



CRYSTAL UNIT SPECIFICATIONS

CUSTOMER: 西安易锁宝电子科技有限公司
PRODUCT TYPE: SMD - 3.2*2.5
NOMINAL FREQ: 32.000MHZ
JSK P/N: J3S32M0000FBE11
Brand: JSK
CUSTOMER P/N: _____

Client Opinion(客户意见)

Hardware PL(工程)	QPM/SQE (品质)	Approval (核准)	Recognition Date (承认日期)

Provider (提供商)

Drawn (制作)	Check (审核)	Approval (核准)	Submitted Date (日期)
古丽美	成志飞	古彩兰	2020年11月19日

Manufacturer : ShenZhen JSK JingHongXing Science Technology Co.,Ltd

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Company website: <http://www.jsksz.com>

Email:



CRYSTAL UNIT SPECIFICATIONS

● ELECTRICAL PARAMETERS

No.	Characteristic	Limits	Remark
1	Nominal Frequency	32.000MHZ	
2	Mode of Vibration	Fundamental	
3	Frequency Tolerance	±10ppm	Measure at 25°C±3°C
4	Operating Temperature Range	-20°C~+75°C	
5	Frequency Stability	±10ppm	Over Operating Temperature Range
6	Storage Temperature Range	-40°C~+85°C	
7	Load capacitance	7PF	
8	Recommended matching capacitance range		
9	Equivalent Series Resistance	30Ω max	
10	Drive Level	100μW max	
11	Insulation Resistance	500MΩ	At 100V _{DC}
12	Shunt Capacitance	3pF	
13	Motional Capacitance		
14	Aging Per Year	±3ppm	First Year
15	Resistance Variation vs. Drive Level		
16	Frequenc Variation vs. Drive Level		
17	Package Type	32.000 MHZ	See Page 4
18	Remark		Remark



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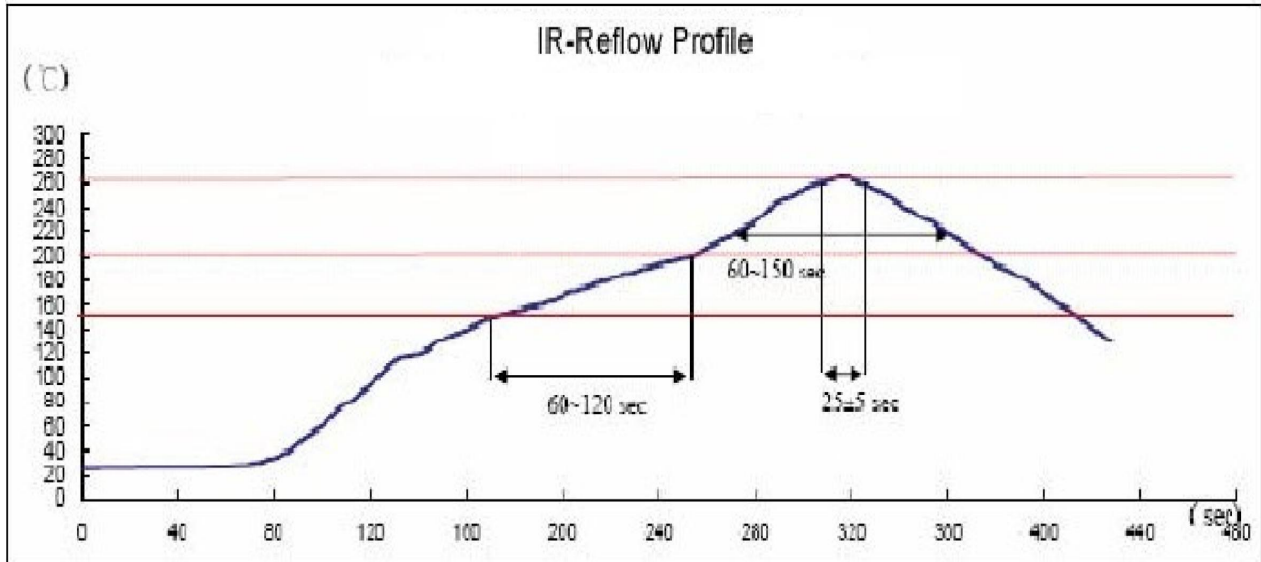
● RELIABILITY SPECIFICATIONS

