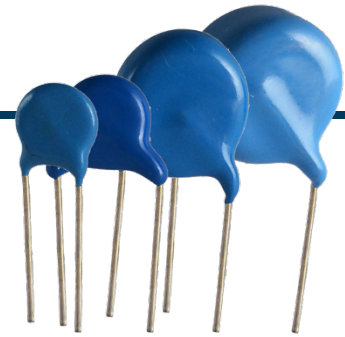




TY1 SERIES (NP0)

3 to 15kV
High Voltage Ceramic Capacitors



Features

- Radial Leaded Package
- NP0 Temperature Characteristics

Specifications

| Part Number | C pF | Tolerance ±% | V _{RATE} kV DC | V _{WITHSTAND} kV | D ¹ mm | H ¹ mm | T ¹ mm | L ² mm | Ls ³ mm | d ⁴ mm |
|---------------|------|--------------|-------------------------|---------------------------|-------------------|-------------------|-------------------|-------------------|--------------------|-------------------|
| TY1NP0150K3KV | 15 | 10 | 3 | 6.0 | 7.0 | 10.0 | 4.0 | 25.0 | 7.5 | 0.6 |
| TY1NP0180K3KV | 18 | 10 | 3 | 6.0 | 8.0 | 11.0 | 4.0 | 25.0 | 7.5 | 0.6 |
| TY1NP0220K3KV | 22 | 10 | 3 | 6.0 | 8.0 | 11.0 | 4.0 | 25.0 | 7.5 | 0.6 |
| TY1NP0270K3KV | 27 | 10 | 3 | 6.0 | 9.0 | 12.0 | 4.0 | 25.0 | 7.5 | 0.6 |
| TY1NP0680K3KV | 68 | 10 | 3 | 6.0 | 12.0 | 15.0 | 4.0 | 25.0 | 7.5 | 0.6 |
| TY1NP0820K3KV | 82 | 10 | 3 | 6.0 | 13.0 | 16.0 | 4.0 | 25.0 | 7.5 | 0.6 |
| TY1NP0101K3KV | 100 | 10 | 3 | 6.0 | 14.0 | 17.0 | 4.0 | 25.0 | 7.5 | 0.6 |
| TY1NP0121K3KV | 120 | 10 | 3 | 6.0 | 15.0 | 18.0 | 4.0 | 25.0 | 7.5 | 0.6 |
| TY1NP0151K3KV | 150 | 10 | 3 | 6.0 | 16.0 | 19.0 | 4.0 | 25.0 | 7.5 | 0.6 |
| TY1NP0181K3KV | 180 | 10 | 3 | 6.0 | 18.0 | 21.0 | 4.0 | 25.0 | 7.5 | 0.6 |
| TY1NP0221K3KV | 220 | 10 | 3 | 6.0 | 19.0 | 22.0 | 4.5 | 25.0 | 7.5 | 0.7 |
| TY1NP0150K4KV | 15 | 10 | 4 | 8.0 | 8.0 | 11.0 | 4.5 | 25.0 | 10.0 | 0.6 |
| TY1NP0180K4KV | 18 | 10 | 4 | 8.0 | 8.0 | 11.0 | 4.5 | 25.0 | 10.0 | 0.6 |
| TY1NP0220K4KV | 22 | 10 | 4 | 8.0 | 9.0 | 12.0 | 4.5 | 25.0 | 10.0 | 0.6 |
| TY1NP0270K4KV | 27 | 10 | 4 | 8.0 | 9.0 | 12.0 | 4.5 | 25.0 | 10.0 | 0.6 |
| TY1NP0680K4KV | 68 | 10 | 4 | 8.0 | 13.0 | 16.0 | 4.5 | 25.0 | 10.0 | 0.6 |
| TY1NP0820K4KV | 82 | 10 | 4 | 8.0 | 14.0 | 17.0 | 4.5 | 25.0 | 10.0 | 0.6 |
| TY1NP0101K4KV | 100 | 10 | 4 | 8.0 | 15.0 | 18.0 | 4.5 | 25.0 | 10.0 | 0.6 |
| TY1NP0121K4KV | 120 | 10 | 4 | 8.0 | 16.0 | 19.0 | 4.5 | 25.0 | 10.0 | 0.6 |
| TY1NP0151K4KV | 150 | 10 | 4 | 8.0 | 18.0 | 21.0 | 4.5 | 25.0 | 10.0 | 0.6 |
| TY1NP0181K4KV | 180 | 10 | 4 | 8.0 | 20.0 | 23.0 | 5.0 | 25.0 | 10.0 | 0.7 |
| TY1NP0221K4KV | 220 | 10 | 4 | 8.0 | 21.0 | 24.0 | 5.0 | 25.0 | 10.0 | 0.7 |
| TY1NP0150K5KV | 15 | 10 | 5 | 10.0 | 9.0 | 12.0 | 5.0 | 25.0 | 10.0 | 0.6 |
| TY1NP0180K5KV | 18 | 10 | 5 | 10.0 | 10.0 | 13.0 | 5.0 | 25.0 | 10.0 | 0.6 |
| TY1NP0220K5KV | 22 | 10 | 5 | 10.0 | 10.0 | 13.0 | 5.0 | 25.0 | 10.0 | 0.6 |
| TY1NP0270K5KV | 27 | 10 | 5 | 10.0 | 11.0 | 14.0 | 5.0 | 25.0 | 10.0 | 0.6 |
| TY1NP0680K5KV | 68 | 10 | 5 | 10.0 | 16.0 | 19.0 | 5.0 | 25.0 | 10.0 | 0.6 |
| TY1NP0820K5KV | 82 | 10 | 5 | 10.0 | 17.0 | 20.0 | 5.0 | 25.0 | 10.0 | 0.6 |
| TY1NP0101K5KV | 100 | 10 | 5 | 10.0 | 18.0 | 21.0 | 5.0 | 25.0 | 10.0 | 0.6 |
| TY1NP0121K5KV | 120 | 10 | 5 | 10.0 | 19.0 | 22.0 | 5.0 | 25.0 | 10.0 | 0.6 |
| TY1NP0151K5KV | 150 | 10 | 5 | 10.0 | 21.0 | 24.0 | 5.5 | 25.0 | 10.0 | 0.7 |
| TY1NP0181K5KV | 180 | 10 | 5 | 10.0 | 23.0 | 27.0 | 5.5 | 25.0 | 10.0 | 0.7 |
| TY1NP0221K5KV | 220 | 10 | 5 | 10.0 | 24.0 | 28.0 | 5.5 | 25.0 | 10.0 | 0.7 |
| TY1NP0100K6KV | 10 | 10 | 6 | 12.0 | 11.0 | 14.0 | 6.0 | 25.0 | 10.0 | 0.6 |
| TY1NP0150K6KV | 15 | 10 | 6 | 12.0 | 9.0 | 12.0 | 6.0 | 25.0 | 10.0 | 0.6 |
| TY1NP0180K6KV | 18 | 10 | 6 | 12.0 | 10.0 | 13.0 | 6.0 | 25.0 | 10.0 | 0.6 |
| TY1NP0220K6KV | 22 | 10 | 6 | 12.0 | 10.0 | 13.0 | 6.0 | 25.0 | 10.0 | 0.6 |
| TY1NP0270K6KV | 27 | 10 | 6 | 12.0 | 11.0 | 14.0 | 6.0 | 25.0 | 10.0 | 0.6 |
| TY1NP0680K6KV | 68 | 10 | 6 | 12.0 | 16.0 | 19.0 | 6.0 | 25.0 | 10.0 | 0.6 |



