

# High-Q Ceramic Capacitors (HQN Series)



## Features:

- RoHS Compliant and Halogen Free
- Excellent Q and low ESR performance at high frequency
- Voltage range: 25V to 250V
- Capacitance range: 0.1pF to 220pF
- Low power consumption
- Suitable for IC decoupling application

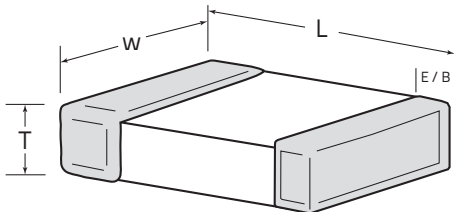
## Part Number Structure

C	0805 HQN	201	-	1R0	C	N	P
Ceramic Capacitor	Size 0201 0402 0603 0805	Series	Rated Voltage 250 = 25VCDW 500 = 50VCDW 101 = 100VCDW 201 = 200VCDW 251 = 250VCDW 501 = 500VCDW	Capacitance (pico - Farads) 1st two digits are significant, followed by number of zeroes. (R denotes decimal) 0R5=0.5pF 101=100pF	Tolerance ** A = ± 0.05pF * B = ± 0.1pF * C = ± 0.25pF * D = ± 0.5pF F = ± 1% G = ± 2% J = ± 5% K = ± 10% * For capacitance values below 10pF only ** For capacitance values of 8.2pF and less	Termination N = 100% matte Tin (Sn) over Nickel	Packaging P = Paper Tape E = Embossed Tape

Example P/N: C0805HQN201-1R0CNP

## Dimensions

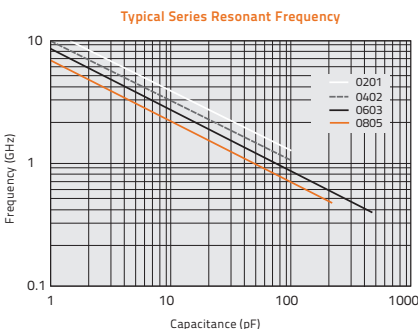
Unit: inches (mm)



Size (inches)	L	W	T (Max)	E/B (Max)
0201	0.024 (0.6 ± 0.010)	0.012 (0.30)	0.012 (0.3)	0.006 (0.15)
0402	0.040 (1.02 ± 0.1)	0.020 (0.51 ± 0.01)	0.20 (0.51 ± 0.01)	0.010 (0.25)
0603	0.060 (1.52)	0.030 (0.76)	0.035 (0.90)	0.015 (0.38)
0805	0.080 (2.03)	0.050 (1.27)	0.050 (1.27)	0.020 (0.508)

## Electrical Specifications

### High-Q NPO



#### Temperature Coefficient:

0% ± 30PPM / °C, -55°C to +125°C

#### Quality Factor:

Q > 5,000 @ 1MHz (Typical 10,000)

#### 0201 Quality Factor:

Q > 1,000 @ 1MHz (Typical 10,000)

#### Ageing:

None

#### Insulation Resistance:

1,000 Ω-F or 100 GΩ (whichever is less at 25°C, VDCW). 50 mA max.  
(IR at 125°C is 10% of the value at 25°C)

#### Dielectric Strength:

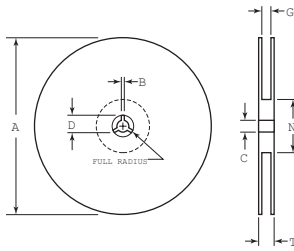
2.5 x VDCW Min., 25°C, 50 mA max



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## Tape and Reel Specifications

All tape and reel specifications must be adhered to per EIA-481-1-A.

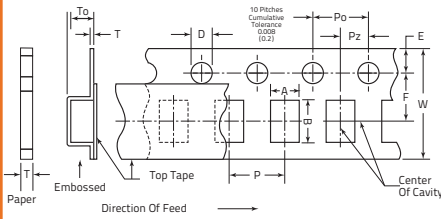


### Reel Dimensions

Unit: mm (inch)

TAPE	B min	C	A (7")	A (13")	D min	N min	G	T max
8mm	0.3 (.012)	13 ± .05 (.512 ± .02)	178 ± 2.0 (7 ± .079)	330 ± 2.0 (13 ± .08)	20.2 (.795)	50 (1.97)	10 ± 1.5 (.394 ± .059)	14.9 (.587)
12mm	0.3 (.012)	13 ± .05 (.512 ± .02)	178 ± 2.0 (7 ± .079)	330 ± 2.0 (13 ± .08)	20.2 (.795)	50 (1.97)	10 ± 1.5 (.394 ± .059)	14.9 (.587)

### Taping Specifications



### 7 in. Reel Quantities

SIZE	0201*	0402*	0603	0805
TAPE SIZE	8mm	8mm	8mm	8mm
MIN QTY PER REEL	15,000	5000	3000	2000
MAX QTY PER REEL	15,000	10,000	4000	5000

### Paper Tape Carrier Dimensions (8mm)

Unit: mm (inch)

SIZE (inches)	A	B	W	F	E	Po	Pz	D	t	P
0201	0.37 ± 0.05 (.014 ± .002)	0.67 ± 0.05 (.026 ± .002)	8.0 ± 0.2 (.315 ± .008)	3.5 ± 0.1 (.138 ± .004)	1.75 ± 0.1 (.069 ± .004)	4.0 ± 0.1 (.157 ± .004)	2.0 ± 0.05 - 0.0 (.039 ± .002) - .000	1.5 ± 0.1 (.064 ± .004)	1.15 MAX (.045 MAX)	2.0 ± 0.05 (.079 ± .002)
0402	0.65 ± 0.1 (.026 ± .004)	1.10 ± 0.2 (.043 ± .008)	8.0 ± 0.2 (.315 ± .008)	3.5 ± 0.1 (.138 ± .004)	1.75 ± 0.1 (.069 ± .004)	4.0 ± 0.1 (.157 ± .004)	2.0 ± 0.05 - 0.0 (.039 ± .002) - .000	1.5 ± 0.1 (.064 ± .004)	1.15 MAX (.045 MAX)	2.0 ± 0.05 (.079 ± .002)
0603	1.10 ± 0.2 (.043 ± .008)	1.90 ± 0.2 (.075 ± .008)	8.0 ± 0.2 (.315 ± .008)	3.5 ± 0.1 (.138 ± .004)	1.75 ± 0.1 (.069 ± .004)	4.0 ± 0.1 (.157 ± .004)	2.0 ± 0.05 - 0.0 (.039 ± .002) - .000	1.5 ± 0.1 (.064 ± .004)	1.15 MAX (.045 MAX)	4.0 ± 0.1 (.157 ± .004)
0805	1.16 ± 0.2 (.046 ± .008)	2.4 ± 0.2 (.095 ± .008)	8.0 ± 0.2 (.315 ± .008)	3.5 ± 0.1 (.138 ± .004)	1.75 ± 0.1 (.069 ± .004)	4.0 ± 0.1 (.157 ± .004)	2.0 ± 0.05 - 0.0 (.039 ± .002) - .000	1.5 ± 0.1 (.064 ± .004)	1.15 MAX (.045 MAX)	4.0 ± 0.1 (.157 ± .004)