No.	Test Item	Test Conditions	Reference
1	High Temperature Storage	Temperature: $125^{\circ}\text{C} \pm 10^{\circ}\text{C}$ Time: 1000 ± 24 Hours	MIL-STD-883E-1016
2	Temperature Cycle	Temperature 1: $-55^{\circ}\text{C} \pm 10^{\circ}\text{C}$ Temperature 2: $125^{\circ}\text{C} \pm 10^{\circ}\text{C}$ Temperature change between T1 and T2 at soonest Run 15 cycles, maintain T1 and T2 30minutes each in one cycle	MIL-STD-883E-1010.7B
3	Solder Heat Resistance	Pre-heat: 125°C 60~120 Seconds Solder Temperature: $260^{\circ}\text{C} \pm 10^{\circ}\text{C}$ Time: 5 Seconds	MIL-STD-202F 210 E
4	Drop Test	3 Times Free Fall from 75cm height table to 3cm thickness hard wood board	MIL-STD-202F-203B
5	High Temperature, High Humidity Storage	Temperature: $40^{\circ}\text{C} \pm 5^{\circ}\text{C}$ Relative Humidity: 90%--95% Time: $1344 \text{ Hours} \pm 24 \text{ Hours}$	MIL-STD-202 F-103B
6	Steam Aging	Temperature: 97°C Time: 8 Hours 230°C solder pot to check solderability	MIL-STD-883 C-1008.2B
7	Solderability	Dip in flux 5~10 seconds Temperature: $230^{\circ}\text{C} \pm 10^{\circ}\text{C}$ Time: 5 Seconds	MIL-STD-883E 2003
8	Aging	Temperature: $85^{\circ}\text{C} \pm 5^{\circ}\text{C}$ Time: 250 ± 12 Hours	MIL-STD-202 F-108A B
9	Thermal Shock	Temperature 1: $-55^{\circ}\text{C} \pm 10^{\circ}\text{C}$ Temperature 2: $125^{\circ}\text{C} \pm 10^{\circ}\text{C}$ Temperature change between T1 and T2: 5 seconds 10 cycles, maintain T1 and T2 for 30 minutes each in one cycle	MIL-STD-883E-1011.9B
10	Vibration	Frequency Range: 10Hz~1000Hz Amplitude: 1.5mm 40mins in each direction, total 120mins	MIL-STD-202F-201A

CRYSTAL UNIT SPECIFICATIONS

- **RECOMMENDED IR REFLOW PROFILE**

IR REFLOW PROFILE OF CERAMIC SMD PRODUCTS FOR Pb FREE PROCESS



IR-Reflow Test

Reference Standard :JEDEC-STD 020

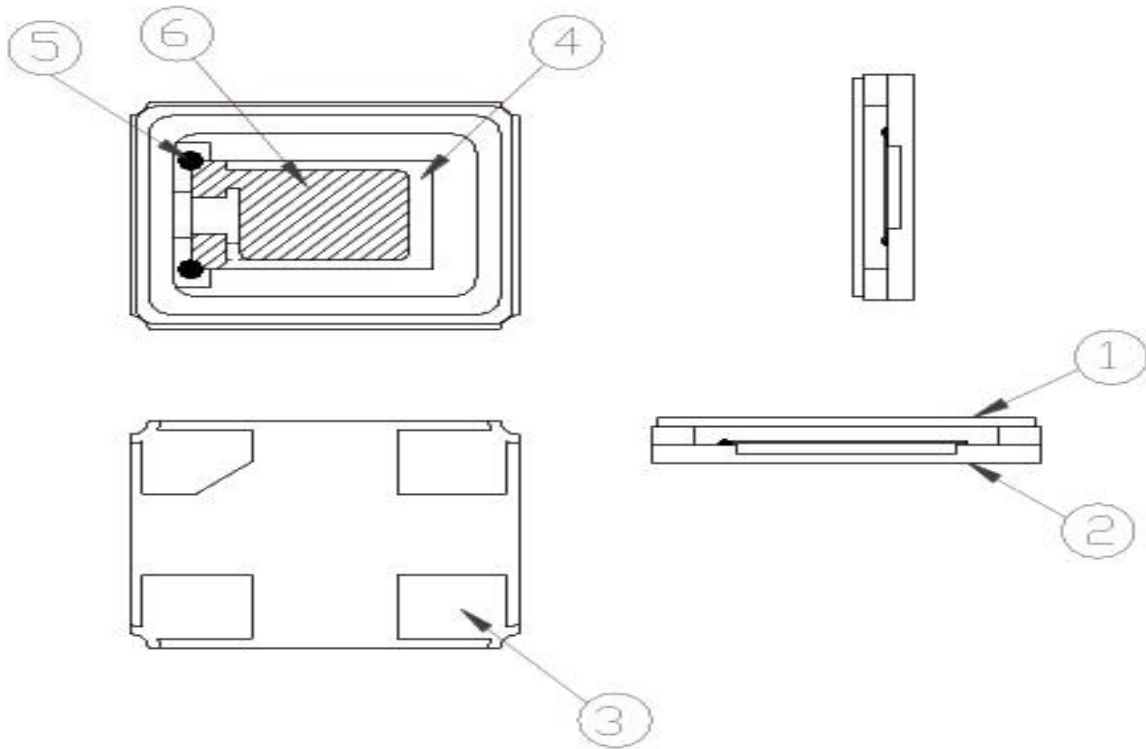
Test Conditions:Pre-heating:150° C to 200° C, 60 -120 sec

