

Approved by:
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SPECIFICATION

MODEL: SJK-6MF-12.00-5.0-50-X-B

深圳市晶科鑫实业有限公司
SHENZHEN CRYSTAL TECHNOLOGY INDUSTRIAL CO., LTD.

CRYSTAL OSCILLATOR



Series 6M HCMOS/TTL Crystal Oscillator

FEATURE

- I All metal welded package .
- I Wide frequency range from 0.25MHz to 180MHz .
- I CMOS construction built-in with tristate function
- I CMOS/TTL compatible in general application
- I Vcxo : Voltage Controlled Crystal Oscillator

ELECTRICAL SPECIFICATIONS

Model Type		Full Size		Half Size	
Fan Out Type		TTL/CMOS	CMOS	TTL/CMOS	CMOS
Supply Range		5.0v	3.3V	5.0V	3.3V
Frequency Range		0.25~180MHz			
Operating Temperature		0~70°C, -20~70°C, -40~+85°C			
Frequency Range Input Current	0.25MHz~9.999MHz	15mA	10mA	15mA	10mA
	10.00MHz~23.999MHz	15mA	10mA	15mA	10mA
	24.00MHz~49.999MHz	30mA	20mA	30mA	20mA
	50.00MHz~79.999MHz	40mA	20mA	40mA	20mA
	80.00MHz~180.00MHz	50mA	30mA	50mA	30mA
Frequency Stability	All Conditions	±10ppm, ±20ppm, ±25ppm, ±50ppm, ±100ppm			
Symmetry	AT 1/2 Vdd	45/55%			
Input Voltage	Vol(max)	0.4v/0.5v	0.3v	0.4v/0.5v	0.3v
	Voh(min)	2.4v/4.5v	3.0v	2.4v/4.5v	3.0v
Rise/Fall time	AT0.1Vdd~0.9Vdd	5ns max			
Driving Ability	CMOS load max	15PF /50PF	15PF	15PF /50PF	15PF
	TTL load max	10TTL		10TTL	
Start-up Time	Load range	10ms max			
E/D Function	#1 open	#8OPEN		#5OPEN	
	#1 >=2.2v	#8OPEN		#5OPEN	
	#1 <=0.8v	#8HIGNZ		#5HIGNZ	
PAD CONNECTION		PIN#1E/D	PIN#8OUT	PIN@1E/D	PIN#5OUT
		PIN#7GND	PIN#14vdd	PIN#4GND	PIN#8Vdd

PART NUMBER GUIDE

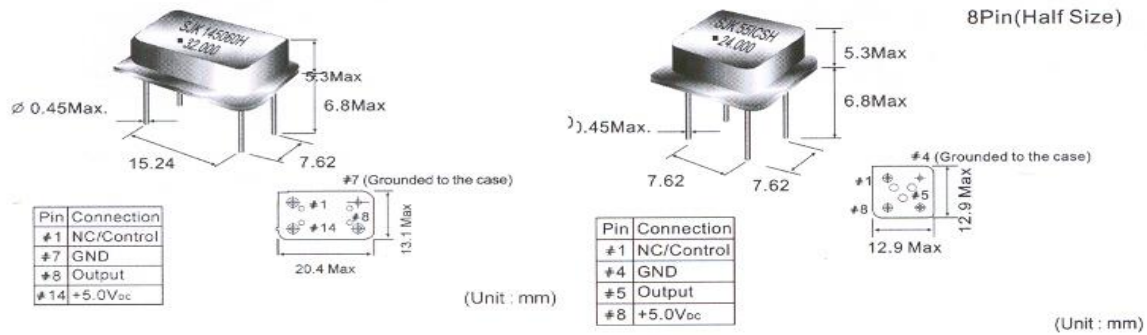
SJK	6MF	12.00	5	50	X	B
	Model type 6MF:Full size.14pin 6MH:Half size.8pin	Frequency 12.00:12.00 MHz	Supply voltage 5:5V 3.3:3.3V	Frequency tolerance 50:±50ppm 20:±20ppm	Fan out type X:TTL/CMOS Y:CMOS Z:TTL	Temperature range A: 0-70°C B:-20-70°C C:-40-85°C

MARKING AND DIMENSIONS

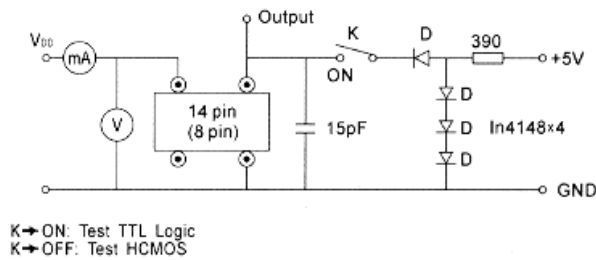
Add: RM#1805, East Wing, TianAn Hi-tech Plaza Phase2, TianAn Cyber Park, Shenzhen, China
 Tel: (86) 755 88352809 88352810 Fax: (86) 755 88353718 88352499
 E-mail: jolly@q-crystal.com HTTP://www.q-crystal.com

