

CERAMIC RESONATOR UNIT WITH INBUILT LOAD CAPACITORS IN CERAMIC SMD PACKAGE, SIZE 6.0 X 3.0MM.

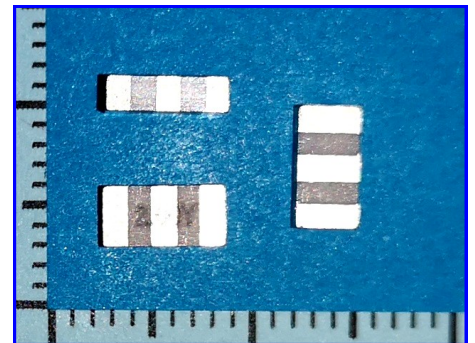
ZTTCP

PRODUCT FEATURES

- CERAMIC SMD CASE IN SIZE 6.0 X 3.0 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

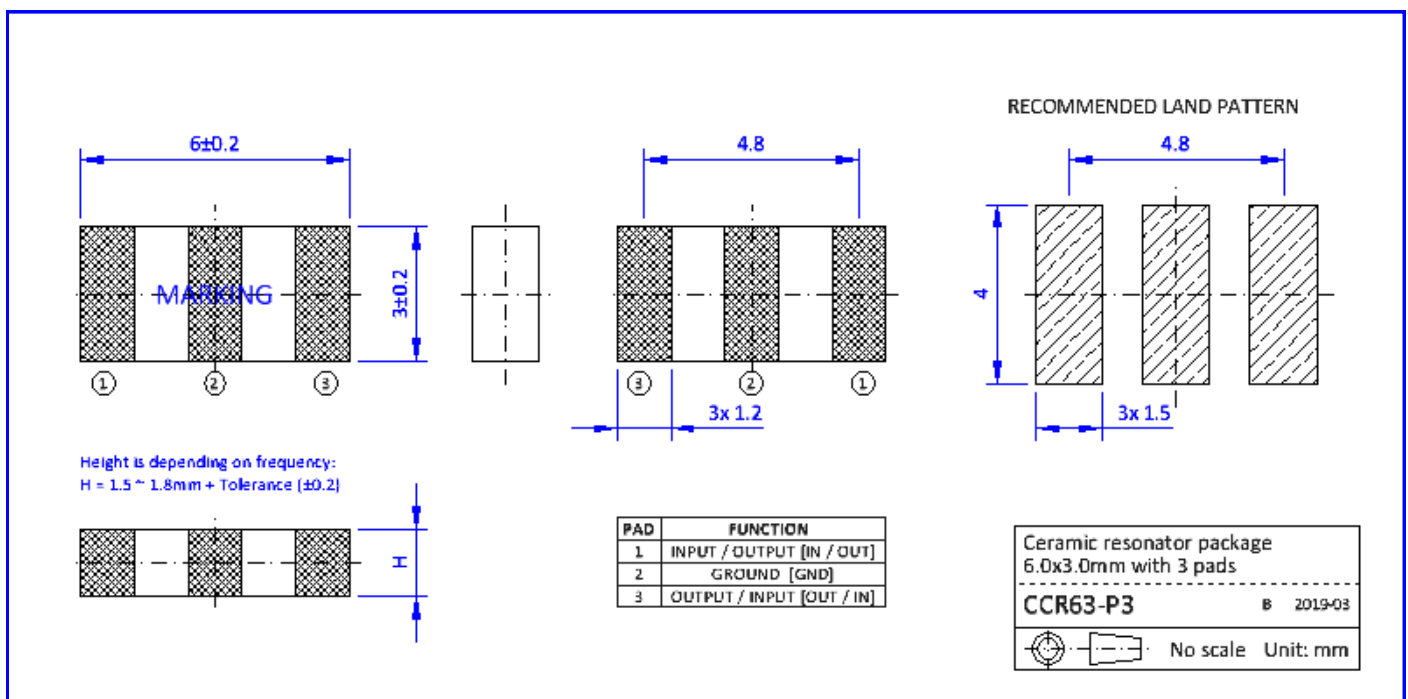


PRODUCT SPECIFICATIONS

PARAMETER	SYMBOL	SPECIFICATIONS	REMARKS
FREQUENCY RANGE	F_N	1.84 ~ 12.00MHZ	NOTE 1
OSCILLATION MODE	—	THICKNESS SHEAR FUNDAMENTAL	—
FREQUENCY TOLERANCE	$\Delta f/F_N$	$\pm 0.5\%$ OR $\pm 0.3\%$	STANDARD / OPTION
STABILITY OVER OPERATING TEMP.	T_C	$\pm 0.3\%$	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	$\Delta f/y_{10}$	$\pm 0.3\%$	@ $+25^{\circ}\text{C}$
RESONANCE RESISTANCE	R_O	100 Ω MAX 50 Ω MAX 30 Ω MAX	1.84 ~ 2.99MHZ 3.00 ~ 3.49MHZ 3.50 ~ 12.00MHZ
LOAD CAPACITORS (INBUILT)	C1 & C2	30pF (10; 15; 22; 33; 39; 47pF) 15pF (10; 22; 30; 33; 39; 47pF)	1.84 ~ 8.00MHZ, NOTE 2 8.00 ~ 12.00MHZ
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: 2.0MHZ, 2.45MHZ, 2.46MHZ, 3.58MHZ, 3.68MHZ, 4.0MHZ, 4.19MHZ, 4.91MHZ, 5.0MHZ, 6.0MHZ, 8.0MHZ, 10.0MHZ, 12.0MHZ.
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 6.0 X 3.0MM.