TY1 SERIES (NP0)

| Part Number | C pF | Tolerance ±% | V _{RATE} kV DC | V _{WITHSTAND} kV | D ¹ mm | H ¹ mm | T ¹ mm | L ² mm | Ls ³ mm | d ⁴ mm |
|----------------|------|--------------|-------------------------|---------------------------|-------------------|-------------------|-------------------|-------------------|--------------------|-------------------|
| TY1NP0820K6KV | 82 | 10 | 6 | 12.0 | 17.0 | 20.0 | 6.0 | 25.0 | 10.0 | 0.6 |
| TY1NP0101K6KV | 100 | 10 | 6 | 12.0 | 19.0 | 22.0 | 6.0 | 25.0 | 10.0 | 0.6 |
| TY1NP0121K6KV | 120 | 10 | 6 | 12.0 | 20.0 | 23.0 | 6.5 | 25.0 | 10.0 | 0.7 |
| TY1NP0151K6KV | 150 | 10 | 6 | 12.0 | 22.0 | 25.0 | 6.5 | 25.0 | 10.0 | 0.7 |
| TY1NP0181K6KV | 180 | 10 | 6 | 12.0 | 24.0 | 27.0 | 6.5 | 25.0 | 10.0 | 0.7 |
| TY1NP0221K6KV | 220 | 10 | 6 | 12.0 | 26.0 | 29.0 | 6.5 | 25.0 | 10.0 | 0.7 |
| TY1NP0150K8KV | 15 | 10 | 8 | 16.0 | 9.0 | 12.0 | 6.5 | 25.0 | 10.0 | 0.6 |
| TY1NP0180K8KV | 18 | 10 | 8 | 16.0 | 10.0 | 13.0 | 6.5 | 25.0 | 10.0 | 0.6 |
| TY1NP0220K8KV | 22 | 10 | 8 | 16.0 | 11.0 | 14.0 | 6.5 | 25.0 | 10.0 | 0.6 |
| TY1NP0270K8KV | 27 | 10 | 8 | 16.0 | 12.0 | 15.0 | 6.5 | 25.0 | 10.0 | 0.6 |
| TY1NP0680K8KV | 68 | 10 | 8 | 16.0 | 17.0 | 20.0 | 6.5 | 25.0 | 10.0 | 0.6 |
| TY1NP0820K8KV | 82 | 10 | 8 | 16.0 | 19.0 | 22.0 | 6.5 | 25.0 | 10.0 | 0.6 |
| TY1NP0101K8KV | 100 | 10 | 8 | 16.0 | 20.0 | 23.0 | 7.0 | 25.0 | 10.0 | 0.7 |
| TY1NP0121K8KV | 120 | 10 | 8 | 16.0 | 22.0 | 25.0 | 7.0 | 25.0 | 10.0 | 0.7 |
| TY1NP0151K8KV | 150 | 10 | 8 | 16.0 | 24.0 | 27.0 | 7.0 | 25.0 | 10.0 | 0.7 |
| TY1NP0181K8KV | 180 | 10 | 8 | 16.0 | 26.0 | 29.0 | 7.0 | 25.0 | 10.0 | 0.7 |
| TY1NP0221K8KV | 220 | 10 | 8 | 16.0 | 28.0 | 31.0 | 7.0 | 25.0 | 10.0 | 0.7 |
| TY1NP0150K10KV | 15 | 10 | 10 | 20.0 | 11.0 | 14.0 | 7.0 | 25.0 | 12.5 | 0.6 |
| TY1NP0180K10KV | 18 | 10 | 10 | 20.0 | 11.0 | 14.0 | 7.0 | 25.0 | 12.5 | 0.6 |
| TY1NP0220K10KV | 22 | 10 | 10 | 20.0 | 12.0 | 15.0 | 7.0 | 25.0 | 12.5 | 0.6 |
