

High Voltage Ring Style Capacitors, Class 1 and Class 2 Ceramic



FEATURES

- High reliability
- Stackmounting is possible

APPLICATIONS

Ring style high voltage capacitors made from class 2 ceramic dielectric can be used as coupling and bypass capacitors, capacitors where low power ratings are required and larger capacitance changes where temperature can be tolerated.

| QUICK REFERENCE DATA | | | | | | | |
|---------------------------|----------------|-------------|--------------|-------------|-------------|-----------|-------------|
| DESCRIPTION | VALUE | | | | | | |
| Ceramic Class | 2 | | | | | 1 | 2 |
| Ceramic Dielectric | R2000H (Z5U) | R6000 (Y5U) | R2000H (Z5U) | R6000 (Y5U) | R6000 (Y5U) | R85 (U2J) | R4000 (Y5U) |
| Type | HR22 | | HR30 | | | HR35 | |
| Voltage (V _p) | 2800 | 2800 | 3500 | 5600 | 2800 | 3500 | 2000 |
| Min. Capacitance (pF) | 750 | 2000 | 1500 | 2500 | 5000 | 100 | 5000 |
| Max. Capacitance (pF) | 1000 | 3000 | 1500 | 2500 | 5000 | 100 | 5000 |
| Mounting | Screw terminal | | | | | | |

MATERIAL

Capacitor elements made from class 1 or class 2 ceramic dielectric with noble metal electrodes.

FINISH

Noble metal electrode pure silver, inner and outer insulating rim completely protective lacquered.

MARKING

Type designator, capacitance value and tolerance, rated peak voltage, ceramic material code, manufacturer logo.

CAPACITANCE RANGE

100 pF to 5.0 nF

CAPACITANCE TOLERANCE

R85, R2000H: ± 20 %

R4000, R6000: -20 % to +50 %

CERAMIC DIELECTRIC

- R85 (U2J)
- R2000H (Z5U)
- R4000 (Y5U)
- R6000 (Y5U)

RATED VOLTAGE

- 2.0 kV_p
- 2.8 kV_p
- 3.5 kV_p
- 5.6 kV_p

DIELECTRIC STRENGTH TEST

300 % of rated voltage, 50 Hz, in dielectric fluid

DISSIPATION FACTOR

- R85: max. 0.07 % (1 MHz)
- R2000H: max. 0.5 % (1 kHz)
- R4000, R6000: max. 2.5 % (1 kHz)

INSULATION RESISTANCE

Min. 50 000 MΩ (at 25 °C)