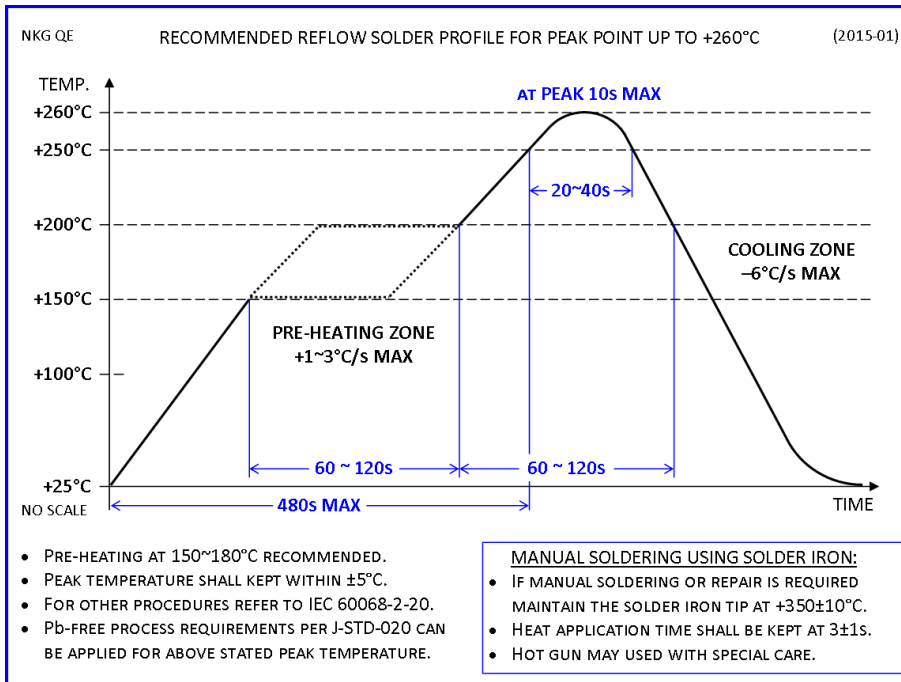
ZTTCP

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.

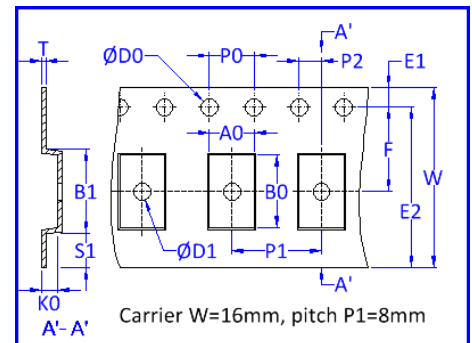


SOLDERING RECOMMENDATIONS



PACKAGING INFORMATION

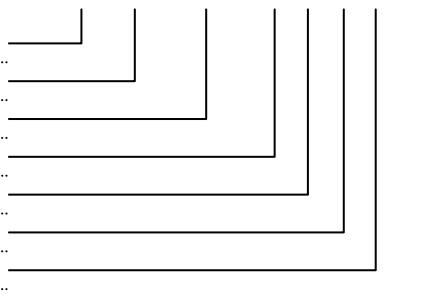
- PACKAGING IN TAPE & REEL IN COMPLIANCE TO EIA-481.
- REEL DIA A = 330MM
QTY PER REEL: 4,000PCS
- REEL DIA A = 180MM
QTY PER REEL: 1,000PCS
- EMBOSSED CARRIER TAPE
WIDTH W = 16MM.
- CAVITY PITCH P1 = 8MM.



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)

ZTTCP 3.00M G 30 M T -EXT



FOR MORE INFORMATION PLEASE CONTACT US.

HONG KONG:

NAKAGAWA ELECTRONICS LIMITED

+852 2389 9201 sales@nkg.com.hk
+852 2341 0001 www.nkg.com.hk

China Shenzhen office:

深圳中川晶体电子有限公司

+86(0)755 2598 2648 sales_sz@nkg.cn
+86(0)755 2598 2390 www.nkg.com.hk

China Suzhou office:

苏州纳美电子有限公司

+86(0)512 8818 7890 sales_nm@nkg.cn
+86(0)512 8818 7889 www.nkg.com.hk