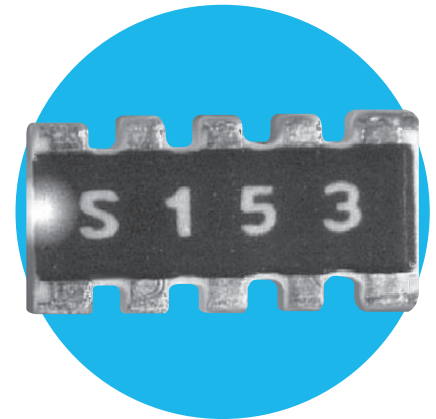


## Thick Film Chip Arrays

### 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 <sup>1</sup>	2512		
BCN31	BCN318SB		1206 x 8				
		BCN318RB					

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

## Electrical Data

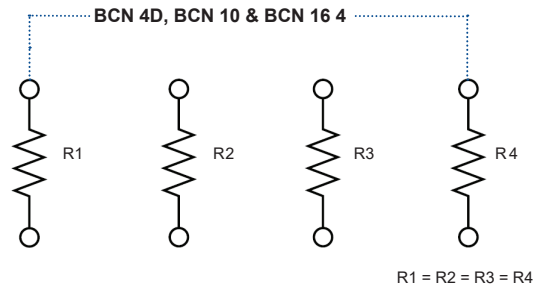
		BCN10	BCN164	BCN168	BCN4D	BCN31
Resistor power rating @70°C	mW	63		32	125	63
Package power rating @70°C	mW	250			500	
Limiting element voltage	V	25	50	25	75	50
Maximum overload voltage	V	63	125	63	188	125
Resistance range	ohms	10R – 1M0		100R – 1M0	10R – 1M0	22R – 1M0
Resistance tolerance	%	1, 5	1, 2, 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

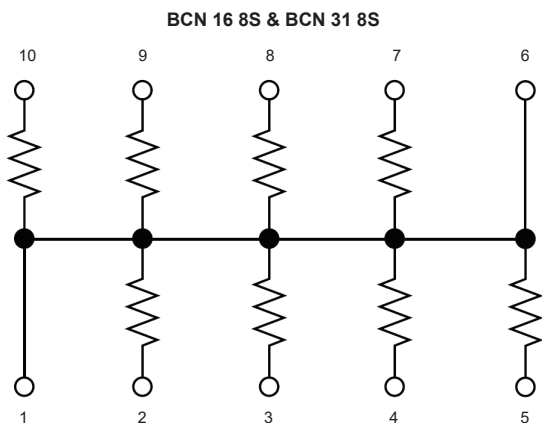
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## Circuits

