

CERAMIC RESONATOR UNIT WITH INBUILT LOAD CAPACITORS IN CERAMIC SMD PACKAGE, SIZE 3.7 X 3.1MM.

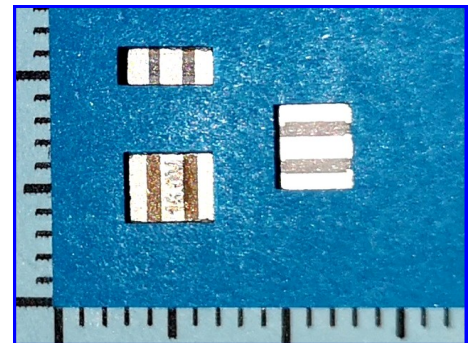
ZTTCV

PRODUCT FEATURES

- CERAMIC SMD CASE IN SIZE 3.7 X 3.1 X 1.5MM 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	8.0 ~ 60.0MHz	NOTE 1
OSCILLATION MODE	—	EXTENSIONAL FUNDAMENTAL EXTENSIONAL OVERTONE	ZTTCV_._MT — 8.00 ~ 13.00MHz ZTTCV_._MX — 13.01 ~ 60.00MHz
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 60 Ω MAX 40 Ω MAX	ZTTCV_._MT — 8.00 ~ 13.00MHz ZTTCV_._MX — 13.01 ~ 16.00MHz ZTTCV_._MX — 16.01 ~ 60.00MHz
LOAD CAPACITORS (INBUILT)	C1 & C2	22pF (10; 15; 30; 33pF) 10pF (5; 15; 22pF) 5pF (10; 15pF)	ZTTCV_._MT — 8.0 ~ 13MHz, NOTE 2 ZTTCV_._MX — 13.01 ~ 25.99MHz ZTTCV_._MX — 26.00 ~ 60.00MHz
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, 11.06, 12.0, 14.32, 14.74, 16.0, 16.93, 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

Height is depending on frequency:
 $H = 1.2 \sim 1.6\text{mm} + \text{Tolerance } (\pm 0.2)$

RECOMMENDED LAND PATTERN

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

Ceramic resonator package
3.7x3.1mm with 3 pads

CCR33-P3 B 2019-06

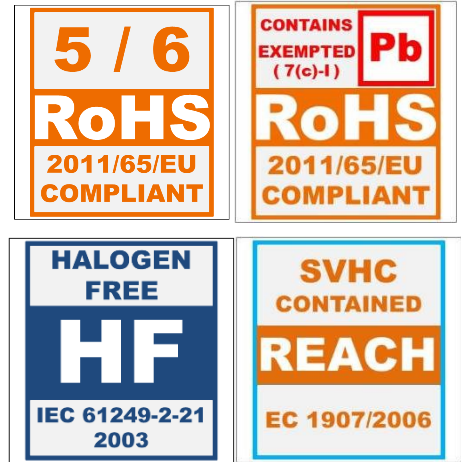
No scale Unit: mm

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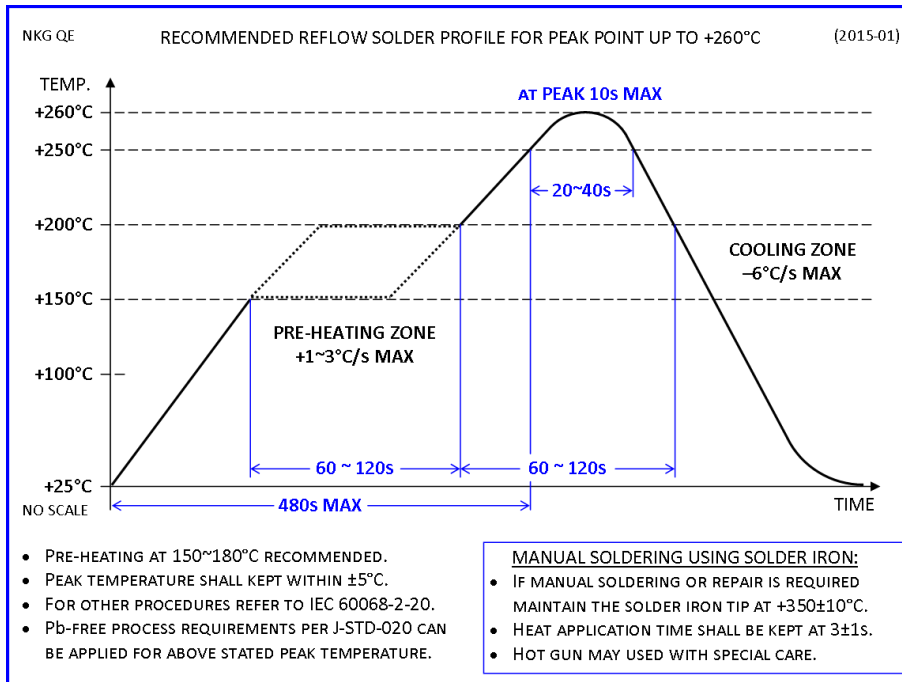
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ENVIRONMENTAL COMPLIANCE INFORMATION

- ROHS 5/6 COMPLIANT (DIRECTIVE 2011/65/EC) BY FALLING UNDER EXEMPTION 7(c)-I FOR CONTAINING LEAD (Pb) IN PIEZOELECTRIC CERAMIC (PZT) .
- COMPLIANT TO ROHS 2/3 (DIRECTIVE 2015/863) (ALSO CALLED ROHS 10).
- HALOGEN-FREE PER DEFINITION OF IEC 61249-2-21 2033.
- THE PRODUCT CONTAINS A SVHC PER REACH DUE TO THE INTENTIONAL USE OF PZT (CAS 12626-81-2), INFORMATION FOR IMPORTERS INTO THE EU CAN BE PROVIDED IN ORDER TO OBTAIN A SCIP ID AT THE ECHA PORTAL.
- 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.

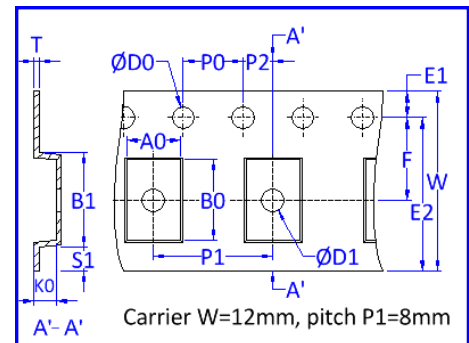


SOLDERING RECOMMENDATIONS



PACKAGING INFORMATION

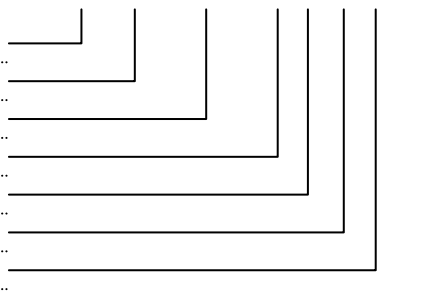
- PACKAGING IN TAPE & REEL IN COMPLIANCE TO EIA-481.
- QTY PER REEL: 1,000PCS
- REEL DIA A=180MM.
- EMBOSSED CARRIER TAPE WIDTH W = 12MM.
- COMPONENT PITCH P1 = 8MM.



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)

ZTTCV 8.00M T 22 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:
中川电子(苏州)有限公司
☎ +86(0)512 8818 7890 ✉ sales_nm@nkg.cn
☎ 🌐 www.nkg.com.hk