CRYSTAL OSCILLATOR

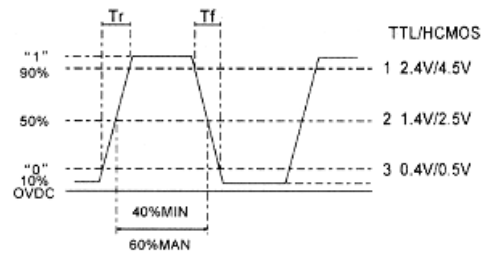
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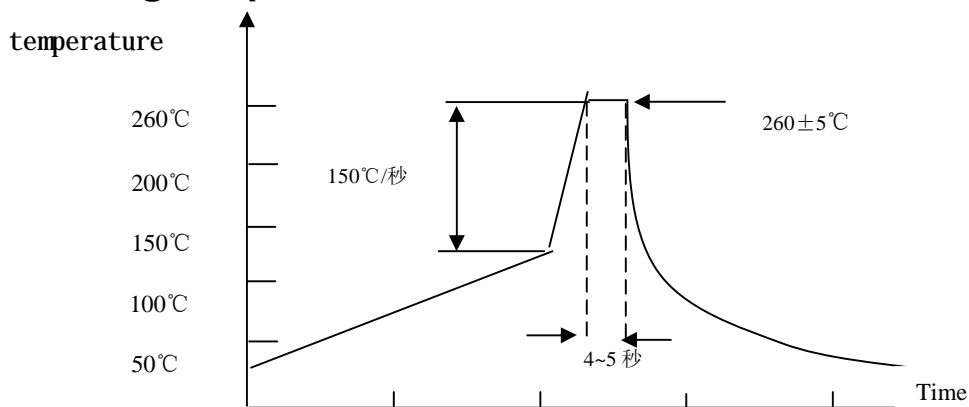
CIRCUIT PRINTCIPLE



OUTPUT WAVE FORM



Wave soldering temperature curve



RELIABILITY TEST

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Test item	Equipment	Condition	Specification
1. TERMINAL STRENGTH TEST	PULL EQUIPMENT	1. 10N force in axes of termination 10±1SEC 2. 2.5MM from terminal, bend 90°	'1. MIL-STD-202F, METHOD 211A' 2. MIL-STD-202F, METHOD 211A
2. SOLDERABILITY TEST	SJK-REL001、RC-328A	1. solderability: 235±5°C, 5±0.5S 2. heat resistance: 260±5°C, 10±1S restoration of 1 hour	'1. MIL-STD-883C METHOD 2003.7 2. MIL-STD-202F, METHOD 210A
3. HERMETICITY TEST	HELIOT-306S	FC-84 fluorocarbon, BUBBLE machine	MIL-STD-883C METHOD 1014.9' 1. TEST CONDITION: C1 2. TEST CONDITION: A4
4. VIBRATION TEST	HG-V4、S&A 250B	Enable Crystal (10g) from 10-55-10Hz, X、Y、Z horizontal, 1 Minute vibration/time, 1 time/ 2 hours.	JIS C5025 TEST MIL-STD-883C, METHOD 2007.2
5. MECHANICAL SHOCK	HPC-200、S&A 250B	Enable Crystal 50G (490m/s ²) time=11 ms speed=3.4 m/s half sine wave oscillation	JIS C5026 MIL-STD-883C, METHOD 2002
6. DROP TEST	HARD BOARD. S&A 250B	75CM high, 3 times on hard board	'JIS C6701
7. SALT SPRAY	H-SST-60、RC-328A	5% NaCL, 35°C±2°C CHAMBER, 48 hrs. , PH: 6.5~7.2	JIS C5028 & MIL-STD-202F
8. HIGH&LOW TEMP STORAGE TEST (Static test)	H-PTH-80CK & HM101-3ABN, S&A 350B/250B	High temperature: 125°C±2°C, 1000hr; Low temperature: -40°C±3°C, 1000hrs	MIL-STD-883C, METHOD 1011.8 & JIS C5030
9. TEMP & HUM CYCLING TEST	H-PTH-80CK CHAMBER , S&A 350B/250B	Temperature: -10°C±2°C ~ 65°C±2°C, Humidity: 93±3%, 1 cycle need 24 hrs. 5 cycles.	MIL-STD-883C, METHOD 1010.7
10. HIGH TEM. & HUM. STORAGE TEST	H-PTH-80CK CHAMBER , S&A 350B/250B	temperature: 40°C±2 , Humidity: 85±3,-2%, Store 96 hrs	JIS C5023
11. AGING TEST	H-PTH-80CK CHAMBER , S&A 350B/250	temperature: 85°C±2. 1000hrs	JIS C5031

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