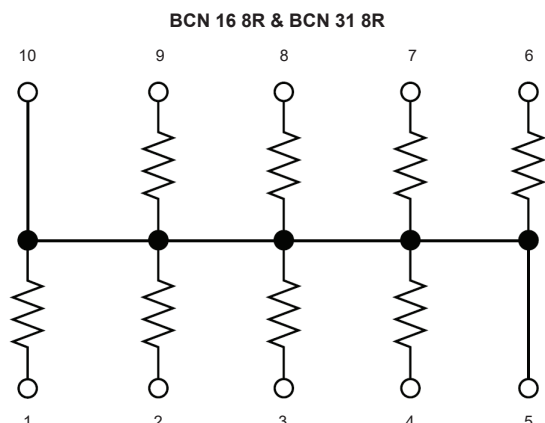
### Isolated



### Standard Bussed



### Reverse Bussed



## Environmental Data

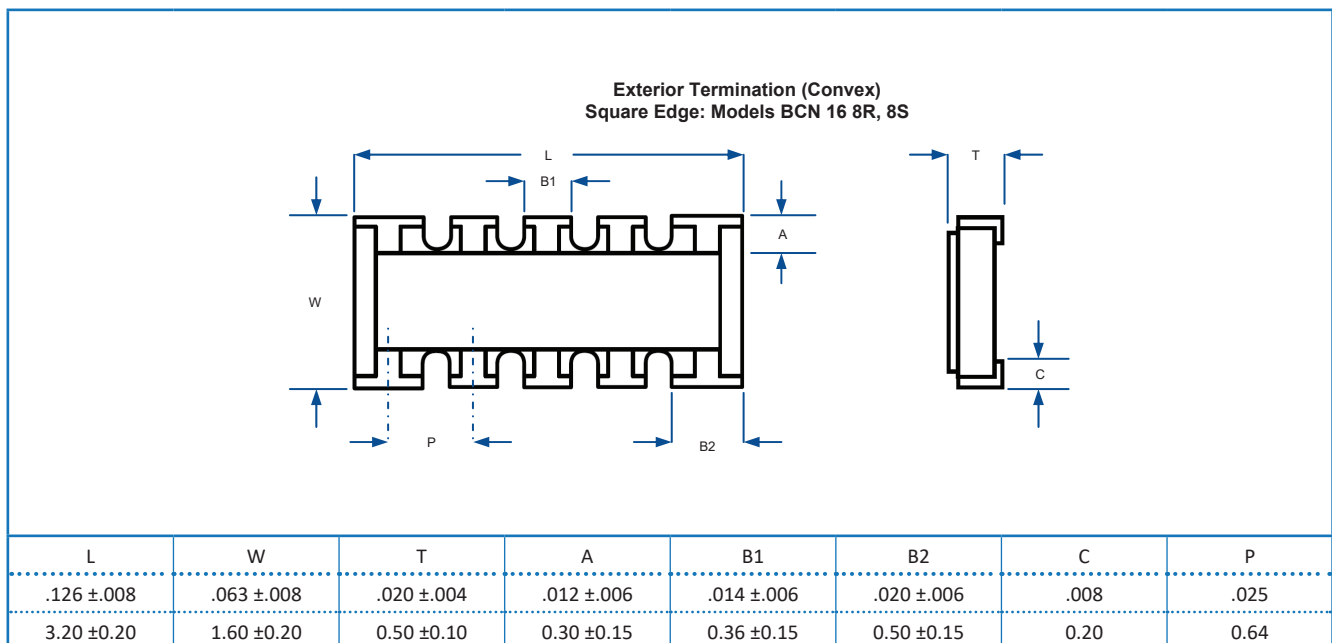
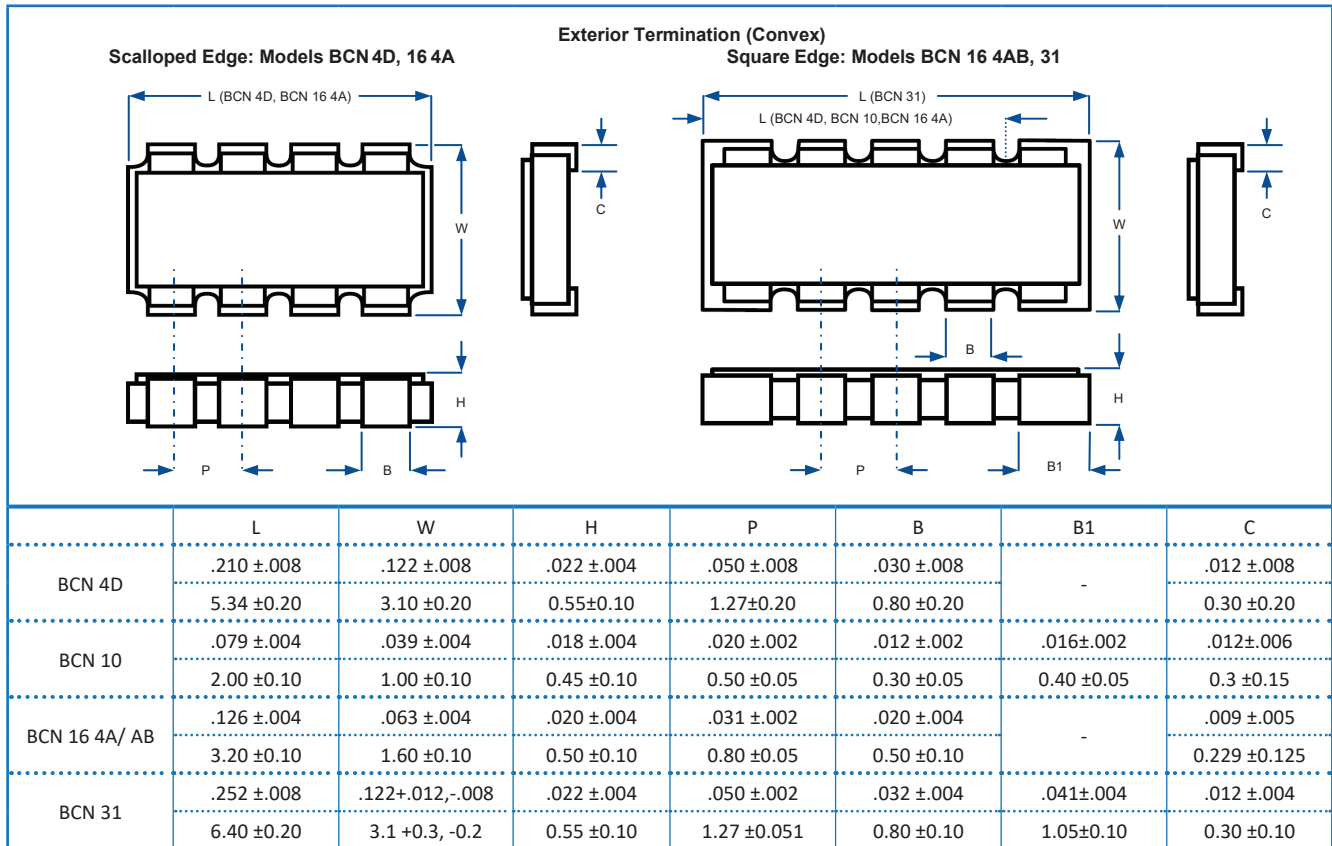
Test	Condition	$\Delta R\%$ (+0.1 $\Omega$ )
Load life	1000 hrs cyclic load @ 70°C	3
Short term overload	2.5 x rated voltage for 5s	2
High temperature operation	1000 hrs @ 155°C	3
Temperature cycling	5 cycles, -55 to +155°C	1
Moisture resistance	1000 hrs @ 40°C, 95% RH	3
Resistance to solder heat	260°C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

