

CRYSTAL SPECIFICATION

Customer / Rep. / Dist. : shotech Steffen Hofmann
Customer Part No. : Per Customer Request
Product Code : SH08038-77.5KHz - 021
Description : Quartz Crystal
Nominal Frequency : 77.500 KHz
Oscillation Mode : +2°X - Cut Fundamental
Holder Type : M3

Measure equipment

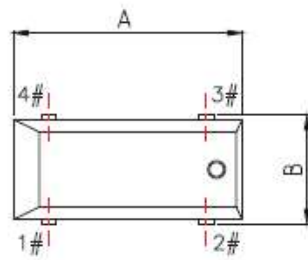
Electrical characteristics measured by Kolinker KH1240 equivalent.

Electrical Characteristics :

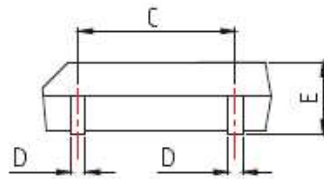
Load Capacitance	12.5 pF
Frequency Tolerance At 25 °C	± 20 ppm
Frequency Stability	-0.034 ± 0.006 ppm / °C²
Operating Temperature Range	-20 ~ 70 °C
Storage Temperature Range	-55 ~ 125 °C
Turnover Temperature	25°C ± 5°C
Ageing	< ± 5 ppm first year
Drive Level	0.1 µW typ. (1.0 µW Max.)
Equivalent Series Resistance	55K ohms Max. at 25°C
Shunt Capacitance	2 pF Max.
Insulation Resistance	500M ohm Min/DC100V+/-15V
Marking	TRACEABILITY CODE
SPQ / Pack Type	3000 / REEL

Remarks for Customer Specifications :

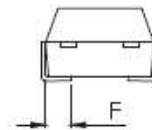
Remark	High Temperature Type
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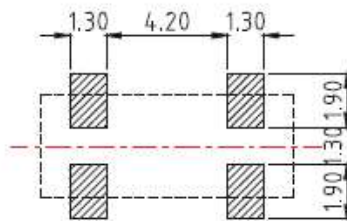
TOP VIEW



