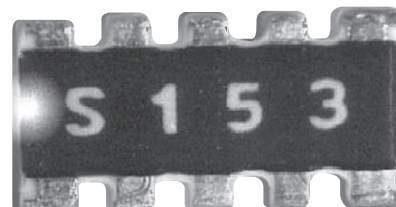


Thick Film Chip Arrays

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

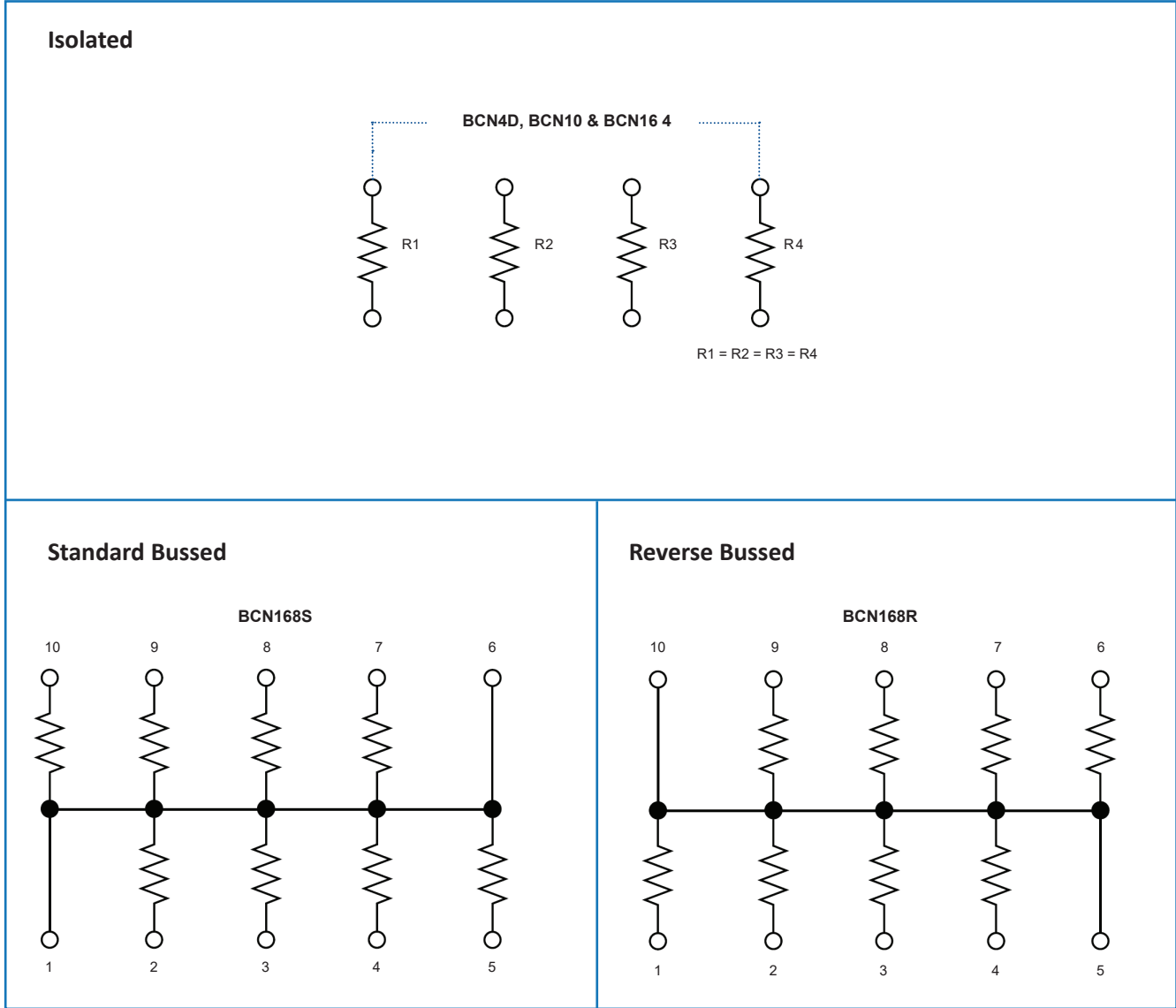
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BCN Series

