



**TDK MLCC Datasheet 1**

TDK P/N **C1005** **X5R** **1H** **221** **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 +85 C, ± 15 to +10 %	Class2 Conforms to EIA 198
3	Rated Voltage	50.0 V	DC
4	Capacitance	220 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)	2.5 % max	1.0 +/- 0.2 Vrms 1 khz +/- 10%
-	Insulation Resistance	10,129 MOhm min	Apply rated voltage for 60s

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

