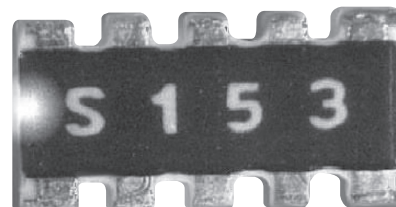


Thick Film Chip Arrays

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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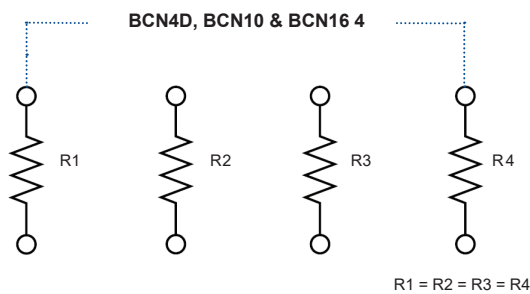
BI Technologies IRC Welwyn

www.ttelectronics.com/resistors

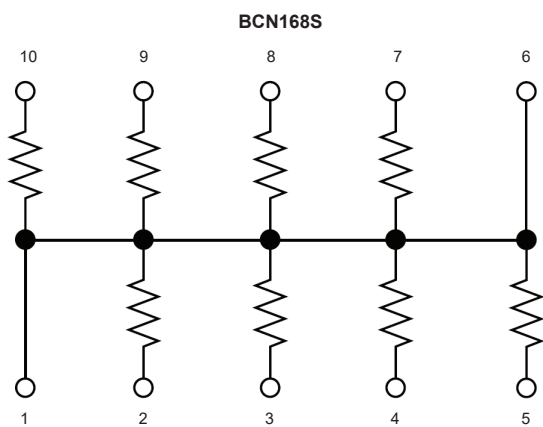
BCN Series

Circuits

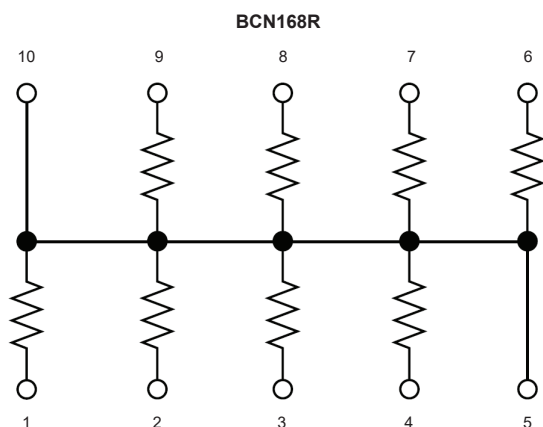
Isolated



Standard Bussed



Reverse Bussed



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

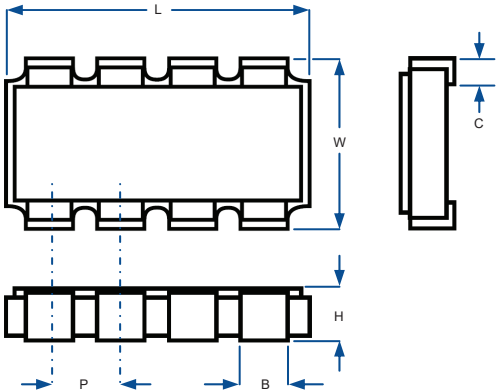
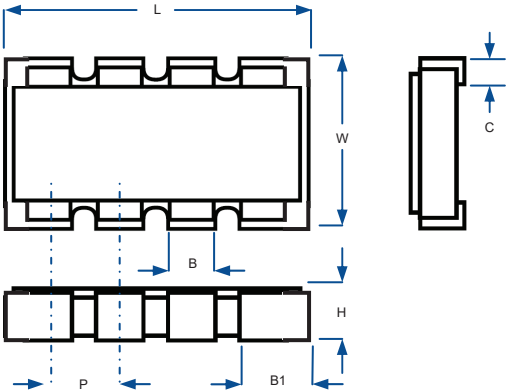
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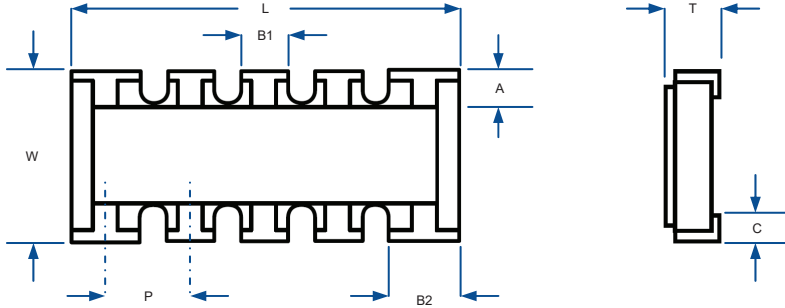
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BCN Series

