



A **WORLD OF**  
**SOLUTIONS**

VISHAY INTERTECHNOLOGY, INC.  
**CERAMIC CAPACITORS**  
Single-Layer Capacitors

**AC Rated Ceramic Disc Capacitors, Safety Rated**

|         | Product Family                                                                                            | Series                                                                                                  | Voltage              |                     | Capacitance         | Tolerance                  | Class  | Temperature Characteristics                                       |
|---------|-----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|----------------------|---------------------|---------------------|----------------------------|--------|-------------------------------------------------------------------|
|         |                                                                                                           |                                                                                                         | X Rating             | Y Rating            |                     |                            |        |                                                                   |
| X1 / Y1 | Vishay BCcomponents<br>  | <a href="#">VY1</a>                                                                                     | 760 V <sub>AC</sub>  | 500 V <sub>AC</sub> | 10 pF to 22 pF      | ± 10 %<br>± 20 %<br>± 20 % | 1      | U2J (N750)                                                        |
|         |                                                                                                           |                                                                                                         |                      |                     | 33 pF to 4.7 nF     |                            | 2      | Y5S, Y5U                                                          |
|         |                                                                                                           |                                                                                                         |                      |                     | 1 nF to 4.7 nF      |                            | 2      | Y5V                                                               |
|         | Vishay BCcomponents<br>  | Compact Series<br><a href="#">VY1°C</a>                                                                 | 760 V <sub>AC</sub>  | 500 V <sub>AC</sub> | 470 pF to 4.7 nF    | ± 20 %                     | 2      | Y5U                                                               |
|         | Vishay Draloric<br>      | <a href="#">VKP</a>                                                                                     | 760 V <sub>AC</sub>  | 500 V <sub>AC</sub> | 470 pF to 4.7 nF    | ± 10 %<br>± 20 %           | 2      | Y5U                                                               |
|         |                                                                                                           | <a href="#">WKP</a>                                                                                     | 760 V <sub>AC</sub>  | 500 V <sub>AC</sub> | 33 pf               |                            | 1      | U2J (N750)                                                        |
|         |                                                                                                           |                                                                                                         |                      |                     | 47 pF to 4.7 nF     |                            | 2      | Y5S, Y5T, Y5U                                                     |
|         | Vishay Cera-Mite<br>     | <a href="#">440L</a>                                                                                    | 760 V <sub>AC</sub>  | 500 V <sub>AC</sub> | 10 pF to 47 pF      | ± 10 %                     | 1      | C0G (P100), U2J (N750)<br>P3K (N1500), R3L (N2000)                |
|         |                                                                                                           |                                                                                                         |                      |                     | 68 pF to 20 nF      | ± 10 %<br>± 20 %           | 2      | X7R<br>Y5U                                                        |
| X1 / Y2 | Vishay BCcomponents<br> | <a href="#">VY2</a>                                                                                     | 440 V <sub>AC</sub>  | 300 V <sub>AC</sub> | 10 pF to 47 pF      | ± 10 %<br>± 20 %<br>± 20 % | 1      | U2J (N750)                                                        |
|         |                                                                                                           |                                                                                                         |                      |                     | 68 pF to 10 nF      |                            | 2      | Y5S, Y5U                                                          |
|         |                                                                                                           |                                                                                                         |                      |                     | 1 nF to 10 nF       |                            | 2      | Y5V                                                               |
|         |                                                                                                           | AEC-Q200<br>Qualified<br><a href="#">AY2</a>                                                            | 440 V <sub>AC</sub>  | 300 V <sub>AC</sub> | 10 pF to 47 pF      | ± 10 %<br>± 20 %           | 1      | U2J (N750)                                                        |
|         |                                                                                                           |                                                                                                         |                      |                     | 68 pF to 4.7 nF     |                            | 2      | Y5S, Y5U                                                          |
|         | Vishay Draloric<br>    | <a href="#">WYO</a>                                                                                     | 440 V <sub>AC</sub>  | 250 V <sub>AC</sub> | 1.0 nF to 12 nF     | ± 20 %                     | 2      | Y5U                                                               |
|         |                                                                                                           | <a href="#">VKO</a>                                                                                     | 440 V <sub>AC</sub>  | 300 V <sub>AC</sub> | 1.0 nF to 4.7 nF    | ± 10 %<br>± 20 %           | 2      | Y5U                                                               |
|         |                                                                                                           | <a href="#">WKO</a>                                                                                     | 440 V <sub>AC</sub>  | 300 V <sub>AC</sub> | 33 pF to 47 pF      | ± 10 %<br>± 20 %           | 1      | U2J (N750)                                                        |
|         |                                                                                                           |                                                                                                         |                      |                     | 68 pF to 4.7 nF     |                            | 2      | Y5S, Y5T, Y5U                                                     |
|         | Vishay Cera-Mite<br>   | <a href="#">25Y</a>                                                                                     | 400 V <sub>AC</sub>  | 250 V <sub>AC</sub> | 1.0 nF to 8.0 nF    | ± 20 %                     | 2      | Y5S                                                               |
|         |                                                                                                           | <a href="#">30LVS</a>                                                                                   | 400 V <sub>AC</sub>  | 250 V <sub>AC</sub> | 1.0 nF to 10 nF     | ± 20 %                     | 2      | Y5U, Y5V                                                          |
|         |                                                                                                           | <a href="#">30LV</a>                                                                                    | 400 V <sub>AC</sub>  | 300 V <sub>AC</sub> | 10 pF to 68 pF      | ± 10 %                     | 1      | C0G (P100), U2J (N750)<br>P3K (N1500), R3L (N2000)<br>S3L (N3300) |
|         |                                                                                                           |                                                                                                         |                      |                     | 100 pF to 15 nF     | ± 10 %<br>± 20 %           | 2      | X7R<br>Y5U                                                        |
|         | X1 / Y4                                                                                                   | Vishay Cera-Mite<br> | <a href="#">125L</a> | 400 V <sub>AC</sub> | 125 V <sub>AC</sub> | 1.0 nF to 50 nF            | ± 20 % | 2                                                                 |
| X1      | Vishay Draloric<br>    | <a href="#">W1X</a>                                                                                     | 275 V <sub>AC</sub>  | -                   | 4.7 nF to 22 nF     | ± 20 %                     | 2      | Y5V                                                               |
| X2      | Vishay Cera-Mite<br>   | <a href="#">20VL</a>                                                                                    | 400 V <sub>AC</sub>  | -                   | 9.0 nF to 100 nF    | ± 20 %                     | 2      | Y5V<br>Z5U                                                        |