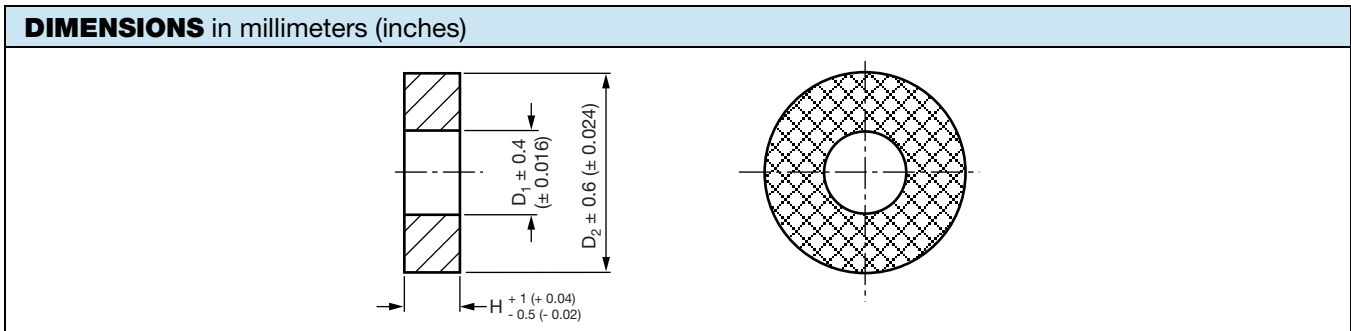
OPERATING TEMPERATURE RANGE

- Class 1: -55 °C to +85 °C
- Class 2: -55 °C to +100 °C

| SAP PART NUMBER, ELECTRICAL AND DIMENSIONAL DATA | | | | | | |
|--|--------------|------------------|---------------------|--------------------------|--------------------------|--------------|
| PART NUMBER | CERAMIC | CAP. VALUES (pF) | RATED VOLTAGE (kVp) | D ₁ mm (inch) | D ₂ mm (inch) | H mm (inch) |
| TYPE HR22 | | | | | | |
| HR0022VR75138AX1 | R2000H (Z5U) | 750 | 2.8 | 10 (0.39) | 22 (0.87) | 7.5 (0.295) |
| HR0022VR10238AX1 | | 1000 | | | | 5.6 (0.220) |
| HR0022VR20291BB1 | R6000 (Y5U) | 2000 | | | | 8.0 (0.315) |
| HR0022VR30291BB1 | | 3000 | | | | 5.3 (0.209) |
| TYPE HR30 | | | | | | |
| HR0030VT15238AX1 | R2000H (Z5U) | 1500 | 3.5 | 12 (0.47) | 30 (1.81) | 7.6 (0.295) |
| HR0030VW25291BB1 | R6000 (Y5U) | 2500 | 5.6 | | | 10.0 (0.394) |
| HR0030VR50291BB1 | | 5000 | 2.8 | | | 5.0 (0.197) |
| TYPE HR35 | | | | | | |
| HR0035VT10138BJ1 | R85 (U2J) | 100 | 3.5 | 12 (0.47) | 35 (1.38) | 7.0 (0.276) |
| HR0035BB50291BA1 | R4000 (Y5U) | 5000 | 2.0 | | | 5.2 (0.205) |

Note

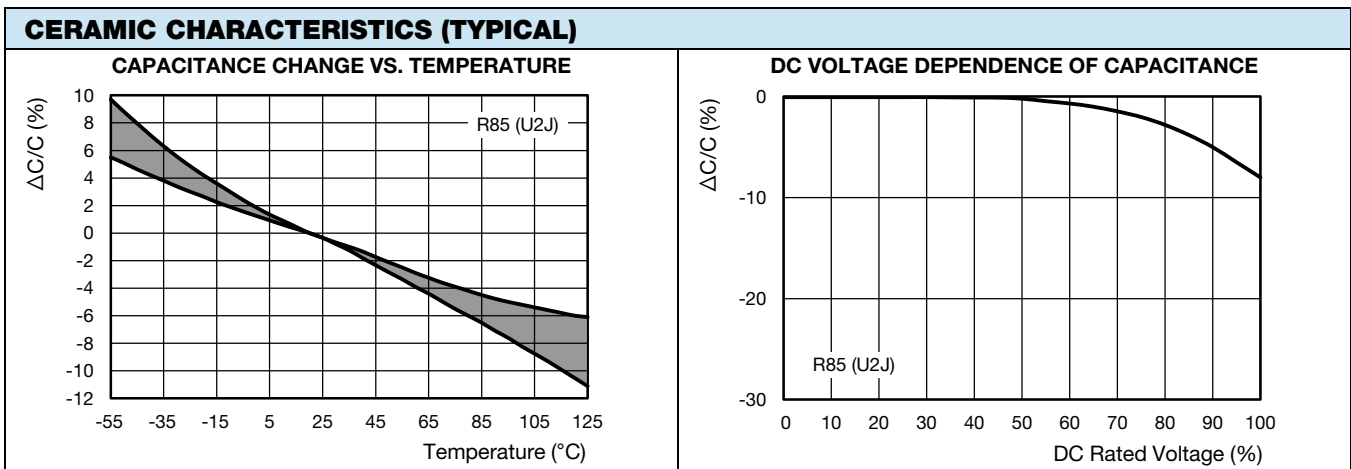
- The surface temperature during operation must not exceed +100 °C



MOUNTING GUIDELINES

Ring style capacitors can be mounted in series.

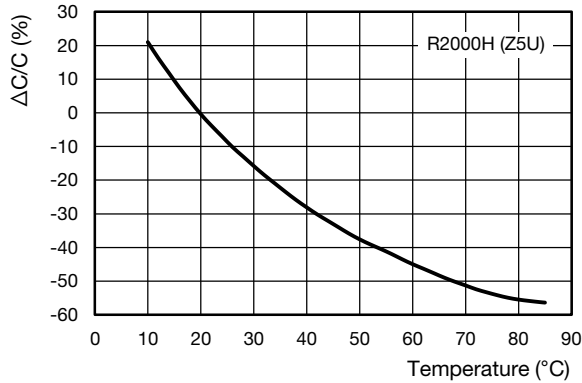
- Avoid installation in which too much pressure or torque is applied to the capacitor elements
- Use spring washers in order to prevent the generation of physical stress to the capacitor elements and noble metal electrodes
- The capacitor elements must not be used as a mechanical support for other devices or components



