

# HIGH Q NPO PART NUMBERS RF, MICROWAVE & POWER

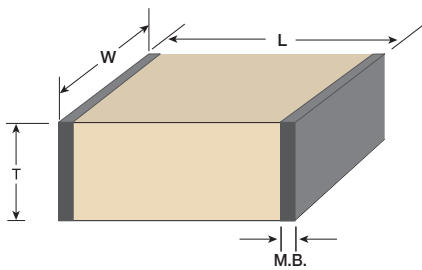
## Specifications

ELECTRICAL SPECIFICATIONS	Dielectric Code: NPO & UP	Testing Method MIL-STD-55681
Temperature Coefficient of Capacitance, 0 Volt	0 ± 30 ppm/°C	Para 3.23
Typical Q for NPO (1 MHz): Typical Q for UP (1 MHz):	10,000 20,000	
Rated Operating Temperature Range	-55° to +200° C	Para 3.14
Capacitance up to 1000pF	1 MHz, 1.0 V AC RMS	Para 3.7
Capacitance >1000pF	1 kHz, 1.0 V AC RMS	
Insulation Resistance @ +25° C at WVDC	100,000 MΩ min.	Para 3.9
Insulation Resistance @ +125° C at WVDC	10,000 MΩ min.	Para 3.12
Dielectric Withstanding Voltage (DWV)	250% of WVDC ≤ 300V 200% of WVDC = 500V	
Aging Effects	None	

**MIL-STD-790 DLA APPROVED  
FACILITY AND TEST LAB  
CAGE CODE: 60212**

The current product code for the High Q series is "NPO," but two older names for this series are equivalent and still supported: "UP" and "NPQ."  
**Consult factory for details.**

## PART NUMBER CODES AND DIMENSIONS



### Capacitance Codes for Multilayer Capacitor

**First Two Digits** = Significant Figures of Capacitance in Picofarads

**Third Digit** = Additional Number of Zeros

**Example:** R05 = 0.05 pF  
OR1 = 0.1 pF  
1R0 = 1 pF  
100 = 10 pF  
101 = 100 pF  
102 = 1,000 pF  
103 = 10,000 pF

### Capacitance Tolerance Codes

Code	Tolerance	Cap Range
3	± 0.01 pF	≤ 2 pF
4	± 0.02 pF	≤ 2 pF
5	± 0.03 pF	≤ 3 pF
A	± 0.05 pF	< 10 pF
B	± 0.1 pF	< 10 pF
C	± 0.25 pF	< 10 pF
D	± 0.5 pF	< 10 pF
E	± 0.5%	≥ 10 pF
F	± 1%	≥ 10 pF
G	± 2%	≥ 10 pF
J	± 5%	≥ 10 pF
K	± 10%	≥ 10 pF
M	± 20%	≥ 10 pF

### Termination Codes (Not available for all sizes)

Code	RoHS Comp.	Typical Application	Termination Build up	Recommended Reflow Temp.
N	No	Solder Reflow	90% Tin/10% Lead Plated Nickel Barrier/Silver Base	220°C to 260°C Typical
T	Yes	Solder Reflow	100% Tin Plated Nickel Barrier/Silver Base	220°C to 260°C Typical
C	No	Solder Reflow	90% Tin/10% Lead Plated Nickel Barrier Flexible Base	220°C to 260°C Typical
G	Yes	Conductive Epoxy, Wire Bondable	50 μ" Gold Typical Nickel Barrier/Silver Base	Cure Epoxy as per Manufacturer's Spec.
P	Yes	Conductive Epoxy	<b>Palladium-Silver Non-Magnetic</b>	Cure Epoxy as per Manufacturer's Spec.
X	Yes	Solder Reflow	<b>100% Tin Plated Non-Magnetic Barrier Silver Base</b>	220°C to 260°C Typical
V	Yes	Solder Reflow	<b>Silver Finish Frame Non-Magnetic</b>	220°C to 260°C Typical

### Working Voltage

Code	WVDC	Code	WVDC
1	25	9	1000
2	50	N	1500
3	100	P	2000
A	150	Q	2500
4	200	R	3000
&	250	S	3600
5	300	U	5000
6	500	+	7200
#	800		

### Packaging Codes

1 = Unmarked, Tape & Reel  
2 = Laser Marked, Tape & Reel  
5 = Unmarked, Waffle Pack  
6 = Laser Marked, Waffle Pack  
Laser Marking available at extra cost (except 0402 size)

### RoHS

Code	Compliant
N	No
C	Yes

Call factory for digital copy of S2P files.

Presidio's NPO capacitors can be upscreened to SPACE LEVEL testing. Consult the factory for details. Some voltage derating may apply.

## PART NUMBER EXAMPLE (How to Order)

0402	NPO	6R8	A	4	N	1	N	—
Size	Dielectric	Capacitance (6.8 pF)	Capacitance Tolerance (± .05 pF)	Voltage (200V)	Termination (Plated SnPb)	Packaging (Tape and Reel)	Non RoHS Compliant	Design-In Code (See end of catalog)



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# A WORD TO THE DESIGN ENGINEER

## About Presidio “Design In” Codes

After the design work is done, outsourcing manufacturing on a global basis is a management option. At Presidio Components, we are striving for complete customer satisfaction which includes “after” service for all of our products.

We added a “Design In” locator code for quick traceability, if needed. Please select your location from the list below and add the appropriate code at the end of the part number.

If you need assistance give us a call at **(858) 578-9390** or email us at **info@presidiocomponents.com**.

### UNITED STATES

### OUTSIDE THE UNITED STATES

USA	Code	USA	Code	Americas	Code	Europe	Code
Alabama	G	Nebraska	P	Canada	R	Austria	3
Alaska	P	Nevada, North	B	Mexico	R	Belgium	1
Arizona	D	Nevada, South	C	Caribbean	R	Denmark	5
Arkansas	P	New Hampshire	L	Central America	R	Finland	5
California, North	B	New Jersey	J	South America	R	France	2
California, South	C	New Mexico	D			Germany	3
Colorado	E	New York, Metro	J	<b>Pacific Rim</b>		Ireland	6
Connecticut	L	New York, Upstate	K	Australia	S	Italy	4
Delaware	I	North Carolina	G	China	T	Luxembourg	1
District of Columbia	H	North Dakota	O	Japan	U	Netherlands	1
Florida	G	Ohio	M	Korea, South	V	Norway	5
Georgia	G	Oklahoma	P	Malaysia	W	Sweden	5
Hawaii	P	Oregon	A	Singapore	X	Switzerland	3
Idaho	A	Pennsylvania	I	Other Pacific Rim Countries	Y	United Kingdom	6
Illinois	N	Rhode Island	L			Other European Countries	7
Indiana	M	South Carolina	G			<b>Other</b>	
Iowa	O	South Dakota	O			India	Z
Kansas	P	Tennessee	G			Israel	8
Kentucky	M	Texas	F			Rest of World	9
Louisiana	P	Utah	E				
Maine	L	Vermont	L				
Maryland	H	Virginia	H				
Massachusetts	L	Washington	A				
Michigan	N	West Virginia	P				
Minnesota	O	Wisconsin, East	N				
Mississippi	G	Wisconsin, West	O				
Missouri	N	Wyoming	E				
Montana	A						

**PART NUMBER EXAMPLE:**  
**0505NPO101FAN1NA**

**PART DESCRIPTION: Ceramic Capacitor,**  
**0505, NPO, 100pF ± 1%,**  
**150 VDC, Plated SnPb, Tape and Reel,**  
**Non RoHS, Design-In Code A for**  
**Washington State.**