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

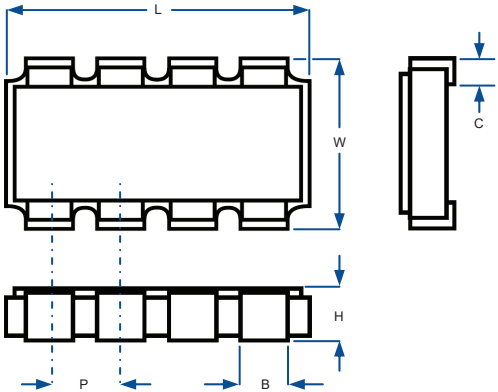
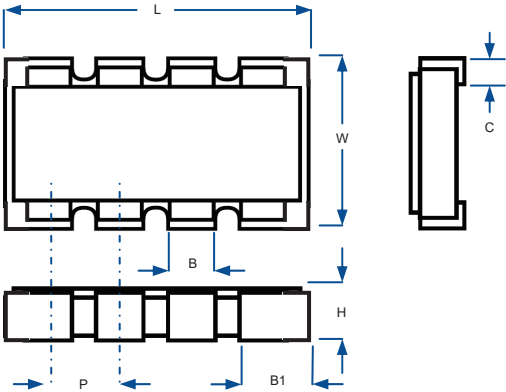
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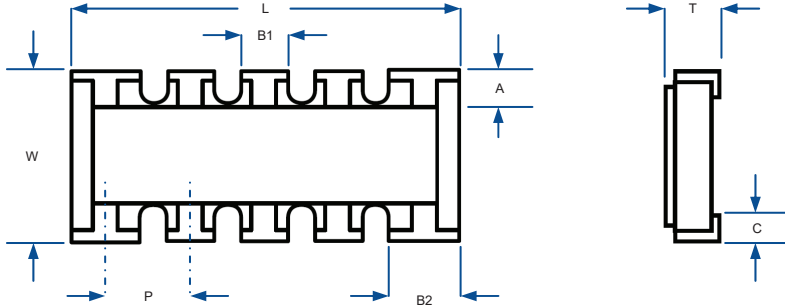
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BCN Series

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 2x4 grid of rectangular solder pads. The pads are arranged in two rows and four columns. The dimensions are defined as follows:

- P**: Pitch between columns (indicated by a dashed line and arrow).
- A**: Pitch between rows (indicated by a vertical double-headed arrow).
- B**: Pad width (indicated by a vertical double-headed arrow).
- C**: Pad length (indicated by a horizontal double-headed arrow).
- X**: Pad offset from center (indicated by a horizontal arrow from the center line to the pad edge).
- Y**: Pad offset from center (indicated by a vertical arrow from the center line to the pad edge).

BCN 4D

BCN 16 4A, AB

Wave Solder Process

Re-flow Solder Process

P

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

The diagram illustrates the solder pad layout for the BCN168 component. It features a 2x4 grid of rectangular pads. The dimensions are defined as follows:

- A**: Pitch between columns.
- P**: Pitch between rows.
- B**: Pad width.
- X**: Pad offset from center.
- X1**: Pad offset from center.
- Y**: Pad offset from center.

