

## TDK MLCC Datasheet 1

TDK P/N

C1005
X7S
2A
222
K
T
XXXX

1)                      2)                      3)                      4)                      5)                      6)                      7)

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| No. | Segment                     | Detail                             | Comments                       |
|-----|-----------------------------|------------------------------------|--------------------------------|
| 1   | Case Size                   | 1.0 X 0.5 mm                       | See below for dimensions.      |
| 2   | Temperature Characteristics | -55 to +125 C, ± 22 to +10 %       | Class2 Conforms to EIA 198     |
| 3   | Rated Voltage               | 100.0 V                            | DC                             |
| 4   | Capacitance                 | 2,200 pF                           | 1.0 +/- 0.2 Vrms 1 kHz +/- 10% |
| 5   | Capacitance Tolerance       | -10 to 10 %                        | Conforms to IEC 384 -9         |
| 6   | Packaging Style             | Punched (Paper)Taping [180mm Reel] | EIA 481 Format                 |
| 7   | TDK internal Code           | XXXX                               | (Internal TDK use only)        |
| -   | Dissipation Factor (DF)     | 0 % max                            | 1.0 +/- 0.2 Vrms 1 khz +/- 10% |
| -   | Insulation Resistance       | 12,656 MOhm min                    | Apply rated voltage for 60s    |