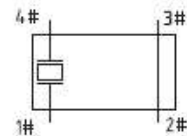
FRONT VIEW



SIDE VIEW

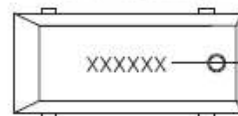


RECOMMENDED LAND PATTERN



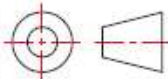
ELECTRODE ARRANGEMENT

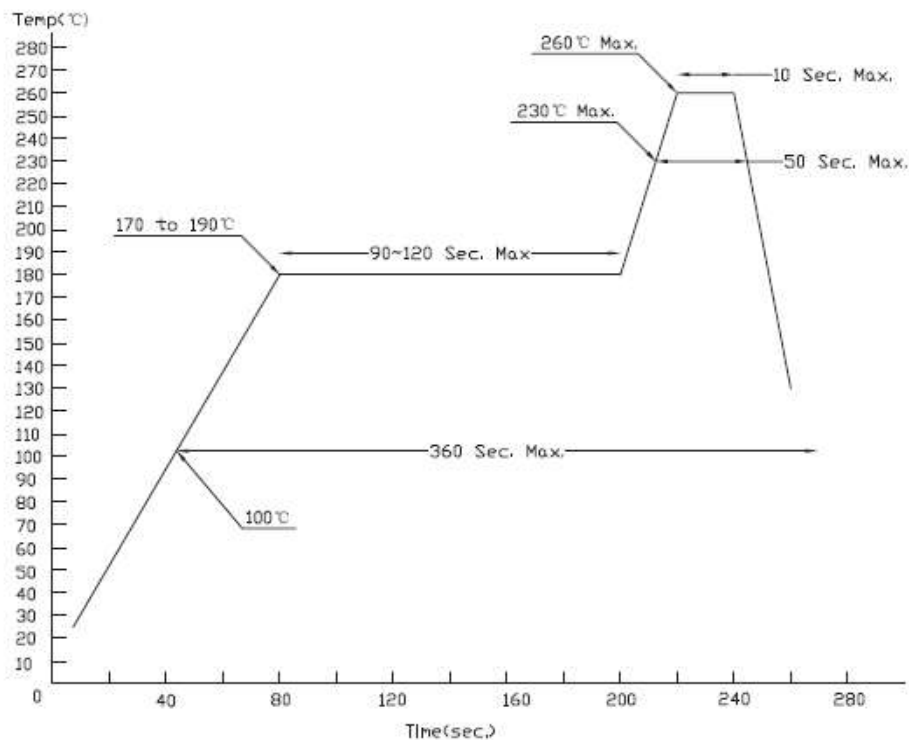
MARKING INFORMATION



TRACEABILITY CODE

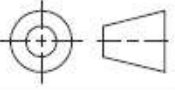
REMARK: Do not connect #2 and #3 to external circuit or GND (Floating)

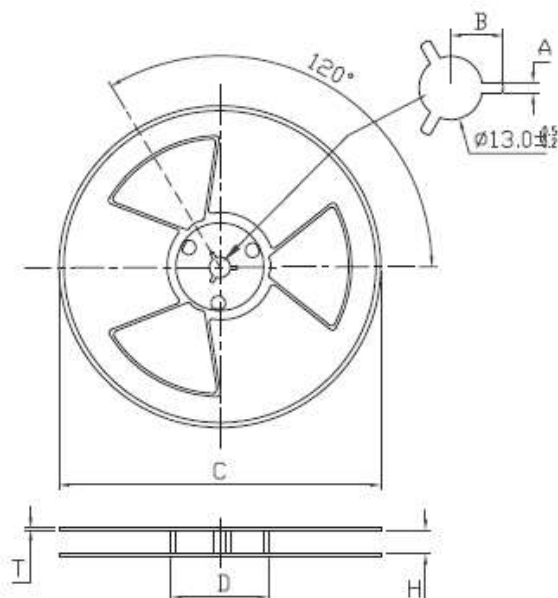
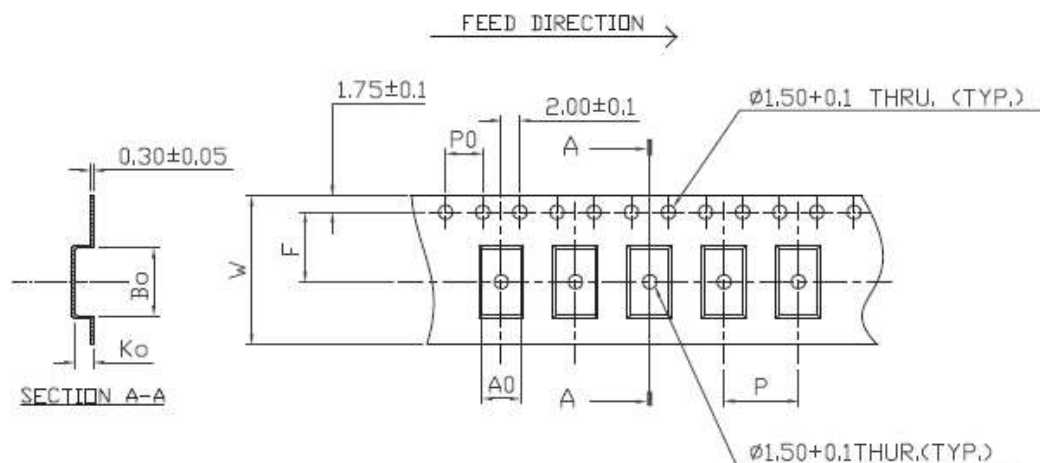
		DIMENSIONS							
ITEM	QTY.	DESCRIPTION		MAT'L	HDN.	SURFACE	MAT'L SIZE		REMARK
GENERAL TOLERANCE: X=±0.5 X*=±0.5* .X=±0.1 .X*=±0.1* .XX=±0.05 .XX*=±0.05*		DATE		NAME				TITLE: 8x3.8 PLASTIC SMD TUNING FORK	
		DRAWN	2020-11-12	HU					
		CHECK	2020-11-12						
		APPROV.	2020-11-12						
PROPRIETARY NOTICE: THIS DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF KOLINKER		SHOTECH				PART No: M3			
						DRAWING No: 12033864			
DO NOT SCALE DRAWING		ALL DIMENSIONS IN mm UNLESS OTHERWISE STATED				SCALE: NA		SHT. 1 OF 1	REV. 05



