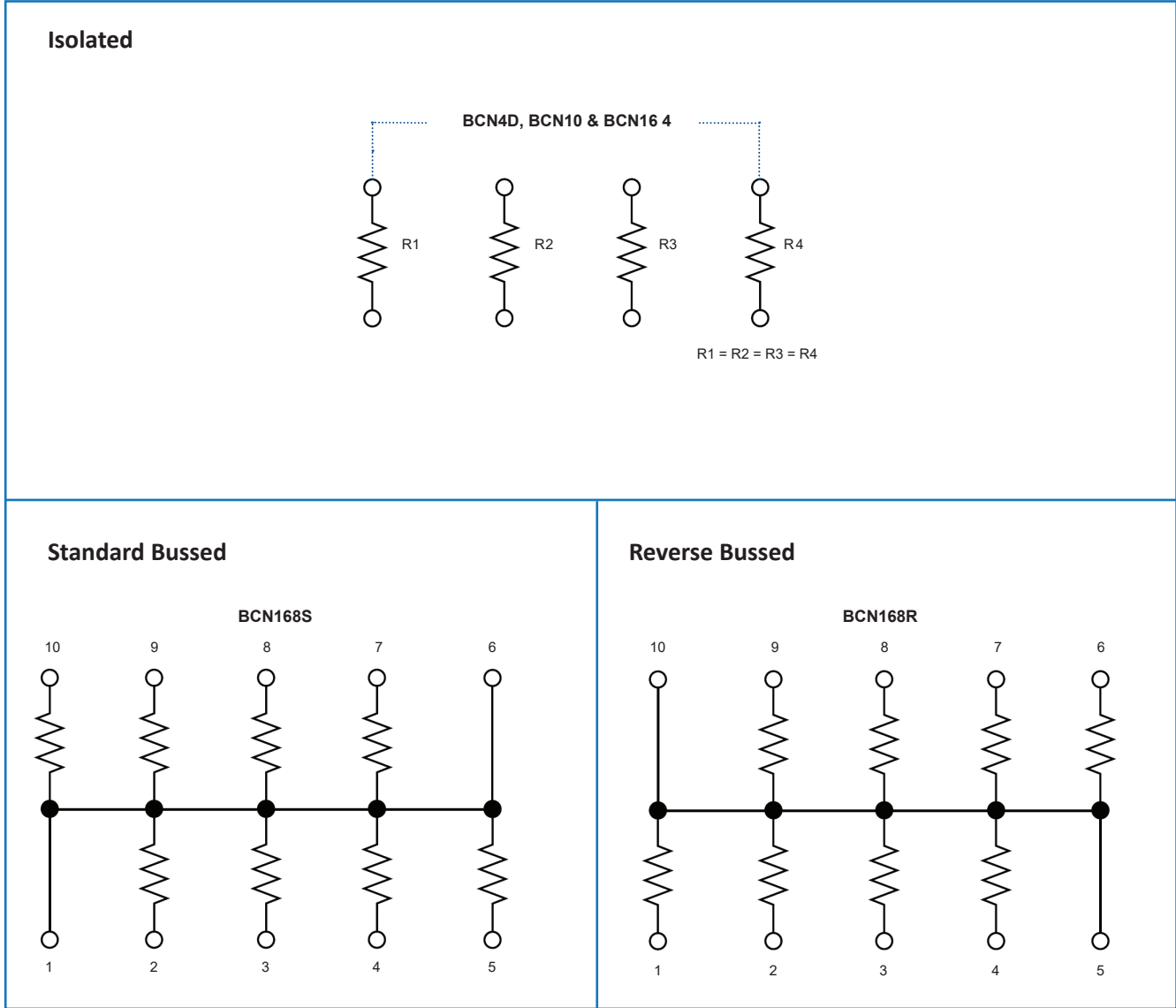
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BCN Series

Circuits



Environmental Data

Test	Condition	$\Delta R\%$ (+0.1 Ω)
Load life	1000 hrs cyclic load @ 70°C	3
Short term overload	2.5 x rated voltage for 5s	2
High temperature operation	1000 hrs @ 155°C	3
Temperature cycling	5 cycles, -55 to +155°C	1
Moisture resistance	1000 hrs @ 40°C, 95% RH	3
Resistance to solder heat	260°C for 10s	1
Sulphur resistance ¹	1000 hrs @ 50°C, 92% RH, 3-5ppm H ₂ S	0.5