| Physical Dimensions   | Material System |            |         |   |   |     |   |     |   |         |   |         |  |    |      |          |  |         |         |  |  |     |     |   |            |        |        |   |           |    |    |   |  |    |    |   |             |    |  |   |    |  |
|---|-----------------|------------|---------|---|---|-----|---|-----|---|---------|---|---------|--|----|------|----------|--|---------|---------|--|--|-----|-----|---|------------|--------|--------|---|-----------|----|----|---|--|----|----|---|-------------|----|--|---|----|--|
|   |                 |            |         |   |   |     |   |     |   |         |   |         |  |    |      |          |  |         |         |  |  |     |     |   |            |        |        |   |           |    |    |   |  |    |    |   |             |    |  |   |    |  |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Symbol</th> <th style="text-align: center;">Dimensions</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">L</td> <td style="text-align: center;">1</td> </tr> <tr> <td style="text-align: center;">W</td> <td style="text-align: center;">0.5</td> </tr> <tr> <td style="text-align: center;">T</td> <td style="text-align: center;">0.5</td> </tr> <tr> <td style="text-align: center;">B</td> <td style="text-align: center;">0.1 min</td> </tr> <tr> <td style="text-align: center;">G</td> <td style="text-align: center;">0.3 min</td> </tr> </tbody> </table> | Symbol          | Dimensions | L       | 1 | W | 0.5 | T | 0.5 | B | 0.1 min | G | 0.3 min | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2" style="text-align: center;">No</th> <th rowspan="2" style="text-align: center;">Name</th> <th colspan="2" style="text-align: center;">Material</th> </tr> <tr> <th style="text-align: center;">Class 1</th> <th style="text-align: center;">Class 2</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td style="text-align: center;">TME</td> <td style="text-align: center;">TME</td> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">Dielectric</td> <td style="text-align: center;">CaZrO3</td> <td style="text-align: center;">BaTiO3</td> </tr> <tr> <td style="text-align: center;">2</td> <td style="text-align: center;">Electrode</td> <td style="text-align: center;">Ni</td> <td style="text-align: center;">Ni</td> </tr> <tr> <td style="text-align: center;">3</td> <td></td> <td style="text-align: center;">Cu</td> <td style="text-align: center;">Cu</td> </tr> <tr> <td style="text-align: center;">4</td> <td rowspan="2" style="text-align: center;">Termination</td> <td colspan="2" style="text-align: center;">Ni</td> </tr> <tr> <td style="text-align: center;">5</td> <td colspan="2" style="text-align: center;">Sn</td> </tr> </tbody> </table> | No | Name | Material |  | Class 1 | Class 2 |  |  | TME | TME | 1 | Dielectric | CaZrO3 | BaTiO3 | 2 | Electrode | Ni | Ni | 3 |  | Cu | Cu | 4 | Termination | Ni |  | 5 | Sn |  |
| Symbol  | Dimensions      |            |         |   |   |     |   |     |   |         |   |         |  |    |      |          |  |         |         |  |  |     |     |   |            |        |        |   |           |    |    |   |  |    |    |   |             |    |  |   |    |  |
| L   | 1               |            |         |   |   |     |   |     |   |         |   |         |  |    |      |          |  |         |         |  |  |     |     |   |            |        |        |   |           |    |    |   |  |    |    |   |             |    |  |   |    |  |
| W   | 0.5             |            |         |   |   |     |   |     |   |         |   |         |  |    |      |          |  |         |         |  |  |     |     |   |            |        |        |   |           |    |    |   |  |    |    |   |             |    |  |   |    |  |
| T   | 0.5             |            |         |   |   |     |   |     |   |         |   |         |  |    |      |          |  |         |         |  |  |     |     |   |            |        |        |   |           |    |    |   |  |    |    |   |             |    |  |   |    |  |
| B   | 0.1 min         |            |         |   |   |     |   |     |   |         |   |         |  |    |      |          |  |         |         |  |  |     |     |   |            |        |        |   |           |    |    |   |  |    |    |   |             |    |  |   |    |  |
| G   | 0.3 min         |            |         |   |   |     |   |     |   |         |   |         |  |    |      |          |  |         |         |  |  |     |     |   |            |        |        |   |           |    |    |   |  |    |    |   |             |    |  |   |    |  |
| No  | Name            | Material   |         |   |   |     |   |     |   |         |   |         |  |    |      |          |  |         |         |  |  |     |     |   |            |        |        |   |           |    |    |   |  |    |    |   |             |    |  |   |    |  |
|   |                 | Class 1    | Class 2 |   |   |     |   |     |   |         |   |         |  |    |      |          |  |         |         |  |  |     |     |   |            |        |        |   |           |    |    |   |  |    |    |   |             |    |  |   |    |  |
|   |                 | TME        | TME     |   |   |     |   |     |   |         |   |         |  |    |      |          |  |         |         |  |  |     |     |   |            |        |        |   |           |    |    |   |  |    |    |   |             |    |  |   |    |  |
| 1   | Dielectric      | CaZrO3     | BaTiO3  |   |   |     |   |     |   |         |   |         |  |    |      |          |  |         |         |  |  |     |     |   |            |        |        |   |           |    |    |   |  |    |    |   |             |    |  |   |    |  |
| 2   | Electrode       | Ni         | Ni      |   |   |     |   |     |   |         |   |         |  |    |      |          |  |         |         |  |  |     |     |   |            |        |        |   |           |    |    |   |  |    |    |   |             |    |  |   |    |  |
| 3   |                 | Cu         | Cu      |   |   |     |   |     |   |         |   |         |  |    |      |          |  |         |         |  |  |     |     |   |            |        |        |   |           |    |    |   |  |    |    |   |             |    |  |   |    |  |
| 4   | Termination     | Ni         |         |   |   |     |   |     |   |         |   |         |  |    |      |          |  |         |         |  |  |     |     |   |            |        |        |   |           |    |    |   |  |    |    |   |             |    |  |   |    |  |
| 5   |                 | Sn         |         |   |   |     |   |     |   |         |   |         |  |    |      |          |  |         |         |  |  |     |     |   |            |        |        |   |           |    |    |   |  |    |    |   |             |    |  |   |    |  |

1 This datasheet is to be used for reference purposes only and is subject to change by TDK without notice. It reflects an overview of the product characteristics/performance for the particular part number. For product specification information, please refer to TDK's general product specification. Please note that this standard part is not designed or warranted to meet any specifications of any intermediate or end user different from or in addition to the specifications set forth in TDK's general product specification. Note also that this standard part has not been specially designed or manufactured for, nor is it intended or warranted for use in, or permitted to be resold for, specialized applications such as aviation, medical, and/or governmental/military applications (collectively, "Excluded Applications").