Note:

1. Lead Free or RoHS Compliance
2. Ramp up rate (from 217°C to 260°C): 3°C/Sec. Max.
3. Ramp down rate: 4°C/Sec. Max.
4. Recommended reflow times: 2 times Max.
5. Effective products:
 - AT cut SMD type crystals including 49US SMD Crystal, Ceramic SMD Crystal, Glass Frit Crystal etc.
 - AT cut SMD type oscillators including crystal oscillator, VCXO, TCXO, OCXO etc.
6. High temperature type SMD tuning fork crystal

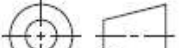
NOTE							
ITEM	QTY.	DESCRIPTION		MAT'L	HDN.	SURFACE	REMARK
GENERAL TOLERANCE: X=±0.5 X*=±0.5* X=±0.1 X*=±0.1* XX=±0.05 XX*=±0.05*		DRAWN	DATE	NAME			
		CHECK	11-06-2013	PANG			
		APPROV.	11-06-2013				
PROPRIETARY NOTICE : THIS DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF HKC.		SHOTECH				TITLE: Product Reflow Profile	
						PART No.: Refer to DWG Description	
						DRAWING No.: 13000002	
DO NOT SCALE DRAWING		ALL DIMENSIONS IN mm UNLESS OTHERWISE STATED				SCALE: NA	SHT. 1 OF 1 REV.02



M3		
T A P E	PART NO.	48065017
	W	16.00±0.3
	P	8.00±0.1
	Ao	4.10±0.1
	Bo	8.45±0.1
	Ko	2.70±0.1
	P0	4.00±0.1
	F	7.50±0.1
R E E L	PART NO.	48060050
	C	Ø330.0±1
	A	2.3±0.3
	B	10.75±0.2
	H	16.5±0.3
	T	2.3±0.3
QTY.		3000 PCS/R

REMARK: (1)CAMBERS DO NOT EXCEED 1.0MM IN 100MM.
 (2)THE MAXIMUM CUMULATIVE TOLERANCE
 IS ±0.2MM FOR 10 SPROCKET HOLE PITCH.
 (3)THICKNESS OF CARRIER TAPE IS 0.3MM.

MATERIAL: TRANSPARENT ANTI-STATIC POLYSTYRENE

		TAPE & REEL DIMENSIONS							
ITEM	QTY.	DESCRIPTION		MAT'L	HDN.	SURFACE	MAT'L SIZE		REMARK
GENERAL TOLERANCE: X=±0.5 X*=±0.5* Y=±0.1 Y*=±0.1* .XX=±0.05 .XX*=±0.05*			DATE	NAME		TITLE: M3			
		DRAWN	25-03-10	Deng		TAPE & REEL			
		CHECK	25-03-10	Hong		PART No.: REFER TO DWG.			
		APPROV.	25-03-10			DRAWING No.: 00047			
PROPRIETARY NOTICE : THIS DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF KOLINKER		SHOTECH							
		DO NOT SCALE DRAWING				ALL DIMENSIONS IN mm UNLESS OTHERWISE STATED			
						SCALE: NA	SHT. 1 OF 1	REV. 00	