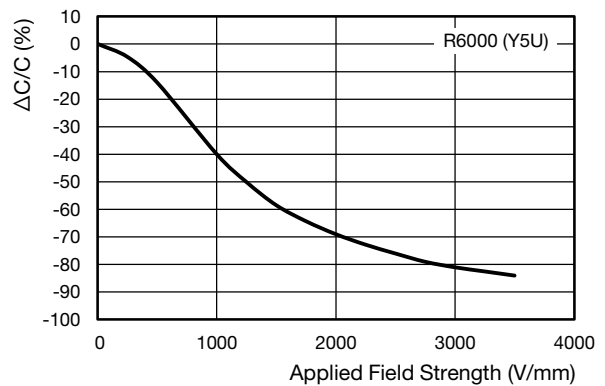
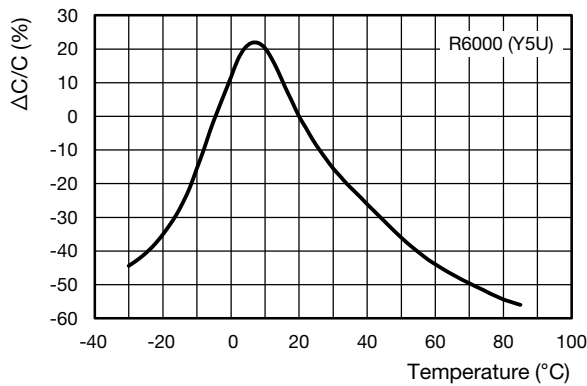
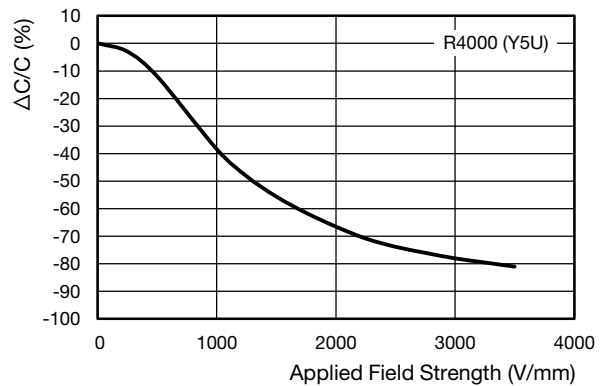
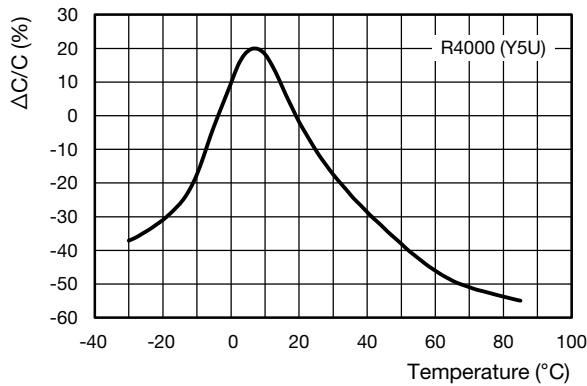
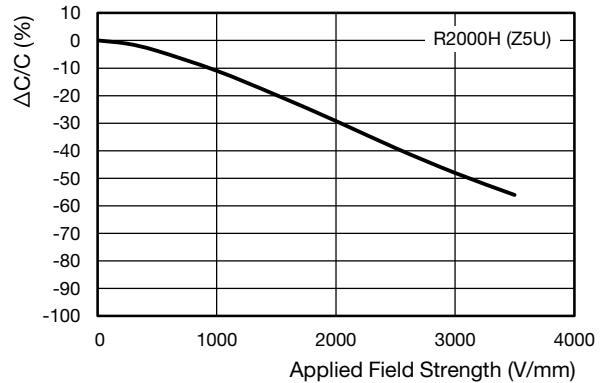


CERAMIC CHARACTERISTICS (TYPICAL)

CAPACITANCE CHANGE VS. TEMPERATURE



DC VOLTAGE DEPENDENCE OF CAPACITANCE



RELATED DOCUMENTS

General Information

www.vishay.com/doc?22071



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