Note 1 – Anti-sulphur construction only

General Note

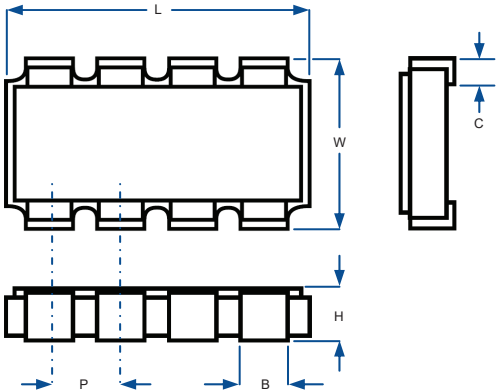
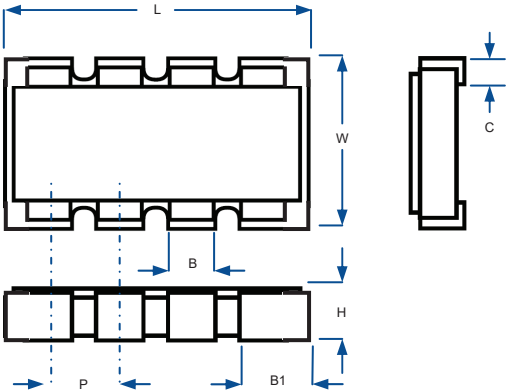
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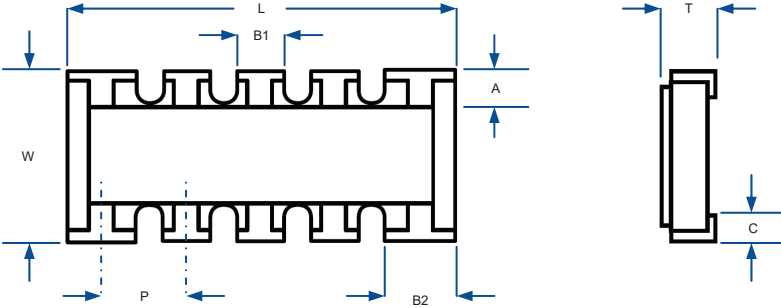
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BCN Series

Physical Data (Inch /mm)

BCN4D, BCN164A (scalloped convex)				BCN10, BCN164AB (square convex)			
							
	L	W	H	P	B	B1	C
BCN 4D	.210 ±.008	.122 ±.008	.022 ±.004	.050 ±.008	.030 ±.008	-	.012 ±.008
	5.34 ±0.20	3.10 ±0.20	0.55±0.10	1.27±0.20	0.80 ±0.20	-	0.30 ±0.20
BCN 10	.079 ±.004	.039 ±.004	.018 ±.004	.020 ±.002	.012 ±.002	.016±.002	.012±.006
	2.00 ±0.10	1.00 ±0.10	0.45 ±0.10	0.50 ±0.05	0.30 ±0.05	0.40 ±0.05	0.3 ±0.15
BCN 16 4A/ AB	.126 ±.004	.063 ±.004	.020 ±.004	.031 ±.002	.020 ±.004	-	.009 ±.005
	3.20 ±0.10	1.60 ±0.10	0.50 ±0.10	0.80 ±0.05	0.50 ±0.10	-	0.229 ±0.125

BCN168 (square convex)							
							
L	W	T	A	B1	B2	C	P
.126 ±.008	.063 ±.008	.020 ±.004	.012 ±.006	.014 ±.006	.020 ±.006	.008	.025
3.20 ±0.20	1.60 ±0.20	0.50 ±0.10	0.30 ±0.15	0.36 ±0.15	0.50 ±0.15	0.20	0.64

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BCN Series

Solder pad layout (Inch / mm)

BCN4D, BCN164

The diagram illustrates the layout of a component with two rows of four rectangular pads each. The pads are represented by rectangles with diagonal hatching. Dimension lines and arrows indicate the following parameters:

- P**: Pitch between the centers of adjacent pads in a row.
- A**: Width of a single pad.
- B**: Height of a single pad.
- C**: Thickness of the pad.
- X**: Distance from the center of a pad to the center of the adjacent pad in the row below.
- Y**: Distance from the center of a pad to the center of the adjacent pad in the row above.

