

Crystal oscillator  
SMD CMOS Output 7.0×5.0×1.3mm 6N Series

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# SPECIFICATION

PN: KSE-6N16000M3C045ZA3



## Crystal oscillator SMD CMOS Output 7.0×5.0×1.3mm 6N Series

### FEATURE

- Small SMD seam sealed clock crystal oscillator units.
- High precision characteristic covering up to wide frequency range.
- Designed for automatic mounting and reflow soldering.
- Tri-State function available.
- Supply voltage range : 1.8 V ~ 5.0 V.
- High stability, low jitter, low power consumption.
- Main application : wireless communication set, PC, and LCDM.
- RoHS Compliant / Pb Free.

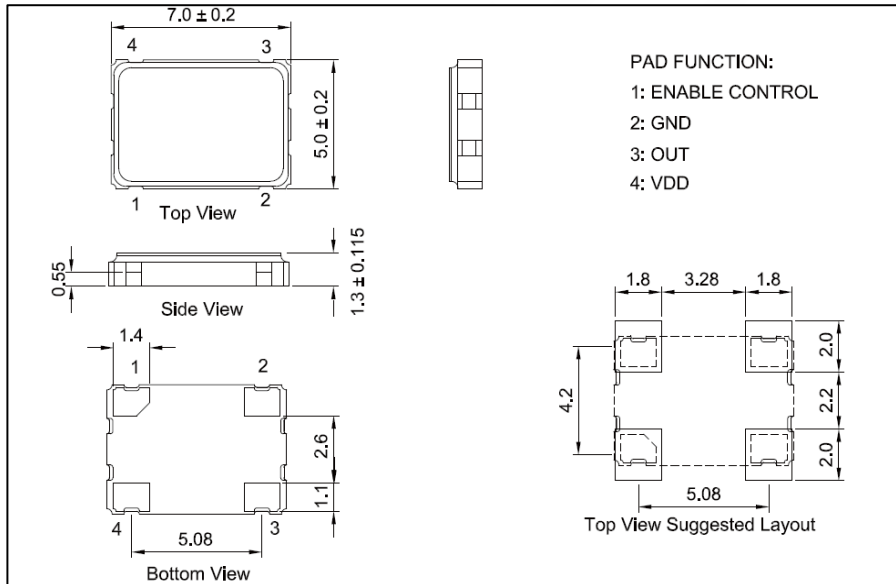
### ELECTRICAL SPECIFICATIONS

Parameters	Condition/Model	6N
Fan Out Type		CMOS
Supply Voltage		3.3V±10%
Frequency		16.000MHz
Operating Temperature		-40°C to +85°C
Current		5mA max
Frequency Stability	All Conditions	±50ppm
Output Voltage	Vol(max)	10%VDD
	VoH(min)	90%VDD
Rise/Fall Time	AT 0.1VDD~0.9VDD	5ns max
Load Capacitance		15pF
Duty Cycle		50±10%
Storage Temperature		-55~+125°C
Start-upTime		5ms max
Aging		±3ppm (first year at 25°C)
Tri-State	Output Active	0.7VDD Min Pin 1 Tri-state
	Output in High-Impedance state	0.3VDD Max
PAD Connection	PIN#1 Tri-State/NC	PIN#3 OUT
	PIN#2 GND	PIN#4 Vdd

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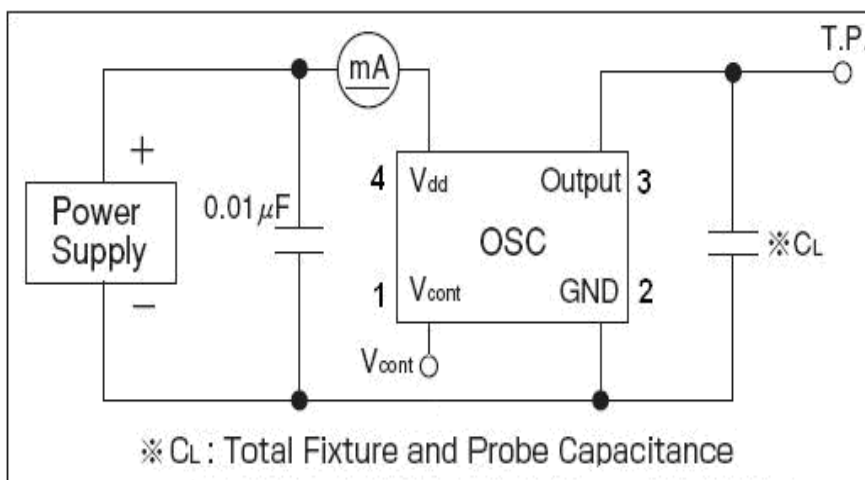
### DIMENSION (Unit: mm)



