

CERAMIC RESONATOR UNIT WITH INBUILT LOAD CAPACITORS IN CERAMIC SMD PACKAGE, SIZE 2.5 X 2.0MM.

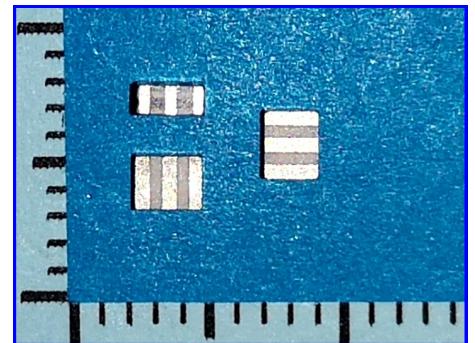
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PRODUCT FEATURES

- CERAMIC SMD CASE IN SIZE 2.5 X 2.0 X 1.2MM 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	16.0 ~ 48.0MHZ	NOTE 1
OSCILLATION MODE	—	EXTENSIONAL OVERTONE	—
FREQUENCY TOLERANCE	$\Delta f/F_N$	$\pm 0.5\%$ OR $\pm 0.3\%$	STANDARD / OPTION
STABILITY OVER OPERATING TEMP.	T_C	$\pm 0.2\%$ OR $\pm 0.3\%$	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	$\Delta f/y_{10}$	$\pm 0.2\%$	@ $+25^{\circ}\text{C}$
RESONANCE RESISTANCE	R_O	60 Ω MAX 50 Ω MAX	16.00 ~ 25.99MHZ 26.00 ~ 48.00MHZ
LOAD CAPACITORS (INBUILT)	C1 & C2	10pF (5; 6; 9; 15pF) 6pF (5; 9; 10; 12; 15pF)	16.00 ~ 35.00MHZ 35.01 ~ 48.00MHZ
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: 16.0MHz, 18.43MHz, 20.0MHz, 24.0MHz, 25.0MHz, 27.0MHz, 32.0MHz, 33.86MHz, 40.0MHz, 48.0MHz.

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

MECHANICAL DIMENSIONS

Height is depending on frequency:
H = 1.0 ~ 1.2mm + Tolerance (± 0.1)

RECOMMENDED LAND PATTERN

PAD	FUNCTION
1	INPUT / OUTPUT [IN / OUT]
2	GROUND [GND]
3	OUTPUT / INPUT [OUT / IN]

Ceramic resonator package
2.5x2.0mm with 3 pads

CCR22-P3 B 2019-03

No scale Unit: mm

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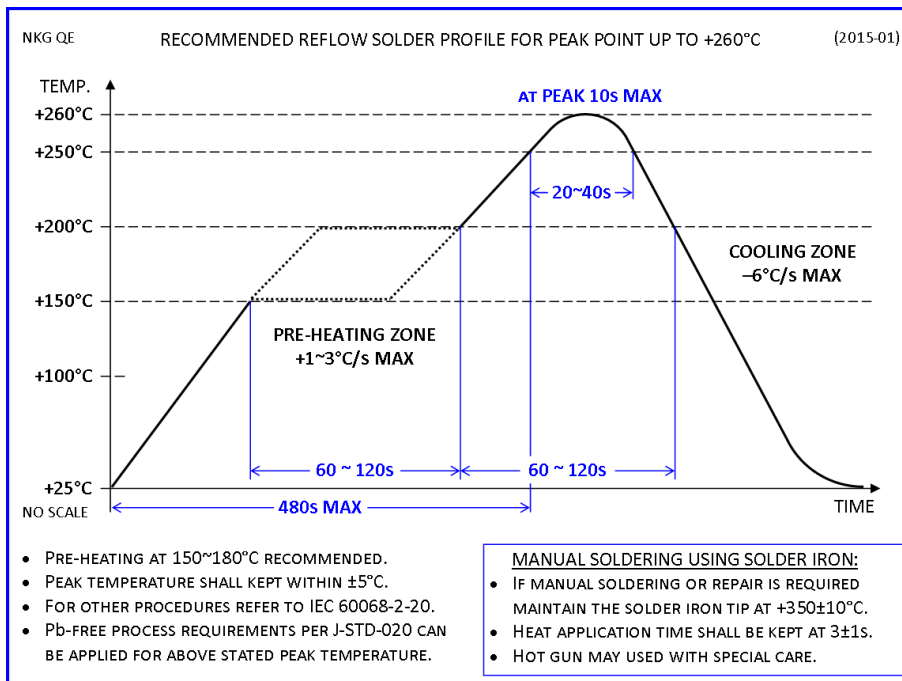
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ENVIRONMENTAL COMPLIANCE INFORMATION

- 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.

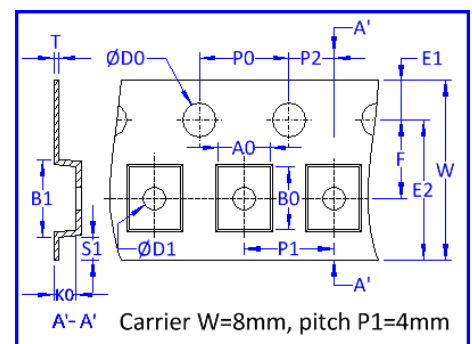


SOLDERING RECOMMENDATIONS



PACKAGING INFORMATION

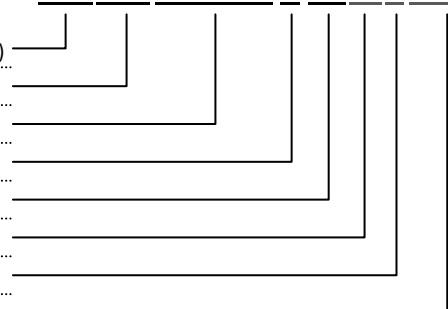
- PACKAGING IN TAPE & REEL IN COMPLIANCE TO EIA-481.
- QTY PER REEL: 3,000PCS
- REEL DIA A=180MM.
- EMBOSSED CARRIER TAPE WIDTH W = 8MM.
- COMPONENT PITCH P1 = 4MM.



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)

ZTTCW 16.00M X 10MT -EXT



FOR MORE INFORMATION PLEASE CONTACT US.

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