| TY1NP0270K10KV | 27 | 10 | 10 | 20.0 | 13.0 | 16.0 | 7.0 | 25.0 | 12.5 | 0.6 |
| TY1NP0680K10KV | 68 | 10 | 10 | 20.0 | 19.0 | 22.0 | 7.0 | 25.0 | 12.5 | 0.6 |
| TY1NP0820K10KV | 82 | 10 | 10 | 20.0 | 20.0 | 23.0 | 7.5 | 25.0 | 12.5 | 0.7 |
| TY1NP0101K10KV | 100 | 10 | 10 | 20.0 | 22.0 | 25.0 | 7.5 | 25.0 | 12.5 | 0.7 |
| TY1NP0121K10KV | 120 | 10 | 10 | 20.0 | 24.0 | 28.0 | 7.5 | 25.0 | 12.5 | 0.7 |
| TY1NP0151K10KV | 150 | 10 | 10 | 20.0 | 26.0 | 30.0 | 7.5 | 25.0 | 12.5 | 0.7 |
| TY1NP0150K12KV | 15 | 10 | 12 | 24.0 | 11.0 | 14.0 | 7.5 | 25.0 | 12.5 | 0.6 |
| TY1NP0180K12KV | 18 | 10 | 12 | 24.0 | 12.0 | 15.0 | 7.5 | 25.0 | 12.5 | 0.6 |
| TY1NP0220K12KV | 22 | 10 | 12 | 24.0 | 13.0 | 16.0 | 7.5 | 25.0 | 12.5 | 0.6 |
| TY1NP0270K12KV | 27 | 10 | 12 | 24.0 | 14.0 | 17.0 | 7.5 | 25.0 | 12.5 | 0.6 |
| TY1NP0680K12KV | 68 | 10 | 12 | 24.0 | 20.0 | 23.0 | 8.0 | 25.0 | 12.5 | 0.7 |
| TY1NP0820K12KV | 82 | 10 | 12 | 24.0 | 22.0 | 25.0 | 8.0 | 25.0 | 12.5 | 0.7 |
| TY1NP0101K12KV | 100 | 10 | 12 | 24.0 | 23.0 | 27.0 | 8.0 | 25.0 | 12.5 | 0.7 |
| TY1NP0121K12KV | 120 | 10 | 12 | 24.0 | 26.0 | 30.0 | 8.0 | 25.0 | 12.5 | 0.7 |
| TY1NP0151K12KV | 150 | 10 | 12 | 24.0 | 28.0 | 32.0 | 8.0 | 25.0 | 12.5 | 0.7 |
| TY1NP0150K15KV | 15 | 10 | 15 | 30.0 | 13.0 | 16.0 | 8.5 | 25.0 | 12.5 | 0.6 |
| TY1NP0180K15KV | 18 | 10 | 15 | 30.0 | 14.0 | 17.0 | 8.5 | 25.0 | 12.5 | 0.6 |
| TY1NP0220K15KV | 22 | 10 | 15 | 30.0 | 15.0 | 18.0 | 8.5 | 25.0 | 12.5 | 0.6 |
| TY1NP0270K15KV | 27 | 10 | 15 | 30.0 | 17.0 | 20.0 | 8.5 | 25.0 | 12.5 | 0.6 |
| TY1NP0680K15KV | 68 | 10 | 15 | 30.0 | 24.0 | 28.0 | 9.0 | 25.0 | 12.5 | 0.7 |
| TY1NP0820K15KV | 82 | 10 | 15 | 30.0 | 27.0 | 31.0 | 9.0 | 25.0 | 12.5 | 0.7 |
| TY1NP0101K15KV | 100 | 10 | 15 | 30.0 | 29.0 | 33.0 | 9.0 | 25.0 | 12.5 | 0.7 |
| TY1NP0121K15KV | 120 | 10 | 15 | 30.0 | 30.0 | 34.0 | 9.0 | 25.0 | 12.5 | 0.7 |
| TY1NP0151K15KV | 150 | 10 | 15 | 30.0 | 32.0 | 36.0 | 10.0 | 25.0 | 12.5 | 0.8 |