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# VISHAY INTERTECHNOLOGY, INC. CERAMIC CAPACITORS

## Ceramic Capacitors for Automotive Applications

### Leaded MLCCs

**Best-in-class performance.** Built for the most extreme automotive operating conditions, Vishay leaded MLCCs offer industry-high operating temperatures, the utmost electrical and mechanical robustness, and exceptional reliability.

- AEC-Q200 qualified
- PPAP documentation available
- High-reliability MLCC insert with noble metal electrodes, produced in a unique wet build process
- Compliant with ELV Directive



|              | Product Family | Series                                                                                         | Voltage                                   | Capacitance    | Tolerance                 | Class   | Temperature Characteristics |
|--------------|----------------|------------------------------------------------------------------------------------------------|-------------------------------------------|----------------|---------------------------|---------|-----------------------------|
| Leaded MLCCs |                | <a href="#">Axial-Leaded MLCCs</a><br><a href="#">A...R Series</a>                             | 50 V <sub>DC</sub> to 200 V <sub>DC</sub> | 100 pF to 1 µF | ± 5 %<br>± 10 %<br>± 20 % | 1 and 2 | C0G<br>X7R                  |
|              |                |                                                                                                | Features:                                 |                |                           |         |                             |
|              |                | <a href="#">Radial-Leaded MLCCs</a><br><a href="#">K...R Series</a>                            | 50 V <sub>DC</sub> to 200 V <sub>DC</sub> | 100 pF to 1 µF | ± 5 %<br>± 10 %<br>± 20 % | 1 and 2 | C0G<br>X7R                  |
|              |                |                                                                                                | Features:                                 |                |                           |         |                             |
|              |                | <a href="#">High Operating Temperature Radial-Leaded MLCCs</a><br><a href="#">K...H Series</a> | 50 V <sub>DC</sub> to 200 V <sub>DC</sub> | 100 pF to 1 µF | ± 5 %<br>± 10 %<br>± 20 % | 1 and 2 | C0G<br>X0U                  |
|              |                |                                                                                                | Features:                                 |                |                           |         |                             |

### Automotive Safety Capacitors

**The capacitors customers trust.** Vishay's automotive ceramic safety capacitors offer a market-leading lifetime to ensure proper function in safety-related applications such as on-board chargers and battery management systems in electric cars and plug-in hybrid electric vehicles (PHEV).

- AEC-Q200 qualified
- IEC 60384-14, X1/Y2 safety classification
- PPAP documentation available
- 3000 temperature cycles from -55 °C to +125 °C
- Compliant with ELV Directive



|         | Product Family | Series                     | Voltage                                    | Capacitance      | Tolerance        | Class   | Temperature Characteristics |
|---------|----------------|----------------------------|--------------------------------------------|------------------|------------------|---------|-----------------------------|
| X1 / Y2 |                | <a href="#">AY2 Series</a> | 300 V <sub>DC</sub> to 440 V <sub>DC</sub> | 10 pF to 4700 pF | ± 10 %<br>± 20 % | 1 and 2 | N750 (U2J)<br>Y5S, Y5U      |
|         |                |                            | Features:                                  |                  |                  |         |                             |

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