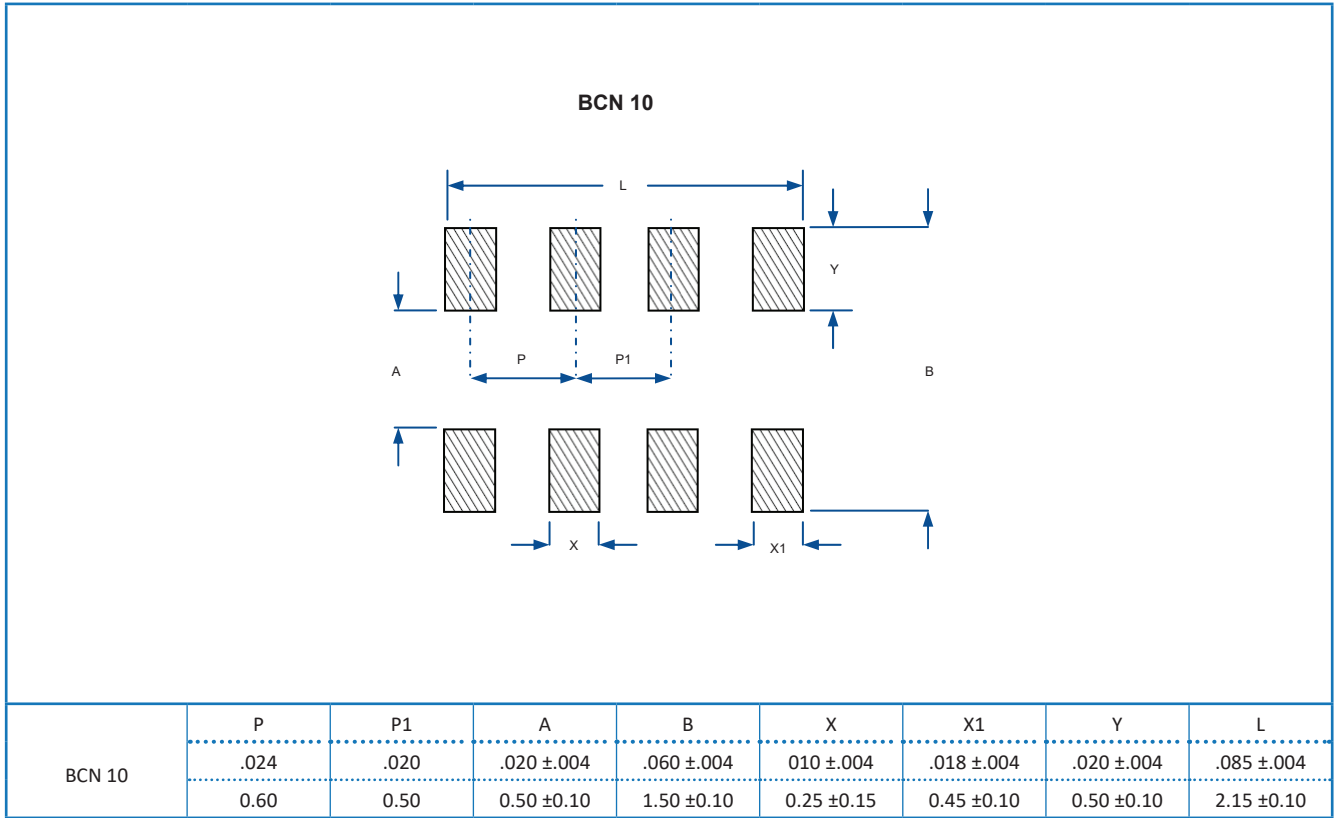
BCN 16 8RB / 8SB

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
0.64	1.20	2.40	0.30	0.45	0.60		1.20	2.40	0.30	0.45	0.60

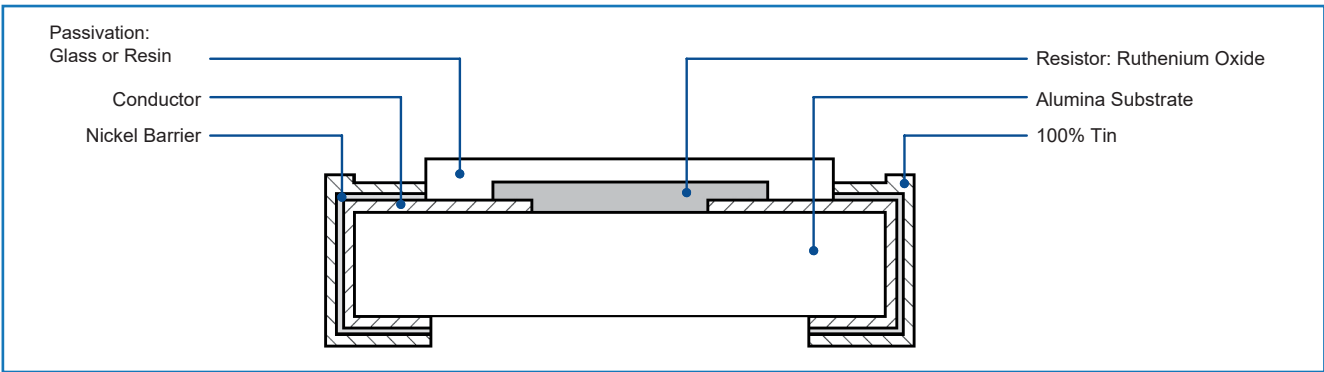
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BCN Series

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= $\pm 1\%$ G= $\pm 2\%$	7=7" reel 13=13" reel	Blank=Standard
	10=1.0mm		S=Standard bussed	B=Square	4 digits for uniquely E96 and for all values at 1%	J= $\pm 5\%$ (Blank for jumper)		S=Anti-sulphur
	16=1.6mm		R=Reverse bussed					
	21=2.1mm				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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