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

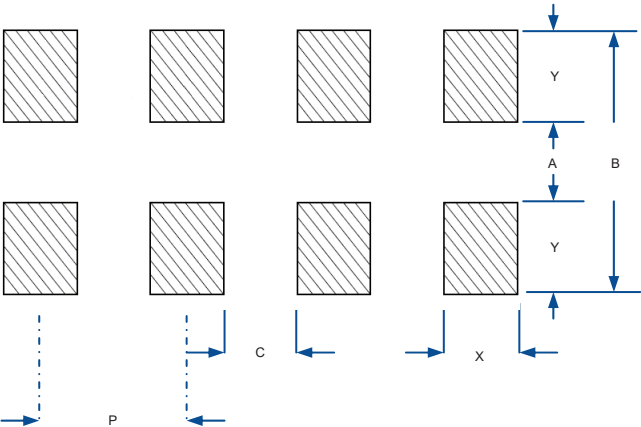
BCN168 (square convex)							
							
L	W	T	A	B1	B2	C	P
.126 ±.008	.063 ±.008	.020 ±.004	.012 ±.006	.014 ±.006	.020 ±.006	.008	.025
3.20 ±0.20	1.60 ±0.20	0.50 ±0.10	0.30 ±0.15	0.36 ±0.15	0.50 ±0.15	0.20	0.64

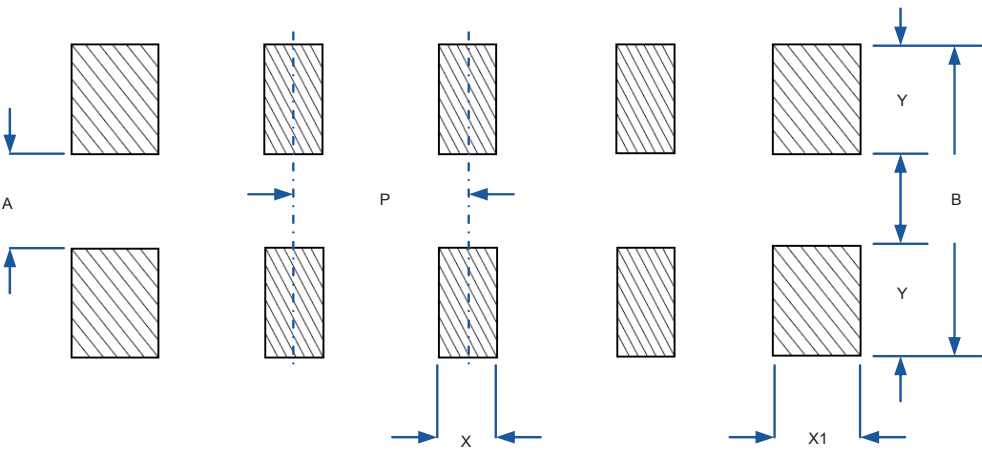
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BCN Series

Solder pad layout (Inch / mm)