Note 1 – Anti-sulphur construction only

### General Note

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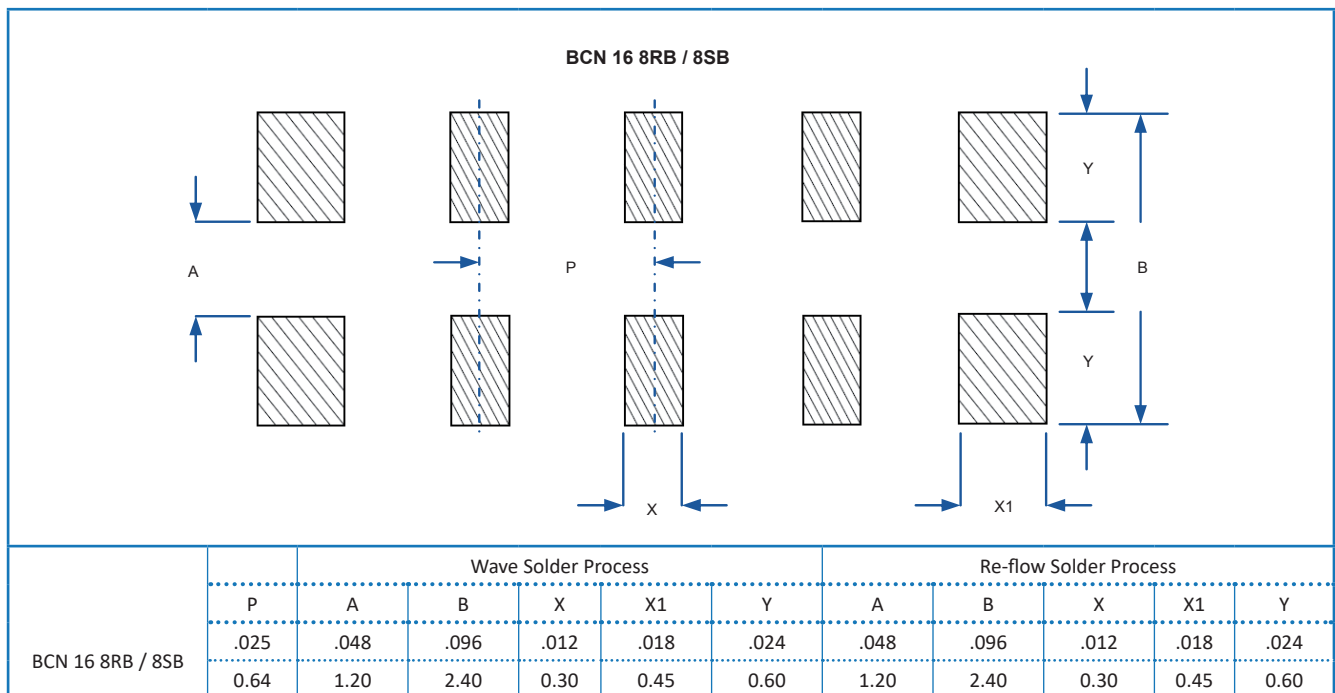
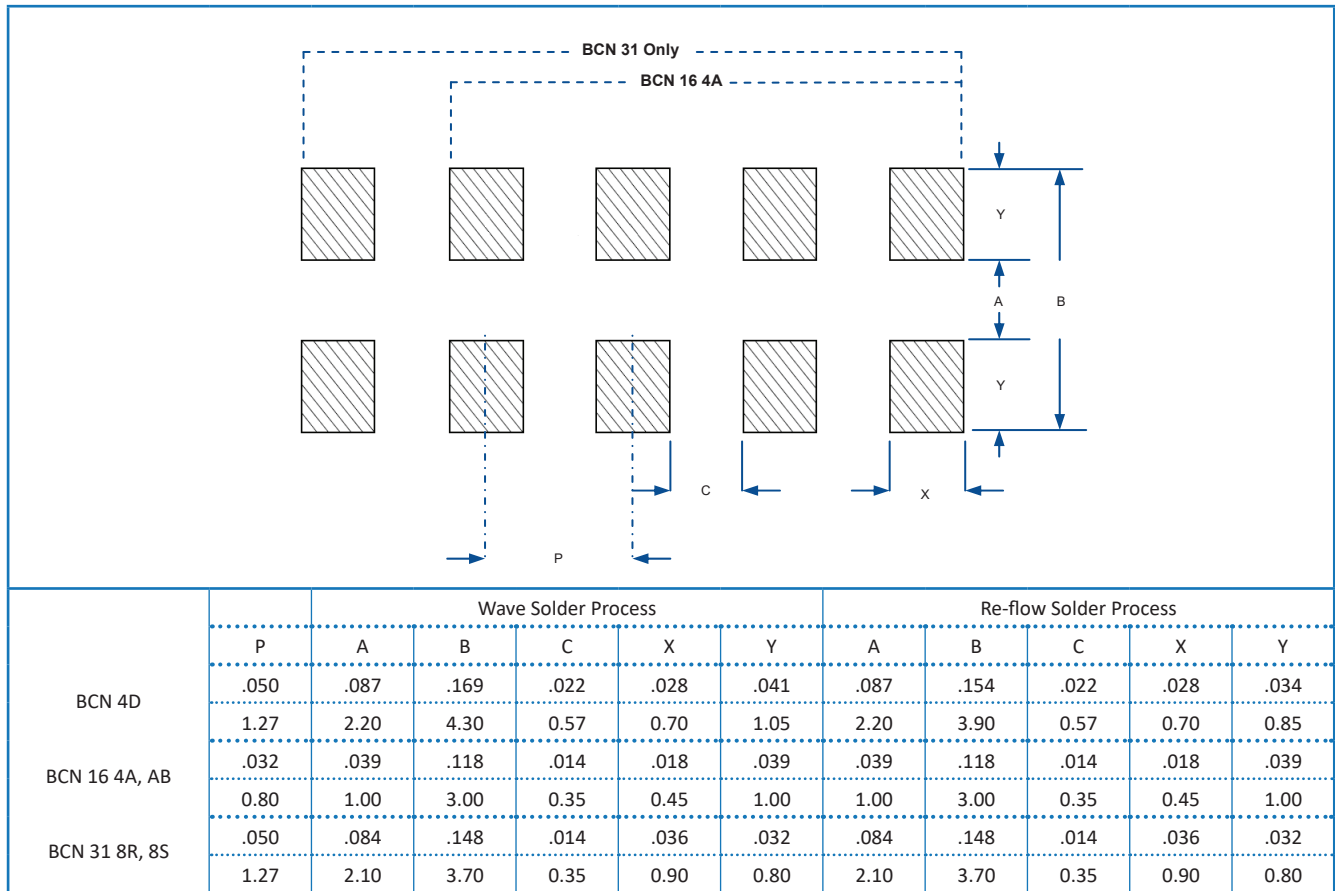
## Physical Data (Inch /mm)



