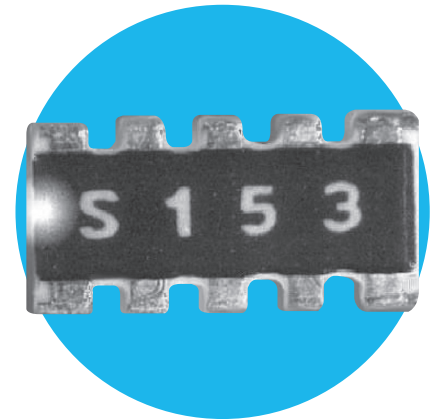


Thick Film Chip Arrays

BCN Series

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



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		Bussed	1206	
	BCN164AB						
BCN168	BCN168SB	3.1	0603 x 8	Isolated	2112		
	BCN168RB						
BCN4D	BCN4D	3.1	1206 x 4	Bussed ¹	2512		
BCN31	BCN318SB		1206 x 8				
		BCN318RB					

Note 1 – For R/2R ladder circuit see separate BCN31L datasheet

Electrical Data

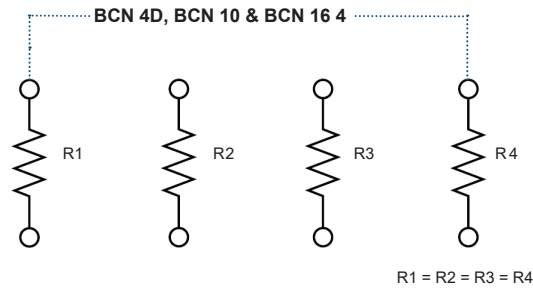
		BCN10	BCN164	BCN168	BCN4D	BCN31
Resistor power rating @70°C	mW	63		32	125	63
Package power rating @70°C	mW	250			500	
Limiting element voltage	V	25	50	25	75	50
Maximum overload voltage	V	63	125	63	188	125
Resistance range	ohms	10R – 1M0		100R – 1M0	10R – 1M0	22R – 1M0
Resistance tolerance	%	1, 5	1, 2, 5	5	1, 5	1, 2, 5
TCR	ppm/°C	±200				
Standard values		E24 preferred, E96 available				
Ambient temperature range	°C	-55 to +155				

General Note

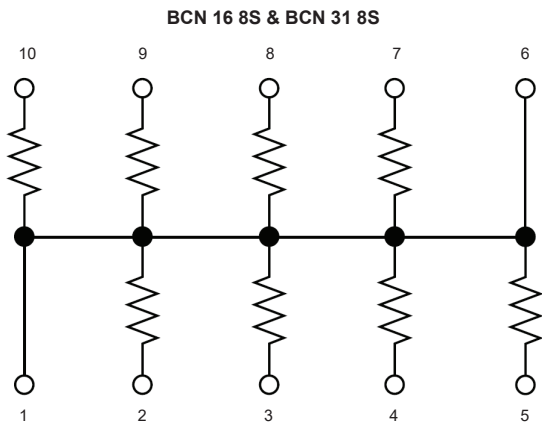
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Circuits

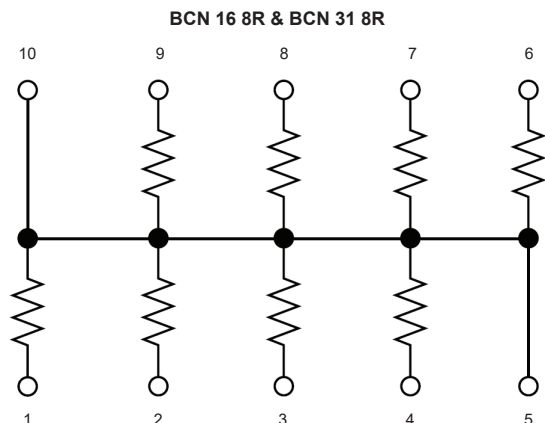
Isolated



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

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Physical Data (Inch /mm)