BCN 4D

BCN 16 4A, AB

Wave Solder Process

Re-flow Solder Process

P

A

B

C

X

Y

A

B

C

X

Y

.050

.087

.169

.022

.028

.041

.087

.154

.022

.028

.034

1.27

2.20

4.30

0.57

0.70

1.05

2.20

3.90

0.57

0.70

0.85

.032

.039

.118

.014

.018

.039

.039

.118

.014

.018

.039

0.80

1.00

3.00

0.35

0.45

1.00

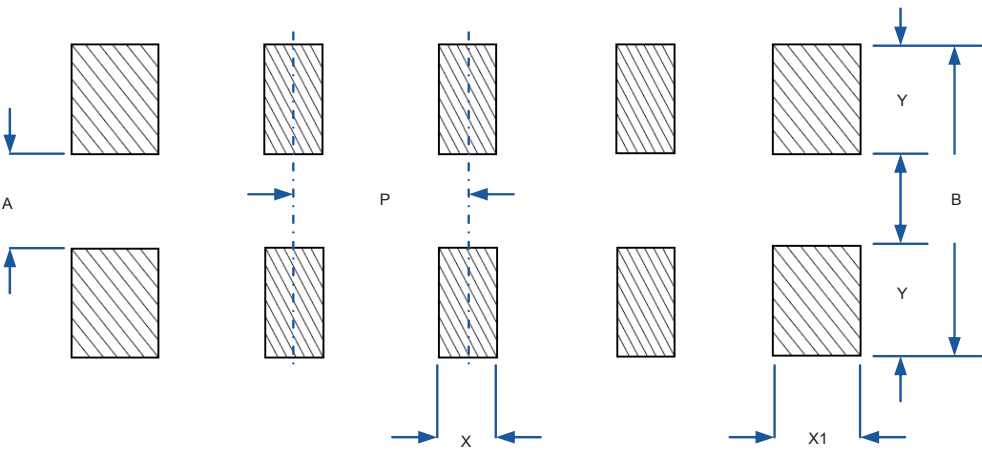
1.00

3.00

0.35

0.45

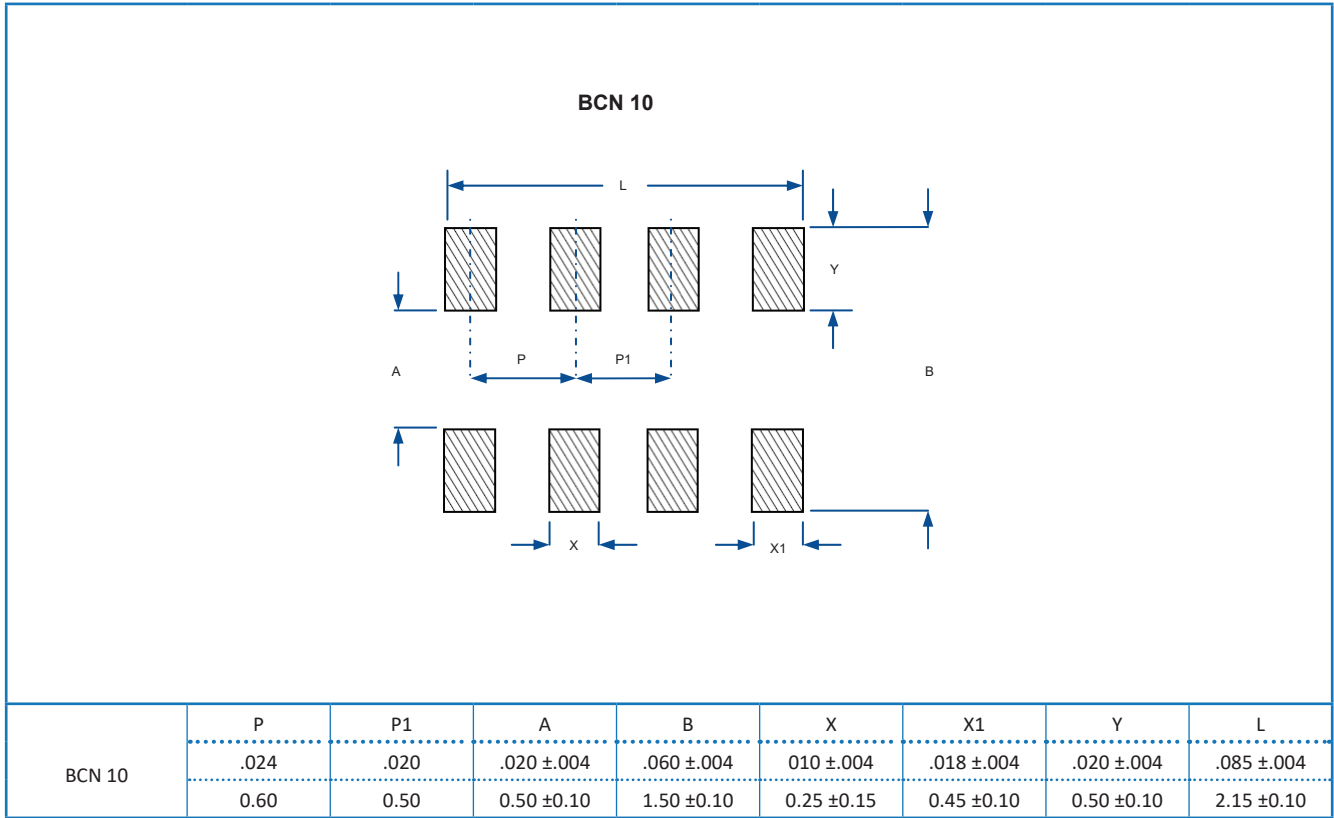
1.00

BCN168											
											
BCN 16 8RB / 8SB	Wave Solder Process						Re-flow Solder Process				
	P	A	B	X	X1	Y	A	B	X	X1	Y
	.025	.048	.096	.012	.018	.024	.048	.096	.012	.018	.024
BCN 16 8RB / 8SB	P	A	B	X	X1	Y	A	B	X	X1	Y
	0.64	1.20	2.40	0.30	0.45	0.60	1.20	2.40	0.30	0.45	0.60

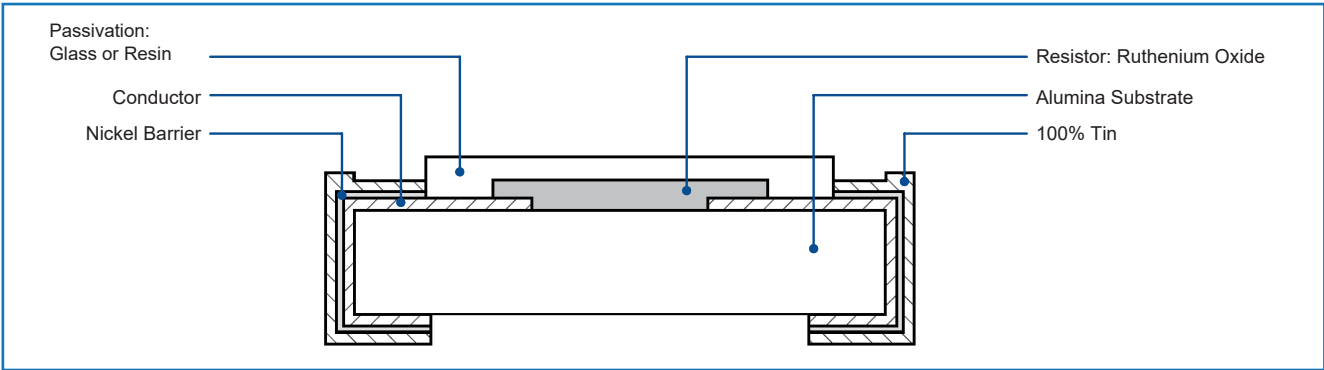
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BCN Series

Solder pad layout (Inch / mm)



Construction



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BCN Series

Ordering Procedure

Example: BCN164AB102J7S (BCN 1.6mm wide, 4 resistors, isolated circuit, square edge, convex terminations at 1 kilohm $\pm 5\%$, on a 7" reel, anti-sulphur construction, Pb-free).