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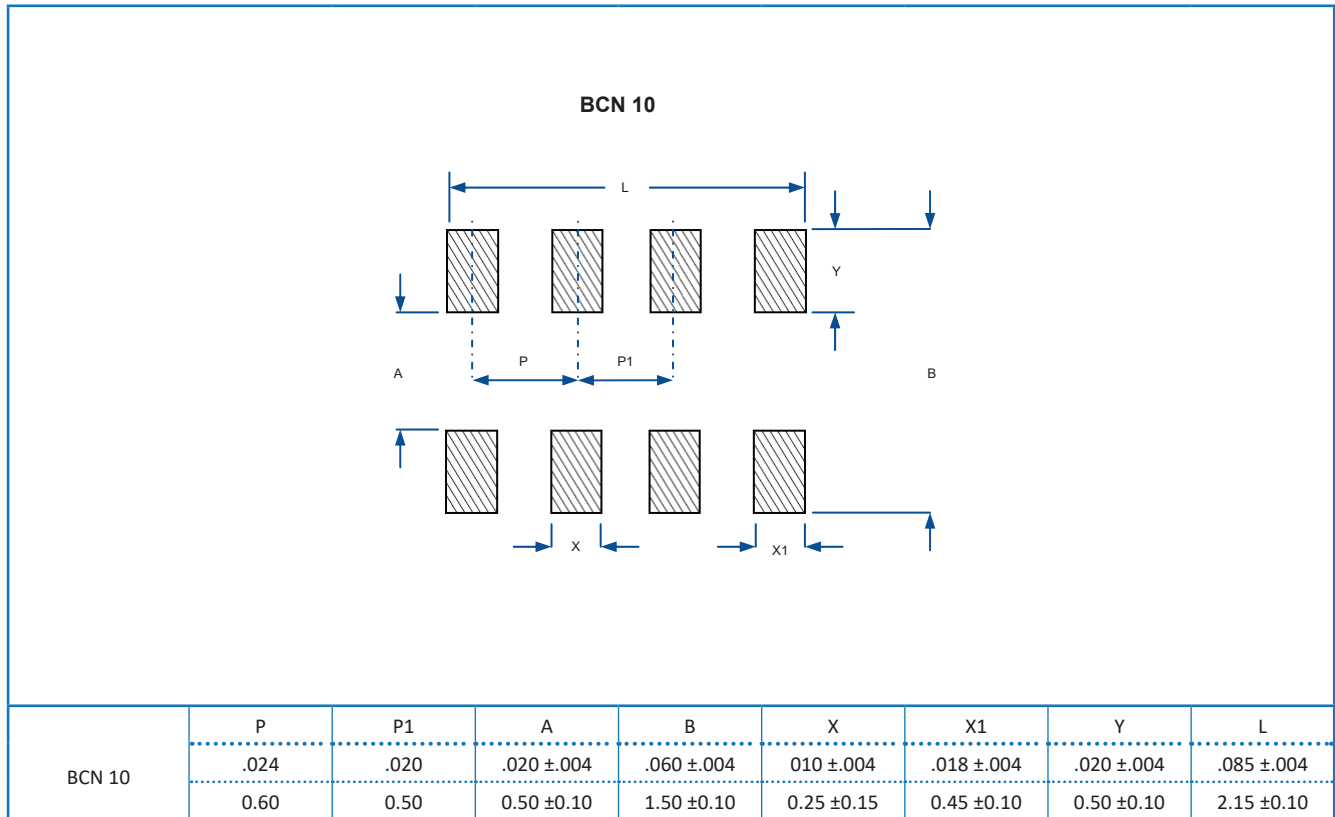
## Solder pad layout (Inch / mm)