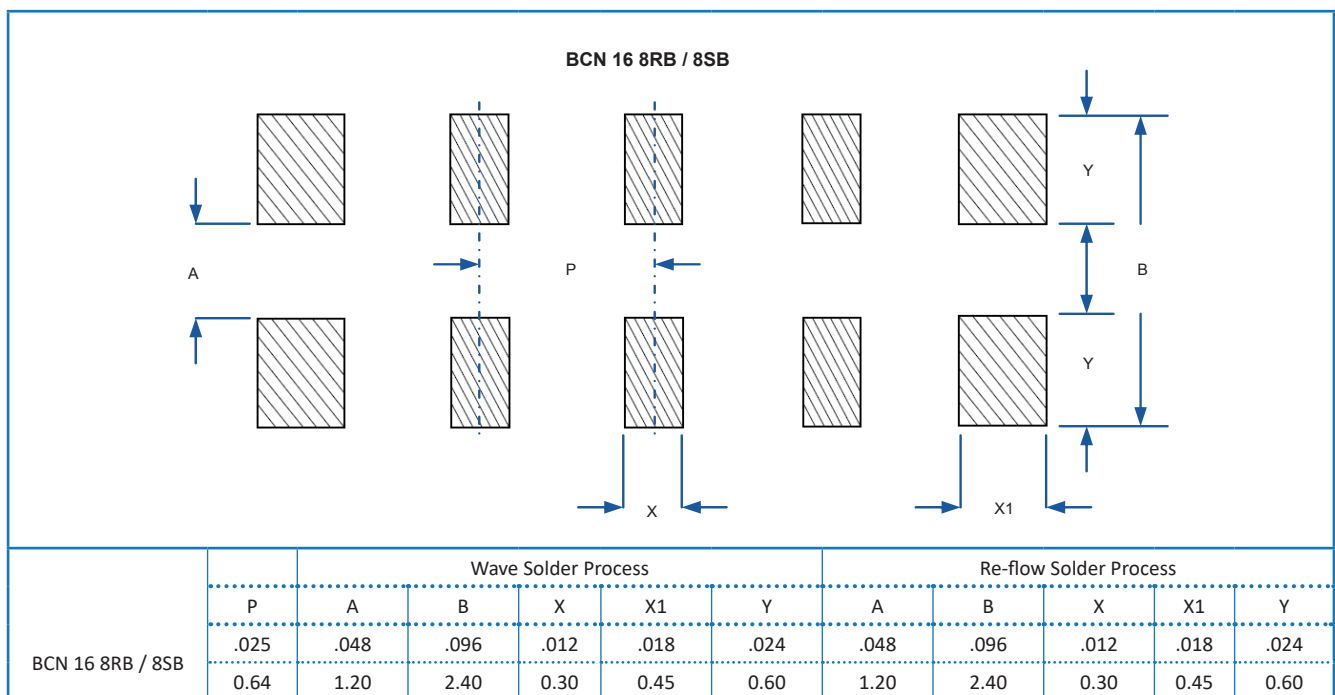
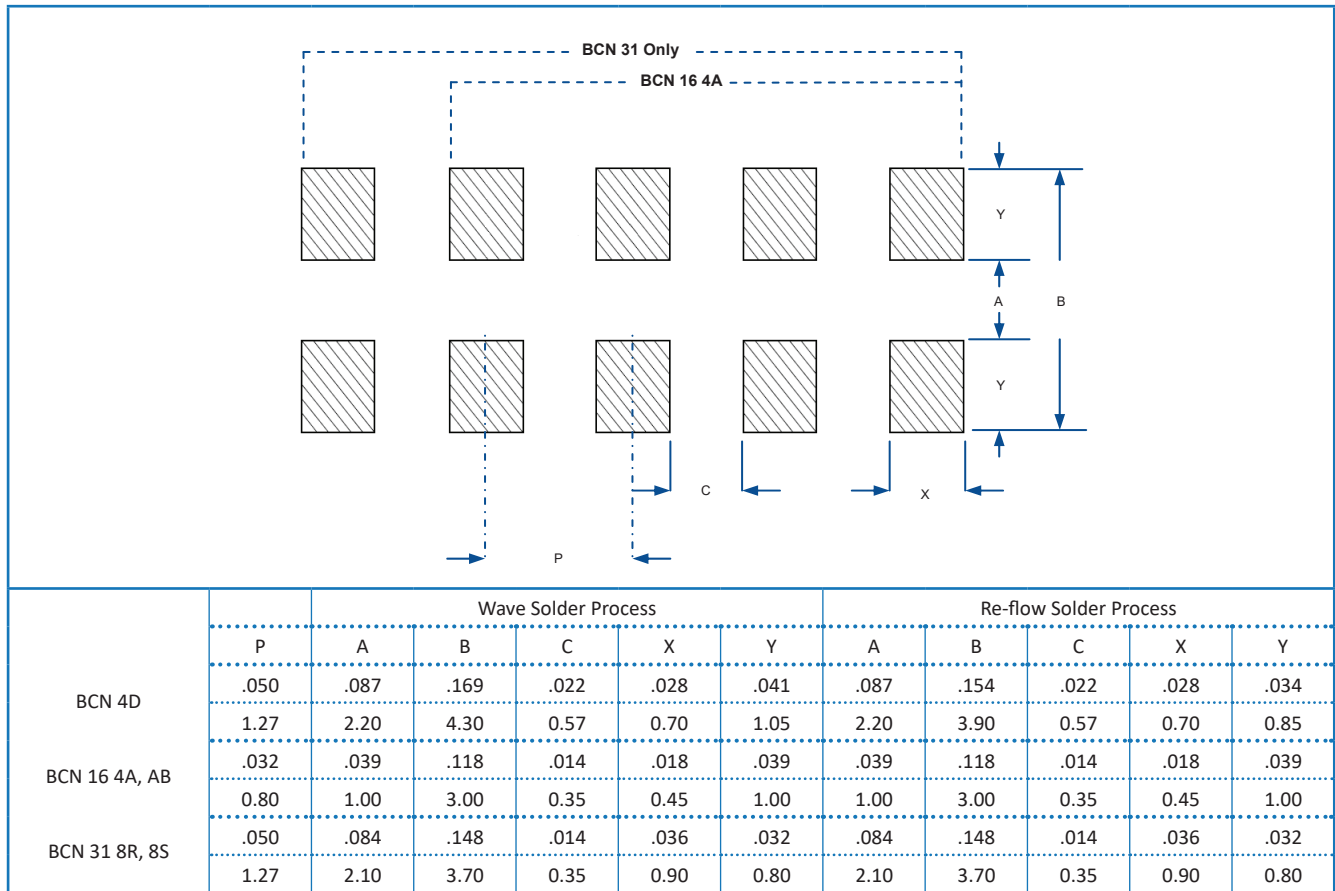
	Scalloped Edge: Models BCN 4D, 16 4A				Exterior Termination (Convex) Square Edge: Models BCN 16 4AB, 31			
	L	W	H	P	B	B1	C	
BCN 4D	.210 ±.008	.122 ±.008	.022 ±.004	.050 ±.008	.030 ±.008	-	.012 ±.008	
	5.34 ±0.20	3.10 ±0.20	0.55±0.10	1.27±0.20	0.80 ±0.20	-	0.30 ±0.20	
BCN 10	.079 ±.004	.039 ±.004	.018 ±.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	
BCN 31	.252 ±.008	.122±.012,-.008	.022 ±.004	.050 ±.002	.032 ±.004	.041±.004	.012 ±.004	
	6.40 ±0.20	3.1 +0.3, -0.2	0.55 ±0.10	1.27 ±0.051	0.80 ±0.10	1.05±0.10	0.30 ±0.10	

