

# Disk Ceramic Capacitors with Lead

## Safety Standard Approved CS Series

**BASIC INSULATION TYPE** Temperature range: -25 to +125°C

**CLASS 2 HIGH DIELECTRIC**

### FEATURES

- Smaller than conventional capacitors.
- Flame-resistant reinforced outer insulation prevents fires, electrical shock, and other potential hazards.
- Compliant with the safety standards of 11 countries (conforms to European standards in accordance with IEC Pub. 384-14 Version 2).

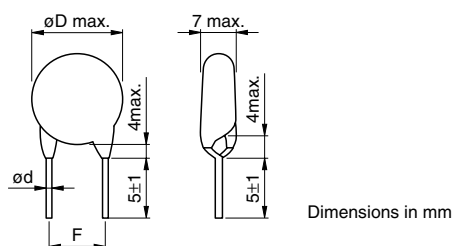
### MARKINGS

| Item  |                  | Marking examples  |      |
|---|------------------|-------------------|------|
| 1. Series   | CS               | Front             | Back |
| 2. Nominal capacitance                                  | 222(2200pF)      |                   |      |
| 3. Capacitance tolerance                                | M(±20%)          |                   |      |
| 4. Rated voltage Eac                                    | 250V ~ (AC.250V) |                   |      |
| 5. Sub-class of safety performance                      | X1Y2             |                   |      |
| 6. TDK's logogram                                       |                  |                   |      |
| 7. Date code  | 64 or            |                   |      |
| 8. Regulatory body safety standards compliance markings |                  |                   |      |
| BSI (U.K.)  | BS415            | SEV (Switzerland) |      |
|   |                  | FIMKO (Finland)   |      |
|   |                  | NEMKO (Norway)    |      |
| SEMKO (Sweden)  |                  | UL (U.S.A.)       |      |
|   |                  | SAA (Australia)   | —    |
|   |                  | IMQ (Italy)       |      |
| VDE (Germany)   |                  | CSA (Canada)      |      |
|   |                  | DEMKO (Denmark)   |      |

(Marking position of the monogram is reference.)

\* Year and month of production: last digit of year + month denoted by 1, 2, 3, 4, 5, 6, 7, 8, 9, O (October), N (November), or D (December).

### SHAPES AND DIMENSIONS



• For more information about products with other capacitance or other data, please contact us.

• All specifications are subject to change without notice.

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**CLASS 2 HIGH DIELECTRIC**

**INTERNATIONALLY CERTIFIED STATUS**

**IEC60384-14 2nd. ed. EN132400 Approved**

| Safety standard | Standard No. of IEC                   | Standard No.  | Temperature characteristics | Insulation sub-class | Rated voltage Eac(V) | Approval report No. |               |            |
|-----------------|---------------------------------------|---|-----------------------------|----------------------|----------------------|---------------------|---------------|------------|
|                 |                                       |   |                             |                      |                      | Japan               | Taiwan        | Xiamen     |
| BSI             | IEC 60065<br>IEC 60384-14<br>2nd. ed. | BS EN 60065:1998<br>(BS415:1998)<br>BS EN132400:1995<br>(EN132400:1994) | B, E, F                     | X1, Y2               | 250                  | 226494              | 226494        | 226494     |
| VDE             | IEC 60384-14<br>2nd. ed.              | EN132400  | B, E, F                     | X1, Y2               | 250                  | 138559              | 138560        | 12006      |
| SEV             | IEC 60384-14<br>2nd. ed.              | EN132400  | B, E, F                     | X1, Y2               | 250                  | 01.15.05            | 01.15.05      | 99.7 70564 |
| SEMKO           | IEC 60384-14<br>2nd. ed.              | EN132400  | B, E, F                     | X1, Y2               | 250                  | 0139186/01-02       | 0139186/01-02 | 9945094    |
| NEMKO           | IEC 60384-14<br>2nd. ed.              | EN132400  | B, E, F                     | X1, Y2               | 250                  | P01101988           | P01101988     | P99102682  |
| DEMKO           | IEC 60384-14<br>2nd. ed.              | EN132400  | B, E, F                     | X1, Y2               | 250                  | 310966-01           | 310966-01     | 99-04087   |
| FIMKO           | IEC 60384-14<br>2nd. ed.              | EN132400  | B, E, F                     | X1, Y2               | 250                  | FI 17416            | FI 17416      | 14237      |
| IMQ             | IEC 60384-14<br>2nd. ed.              | EN132400  | B, E, F                     | X1, Y2               | 250                  | V3692               | V3692         | V3691      |
| SAA             | IEC 60065                             | AS3250  | B, E, F                     | —                    | 400                  | 6268                | 6268          | 6268       |
| UL              | —                                     | UL 1414   | B, E, F                     | (X, Y)               | 250                  | E37861              | E37861        | E37861     |
| CSA             | —                                     | C22.2 No.0 & No.1   | B, E, F                     | (X, Y)               | 250                  | LR35801             | LR65972       | 201723     |

• Certificate numbers shall be changed owing to the revisions of the related standards.

**CAPACITANCE AND DIMENSIONS**

| Part No.         | Capacitance temperature characteristics | Capacitance (pF) | Capacitance tolerance | Dimensions (mm) |         |          |          |
|------------------|---|------------------|-----------------------|-----------------|---------|----------|----------|
|                  |   |                  |                       | øD max.         | F       | ød       |          |
| CS70-B2GA101KYNS | B(±10%)                                 | 100              | K(±10%)               | 7               | 7.5±1.5 | 0.6±0.05 |          |
| CS70-B2GA151KYNS |   | 150              | K(±10%)               | 7               | 7.5±1.5 | 0.6±0.05 |          |
| CS70-B2GA221KYNS |   | 220              | K(±10%)               | 7               | 7.5±1.5 | 0.6±0.05 |          |
| CS85-B2GA331KYNS |   | 330              | K(±10%)               | 8.5             | 7.5±1.5 | 0.6±0.05 |          |
| CS85-B2GA471KYNS |   | 470              | K(±10%)               | 8.5             | 7.5±1.5 | 0.6±0.05 |          |
| CS95-B2GA681KYNS |   | 680              | K(±10%)               | 9.5             | 7.5±1.5 | 0.6±0.05 |          |
| CS10-B2GA102KYNS | E(+20, -55%)                            | 1,000            | K(±10%)               | 10              | 7.5±1.5 | 0.6±0.05 |          |
| CS80-E2GA102MYNS |   | 1,000            | M(±20%)               | 8               | 7.5±1.5 | 0.6±0.05 |          |
| CS90-E2GA152MYNS |   | 1,500            | M(±20%)               | 9               | 7.5±1.5 | 0.6±0.05 |          |
| CS11-E2GA222MYNS |   | 2,200            | M(±20%)               | 10.5            | 7.5±1.5 | 0.6±0.05 |          |
| CS13-E2GA332MYNS |   | 3,300            | M(±20%)               | 12.5            | 7.5±1.5 | 0.6±0.05 |          |
| CS14-E2GA392MYNS |   | 3,900            | M(±20%)               | 13.5            | 7.5±1.5 | 0.6±0.05 |          |
| CS15-E2GA472MYNS |   | 4,700            | M(±20%)               | 14.5            | 7.5±1.5 | 0.6±0.05 |          |
| CS12-F2GA472MYNS |   | 4,700            | M(±20%)               | 12              | 7.5±1.5 | 0.6±0.05 |          |
| CS17-F2GA103MYNS |   | F(+30, -80%)     | 1,0000                | M(±20%)         | 16.5    | 10±2     | 0.6±0.05 |

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