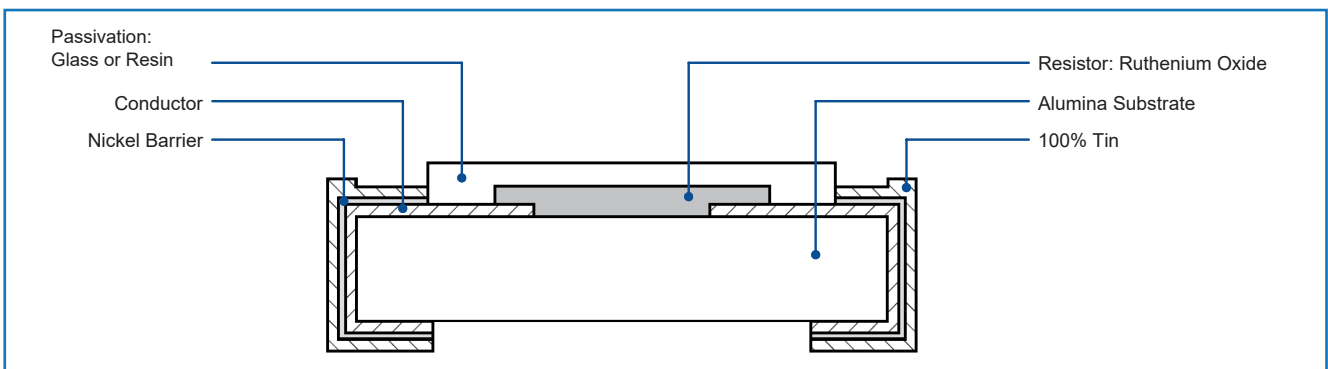
### General Note

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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= $\pm 1\%$	7=7" reel	Blank=Standard
		8	D=Isolated			G= $\pm 2\%$	13=13" reel	
	10=1.0mm		S=Standard bussed	B=Square	4 digits for uniquely E96 and for all values at 1%	J= $\pm 5\%$		S=Anti-sulphur
	16=1.6mm		R=Reverse bussed			(Blank for jumper)		
	21=2.1mm							
31=3.1mm					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	
B	C	N	3	1	8	S	B						
B	C	N	3	1	8	R	B						

#### General Note

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