¹Maximum dimension.

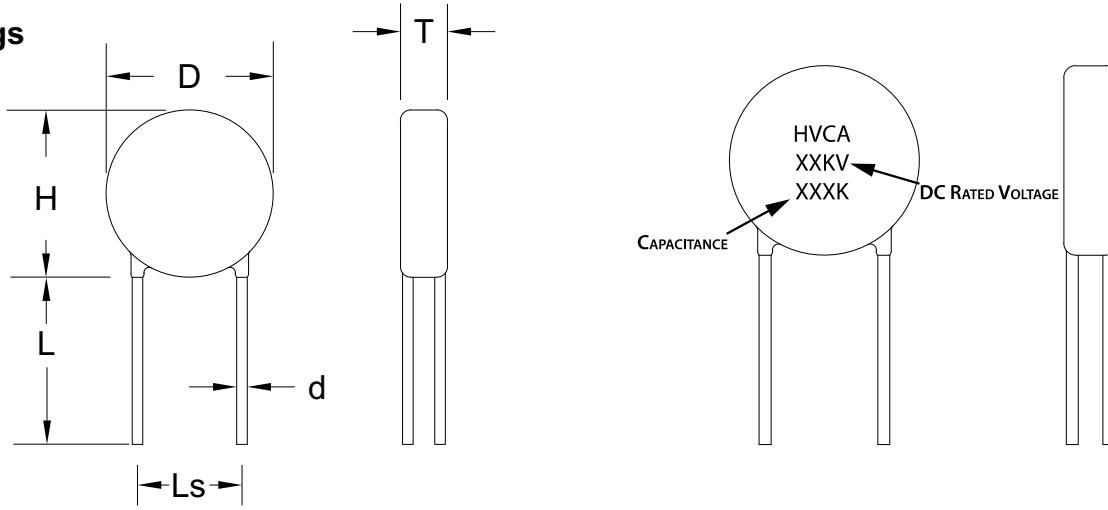
²Minimum dimension.

³Ls has a ±1.5mm tolerance.

