

CERAMIC RESONATOR UNIT WITH INBUILT LOAD CAPACITORS IN CERAMIC SMD PACKAGE, SIZE 4.7 X 4.1MM.

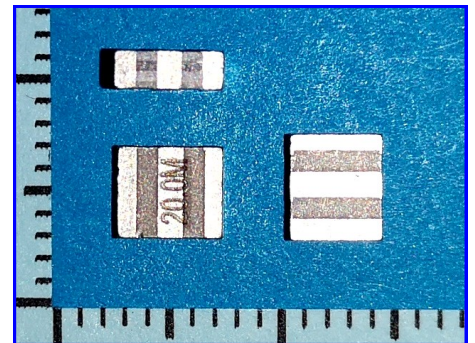
ZTTCS

PRODUCT FEATURES

- CERAMIC SMD CASE IN SIZE 4.7 X 4.1 X 1.8MM WITH 3 SOLDER PADS.
- INBUILT LOAD CAPACITORS, CIRCUIT DOES NOT REQUIRE EXTERNAL CAPACITORS.
- INDUSTRIAL OPERATING TEMPERATURE RANGE -40 TO $+85^{\circ}\text{C}$ AVAILABLE.

APPLICATIONS

- MICROPROCESSOR
- REMOTE CONTROL DEVICES
- PORTABLE DEVICES



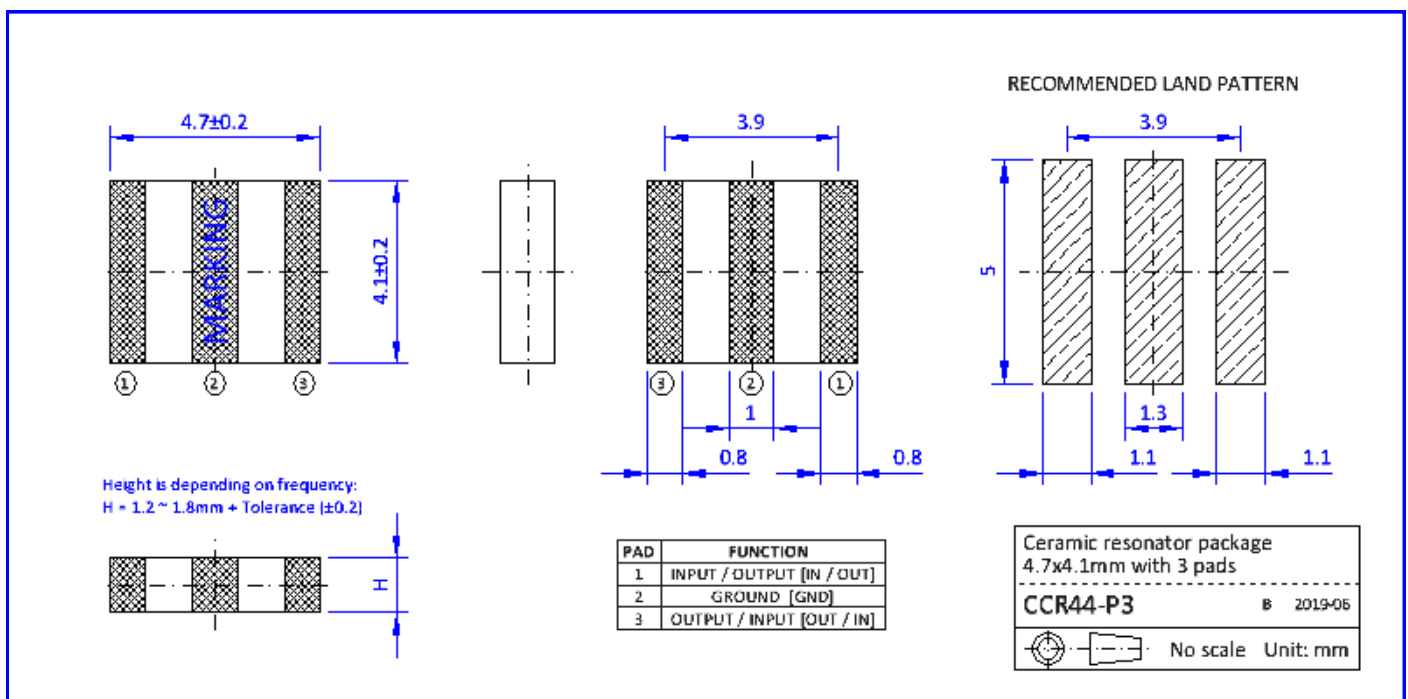
PRODUCT SPECIFICATIONS

| PARAMETER | SYMBOL | SPECIFICATIONS | REMARKS |
|--------------------------------|-------------------|--|---|
| FREQUENCY RANGE | F_N | 6.00 ~ 50.00MHZ | NOTE 1 |
| OSCILLATION MODE | — | EXTENSIONAL FUNDAMENTAL EXTENSIONAL OVERTONE | ZTTCS_._MT — 6.00 ~ 13.00MHZ ZTTCS_._MX — 13.01 ~ 50.00MHZ |
| FREQUENCY TOLERANCE | $\Delta f/F_N$ | $\pm 0.5\%$ OR $\pm 0.3\%$ | STANDARD / OPTION |
| STABILITY OVER OPERATING TEMP. | T_C | $\pm 0.3\%$ OR $\pm 0.4\%$ | DEPENDENT ON OPERATING TEMP. RANGE |
| OPERATING TEMPERATURE RANGE | T_{OP} | $-25^{\circ}\text{C} \sim +85^{\circ}\text{C}$ OR $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$ | — |