Heating :217° C, 60-150 sec

Peak Temperature : 260 ± 5° C , 25 ± 5 sec

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- **IR REFLOW PROFILE OF CERAMIC SMD PRODUCTS FOR Pb FREE PROCESS**

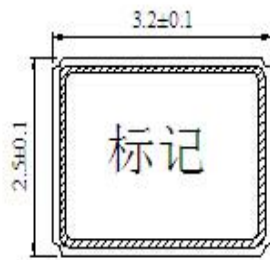


NO	COMPONENTS	MATERIALS	QTY	FINISH/SPECIFICATIONS
1	Cap(Lid)	Metal(Fe)	1	
2	Base (Package)	Ceramic(Al2O3)	1	Alumina ceramics
3	Pad (Package)	Au	4	Tungsten metalize +Ni plating + Au plating
4	Crystal blank	Sio2	1	-
5	Conductive adhesive	Ag	4	Silicone resin
6	Electrode	Ag + Cr	2	-

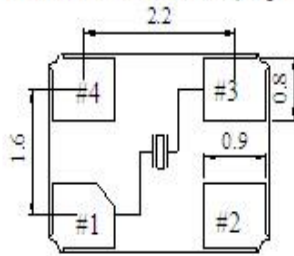


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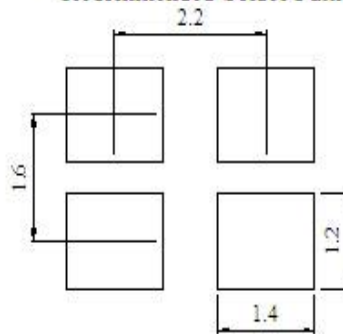
● Outline Dimensions (unit: mm)



Internal connections (Top View)



Recommended Solder Pattern



● MARKING

First Line: Frequency

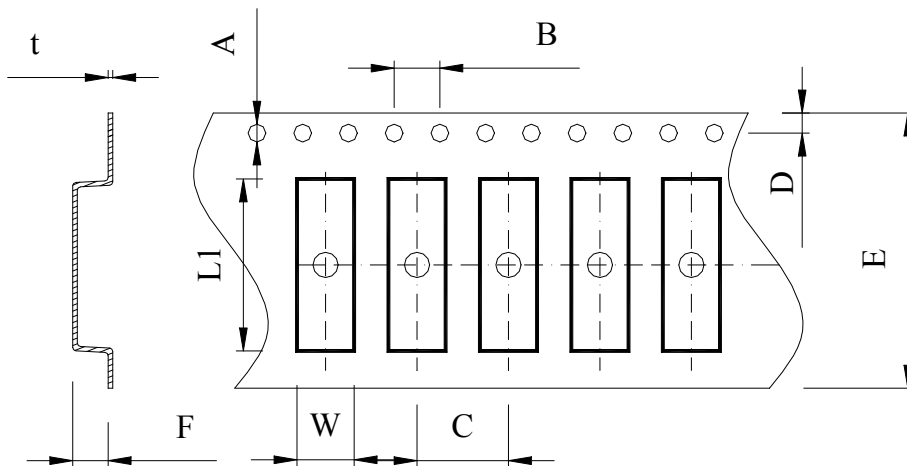
Second Line: MHZ

Jan	Feb	Mar	Apr	May	Jun	Jul	Aut	Sept	Oct	Nov	Dec
A	B	C	D	E	F	G	H	J	K	L	M

FOR EXAMPLE:

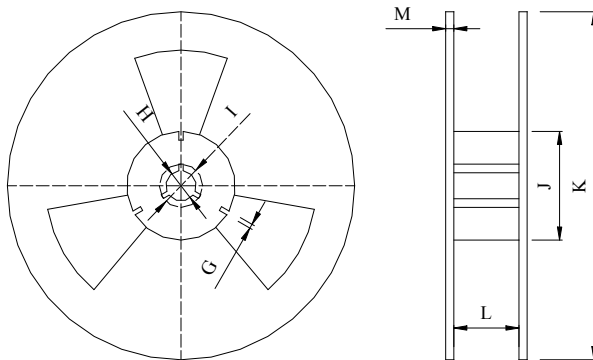
● PACKAGE

Tape Dimensions(unit : mm)



A	B	C	D	E	F	L1	W	t
1.50	4.0	4.0	1.75	8.0	1.0	3.6	2.9	0.3

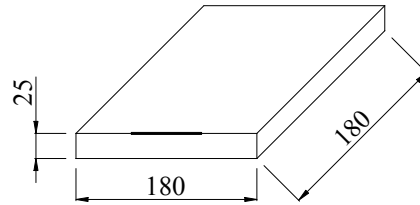
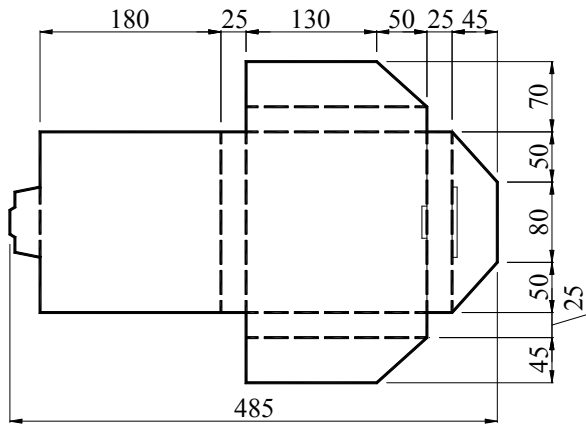
Reel Dimensions(unit: mm)



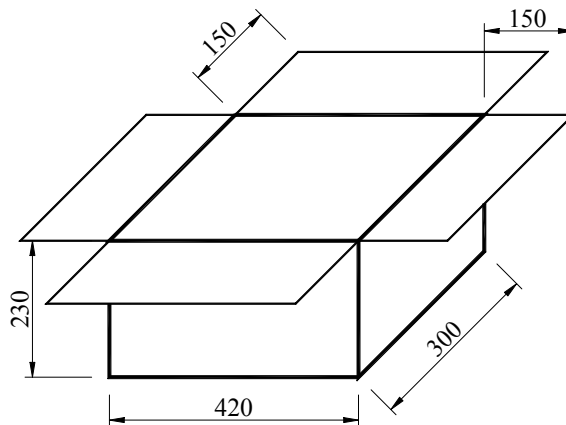
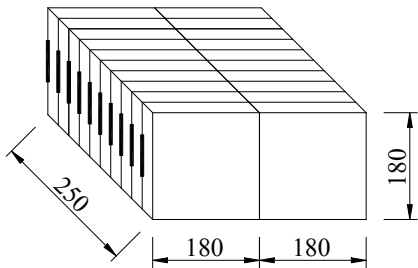
G	H	I	J	K	L	M
2.5	13.5	21.6	60.0	180	9.5	1.6

*3000pcs/Reel

Carton Dimension (unit : mm)



1 reel = 1 Inner box



20 Inner boxes = 1 Carton

60kpcs = 1 Carton