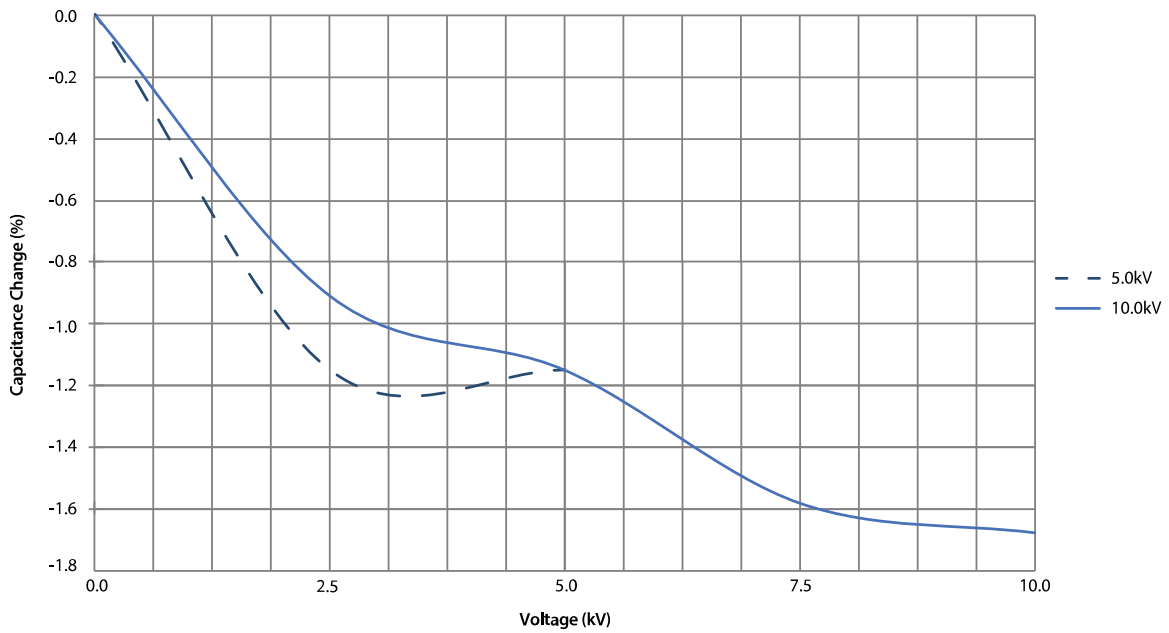
⁴Typical.



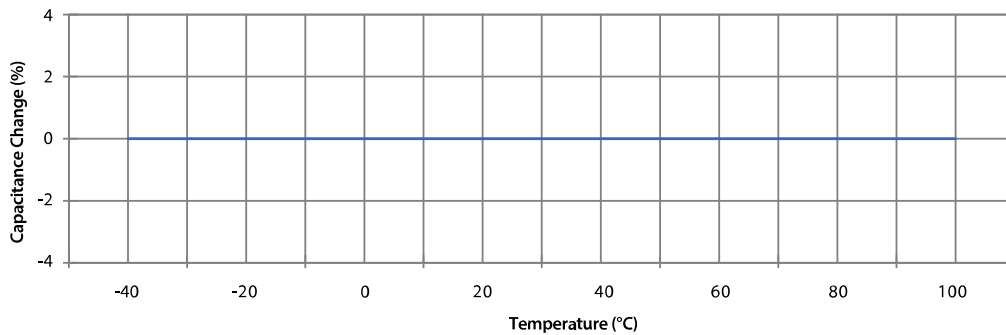
Drawings



NP0 TYPICAL VOLTAGE CHARACTERISTICS CURVE

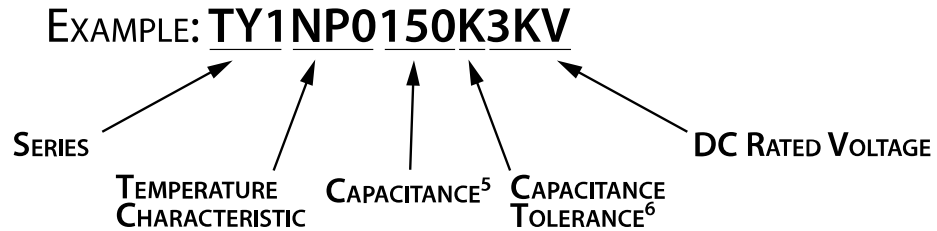


NP0 TYPICAL TEMPERATURE CHARACTERISTICS CURVE





PART NUMBER DECODER:



⁵Capacitance decoder: 102 = 1000pF, expressed by three figures.

The first and second figures are significant digits, and the third figure expresses the number of zeros which follows the two numbers. 0 = x1, 1 = x10, 2 = x100, 3 = x1000

⁶TY1NP0 models are also offered with J and M capacitance tolerance. Contact the factory for additional information.

Additional Specifications

| | Specifications | Conditions |
|------------------------------------|----------------|-----------------|
| Operating Temperature Range | -25 to 100°C | - |
| Temperature Coefficient | -25 and +85°C | - |
| Dissipation Factor | Q ≥ 400 | C < 30pF, +20°C |
| | Q ≥ 1000 | C ≥ 30pF |

Note: Specifications subject to change without notice. Photo is representation only.