| AGING RATE OVER 10 YEARS | $\Delta f/y_{10}$ | $\pm 0.3\%$ | @ $+25^{\circ}\text{C}$ |
| RESONANCE RESISTANCE | R_O | 30 Ω MAX 40 Ω MAX | ZTTCS_._MT — 6.00 ~ 13.00MHZ ZTTCS_._MX — 13.01 ~ 50.00MHZ |
| LOAD CAPACITORS (INBUILT) | C1 & C2 | 22pF (10; 15; 30; 33; 35; 39pF) 22pF (5; 10; 15pF) 10pF (5; 15pF) 5pF (10; 15pF) | ZTTCS_._MT — 6.0 ~ 13MHZ, NOTE 2 ZTTCS_._MX — 13.01 ~ 16.00MHZ ZTTCS_._MX — 16.01 ~ 25.99MHZ ZTTCS_._MX — 26.00 ~ 50.00MHZ |
| RATED VOLTAGE | U_R | 6.0V _{DC} OR 15.0V _{PP} | MAXIMUM DC OR AC OPERATING VOLTAGE |
| WITHSTANDING VOLTAGE | U_W | 50.0V _{DC} | FOR 1 MINUTE MAXIMAL |

NOTE 1: TYPICAL FREQUENCIES: 8.0, 10.0, 11.059, 12.0, 14.32, 14.74, 16.0, 18.43, 20.0, 24.0, 25.0, 33.86, 40.0, 48.0, 50.0MHZ.

NOTE 2: SHOWN IS THE RECOMMENDED CAPACITOR VALUE, THE VALUES IN BRACKETS ARE OPTIONAL AVAILABLE LOAD CAPACITOR VALUES (SETUP IN MANUFACTURING READY).

MECHANICAL DIMENSIONS



CERAMIC RESONATOR UNIT WITH INBUILT LOAD CAPACITORS IN CERAMIC SMD PACKAGE, SIZE 4.7 x 4.1MM.

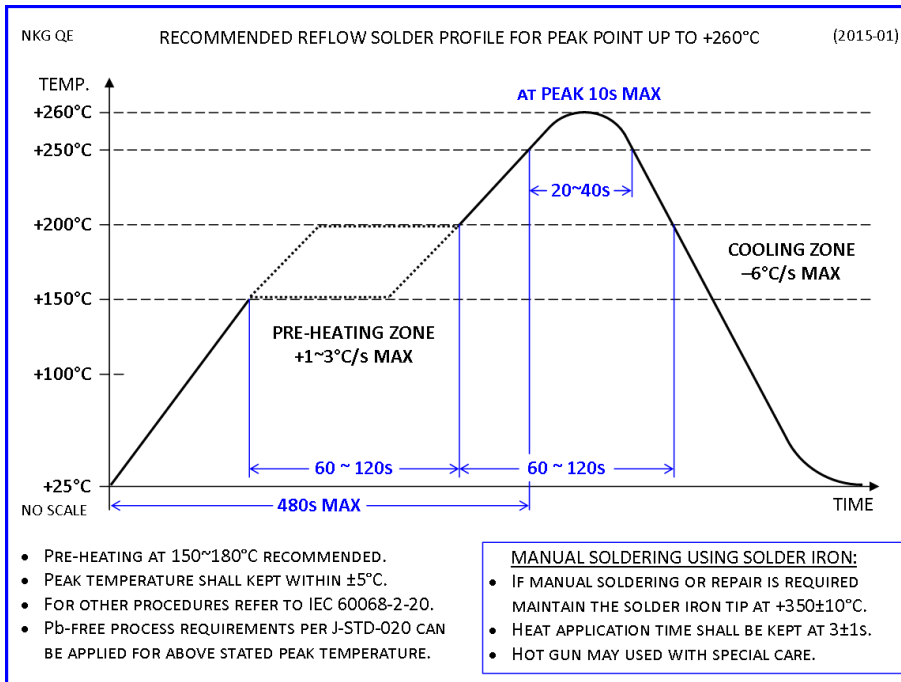
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ENVIRONMENTAL COMPLIANCE INFORMATION