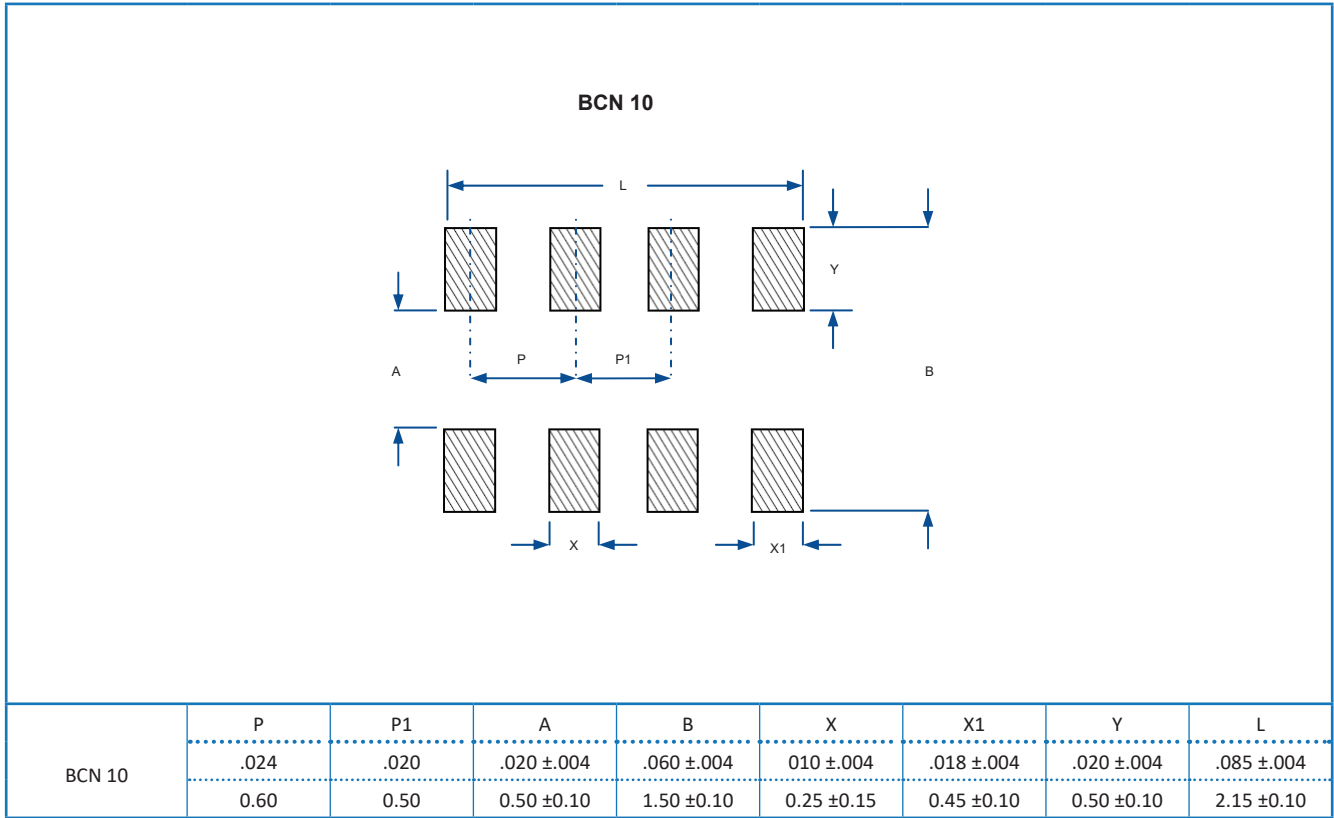
BCN4D, BCN164											
											
BCN 4D	Wave Solder Process						Re-flow Solder Process				
	P	A	B	C	X	Y	A	B	C	X	Y
	.050	.087	.169	.022	.028	.041	.087	.154	.022	.028	.034
	1.27	2.20	4.30	0.57	0.70	1.05	2.20	3.90	0.57	0.70	0.85
BCN 16 4A, AB	Wave Solder Process						Re-flow Solder Process				
	P	A	B	C	X	Y	A	B	C	X	Y
	.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	Wave Solder Process						Re-flow Solder Process				
	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

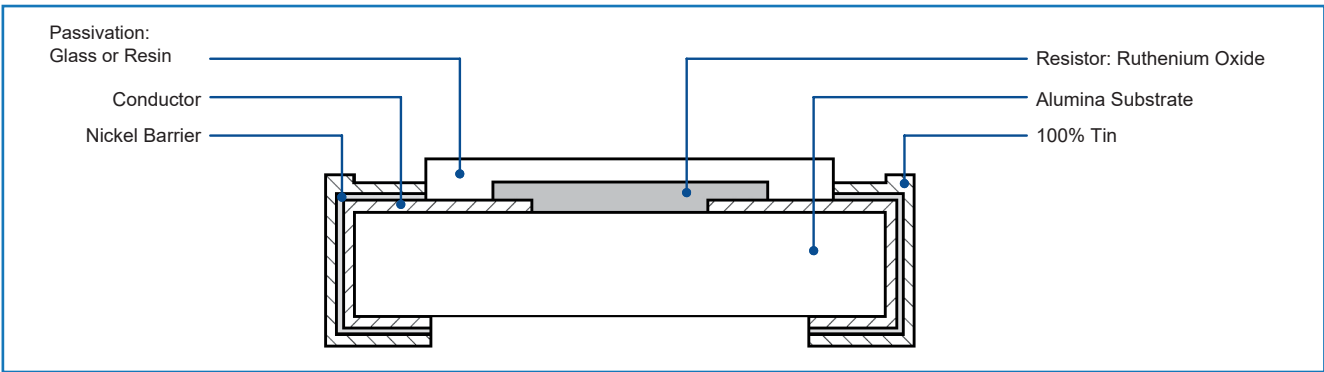
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BCN Series

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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