Exterior Termination (Convex) Square Edge: Models BCN 16 8R, 8S							
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

General Note

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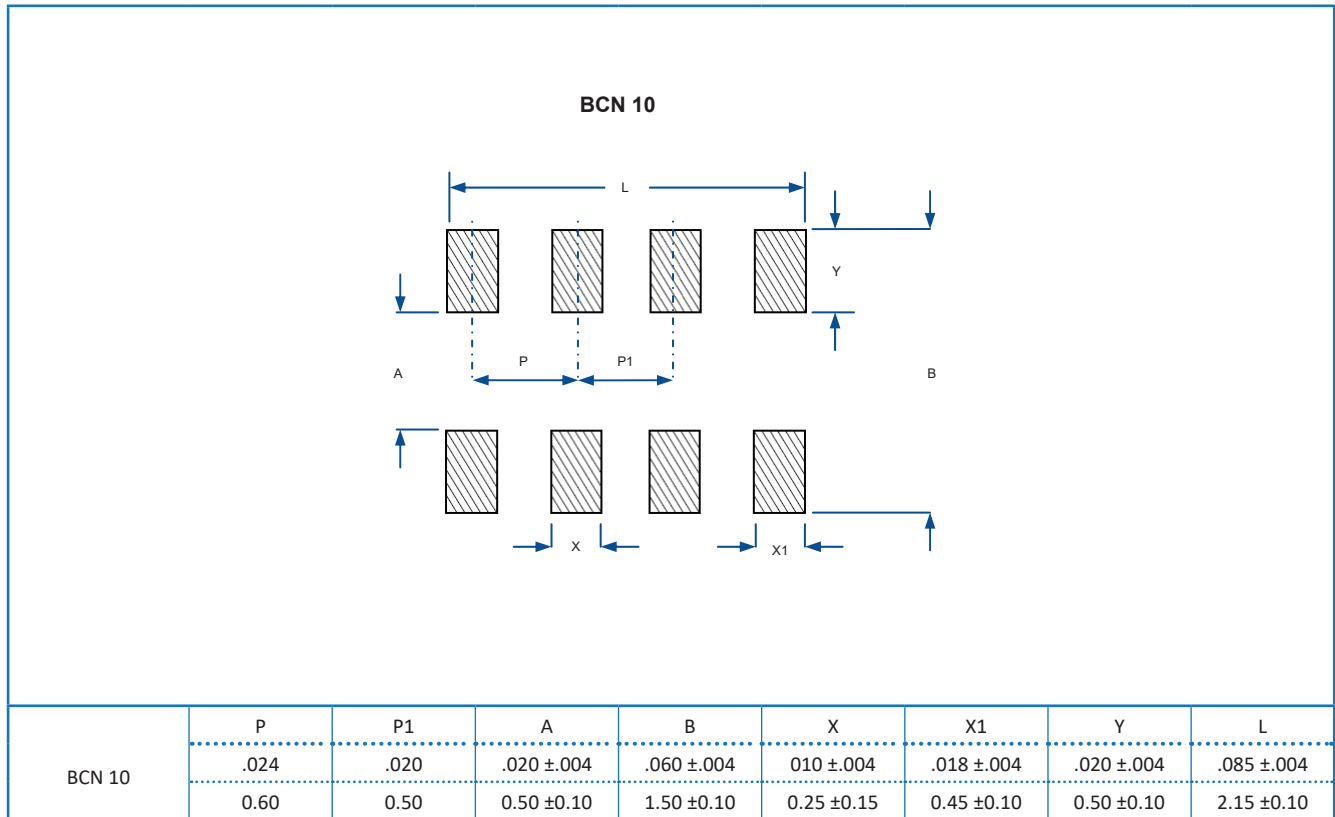
Solder pad layout (Inch / mm)



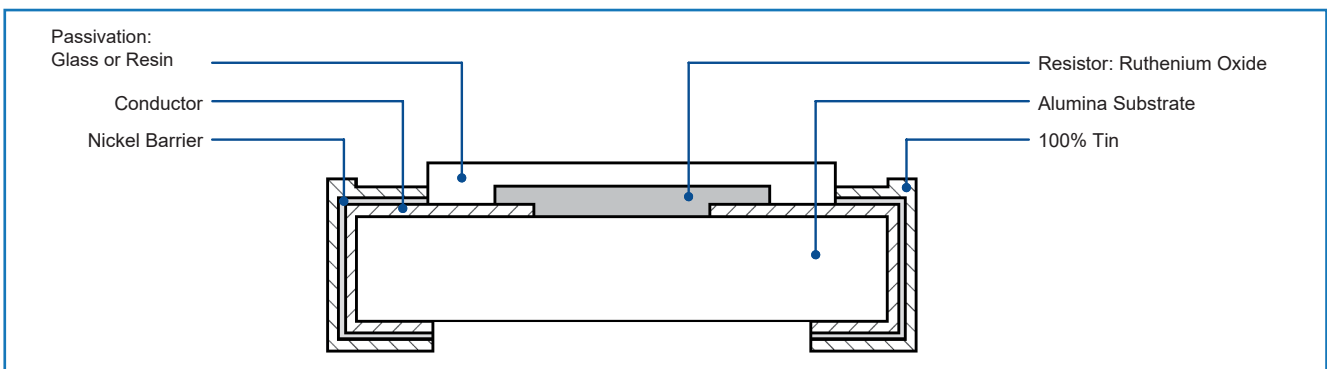
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Solder pad layout (Inch / mm)



Construction



General Note

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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	2	3	4	5	6	7	8	9
Series	Width	Number of Resistors	Circuit	Edge	Value	Tolerance	Packaging	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	8	S=Standard bussed	B=Square	4 digits for uniquely E96 and for all values at 1% JP=Jumper	J= $\pm 5\%$ (Blank for jumper)		S=Anti-sulphur
	16=1.6mm		R=Reverse bussed					
	21=2.1mm							
	31=3.1mm							

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		
B	C	N	3	1	8	S	B						
B	C	N	3	1	8	R	B						

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