B	C	N	1	6	4	A	B	1	0	2	J	7	S
1	2	3	4	5	6	7	8	9					

1 Series	2 Width	3 Number of Resistors	4 Circuit	5 Edge	6 Value	7 Tolerance	8 Packaging	9 Construction
BCN	Blank=3.1mm	4	A=Isolated	Blank=Scalloped	3 digits for E24 at 2% or 5%	F= $\pm 1\%$	7=7" reel	Blank=Standard
	10=1.0mm	8	D=Isolated			G= $\pm 2\%$	13=13" reel	
	16=1.6mm		S=Standard bussed	B=Square	4 digits for uniquely E96 and for all values at 1%	J= $\pm 5\%$		S=Anti-sulphur
	21=2.1mm		R=Reverse bussed			(Blank for jumper)		
					JP=Jumper			

Valid Options (1 - 5)								Valid Options (6 & 9)			Packaging Quantity & Tape (8)		
B	C	N	1	0	4	A	B	JP=Jumper, S=Anti-sulphur			7=10,000/reel, 13=40,000/reel, Paper tape		
B	C	N	1	6	4	A		JP=Jumper, S=Anti-sulphur			7=5000/reel, 13=20,000/reel, Paper tape		
B	C	N	1	6	4	A	B	JP=Jumper, S=Anti-sulphur					
B	C	N	1	6	8	S	B						
B	C	N	1	6	8	R	B	S=Anti-sulphur					
B	C	N			4	D		JP=Jumper, S=Anti-sulphur			7=4000/reel, 13=16,000/reel, Plastic tape		

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