- ROHS 5/6 COMPLIANT (DIRECTIVE 2011/65/EC).
- COMPLIANT TO ROHS 2 (DIRECTIVE 2015/863) (ALSO CALLED ROHS 10).
- HALOGEN-FREE PER DEFINITION OF IEC 61249-2-21 2033.
- COMPLIANCE TO THE LISTED SVHCs BY REACH IS NOT GIVEN ANYMORE SINCE LEAD AND LEAD COMPOUNDS HAD BEEN ADDED TO THE LIST OF SVHCs.
- PRODUCT DOES NOT CONTAIN ANY PHTHALATES (PHS).
- PRODUCT DOES NOT CONTAIN PVC (POLYVINYL CHLORIDE).
- PRODUCT DOES NOT CONTAIN PFOS/PFOA NOR BEING SAME USED TO MANUFACTURE THE COMPONENTS OF THIS PRODUCT.
- MOISTURE SENSITIVITY LEVEL (MSL) 1 PER J-STD-020C.

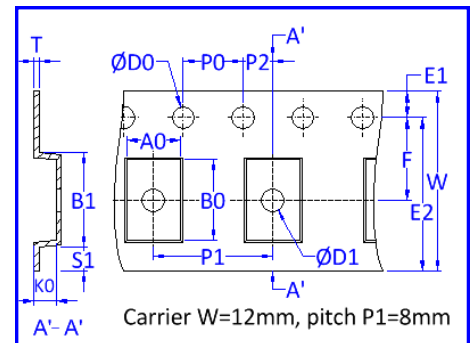


SOLDERING RECOMMENDATIONS



PACKAGING INFORMATION

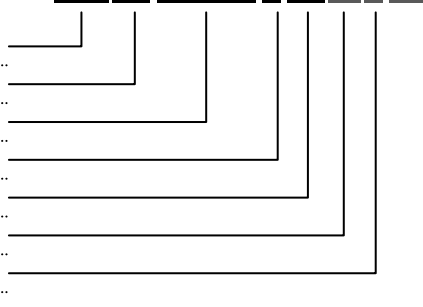
- PACKAGING IN TAPE & REEL IN COMPLIANCE TO EIA-481.
- QTY PER REEL: 1,000PCS
- REEL DIA A=180MM.
- EMBOSSED CARRIER TAPE WIDTH W = 12MM.
- COMPONENT PITCH P1 = 8MM.



PART NUMBER SYNTAX

- PART NUMBER FAMILY (GROUP INDICATOR FOR CERAMIC RESONATOR WITH INBUILT LOAD CAPACITORS)
- PART NUMBER FAMILY (MODEL INDICATOR REPRESENTING PACKAGE TYPE AND SIZE)
- NOMINAL FREQUENCY (IN MHZ WITH AT LEAST TWO DIGITS AFTER DECIMAL POINT FOLLOWED BY "M")
- VIBRATION MODE CODE (G = THICKNESS SHEAR FUND, T = EXTENSION FUND, X = EXTENSION OVERT.)
- LOAD CAPACITOR VALUE (NUMERICAL VALUE OF INBUILT LOAD CAPACITORS C1 AND C2 IN pF)
- OPERATING TEMPERATURE RANGE CODE (NO CODE= -25~85°C, M= -40~85°C, Z = -40~125°C)
- FREQUENCY TOLERANCE CODE (OPTIONALLY USE FOR NONE-STANDARD TOLERANCE)
- PART NUMBER EXTENSION (ONLY FOR NONE-STANDARD OR CUSTOMIZED PARTS)

ZTTCS 8.00M T 22 M T -EXT



FOR MORE INFORMATION PLEASE CONTACT US.

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