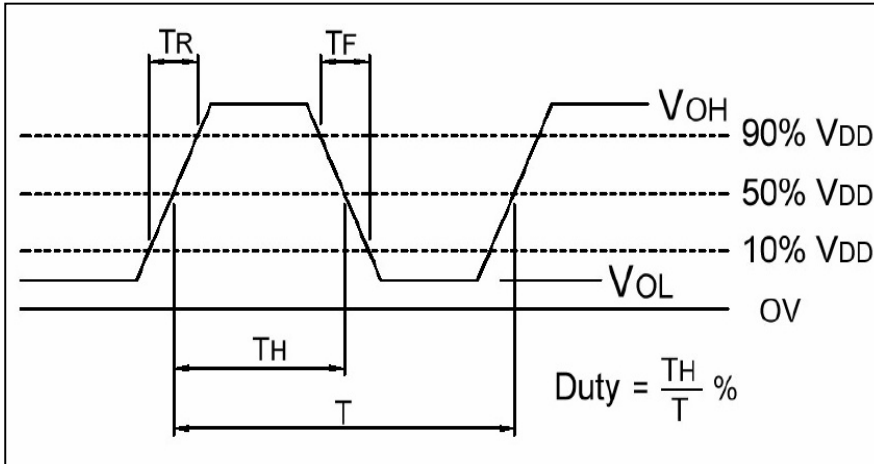
### MARK



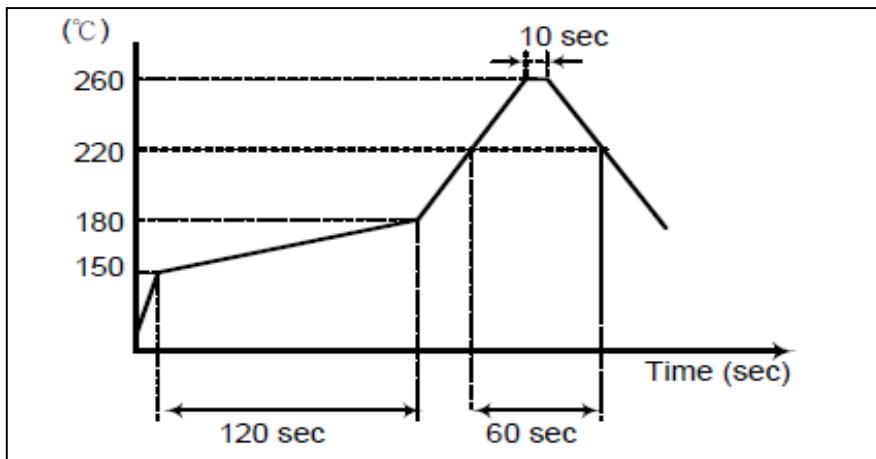
### MEASUREMENT CIRCUIT



## WAVEFORM CONDITIONS



## REFLOW CONDITION



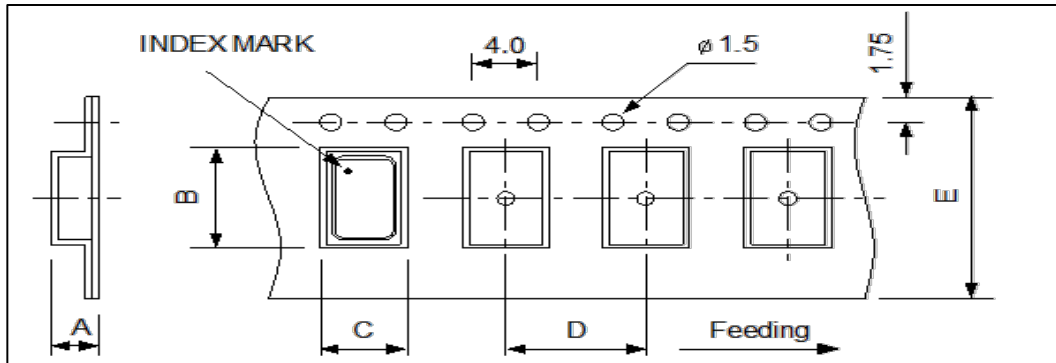
The reflow temperature profile may vary depending on the product model, specifications and frequency range. Refer to the individual product specifications for details

## Note

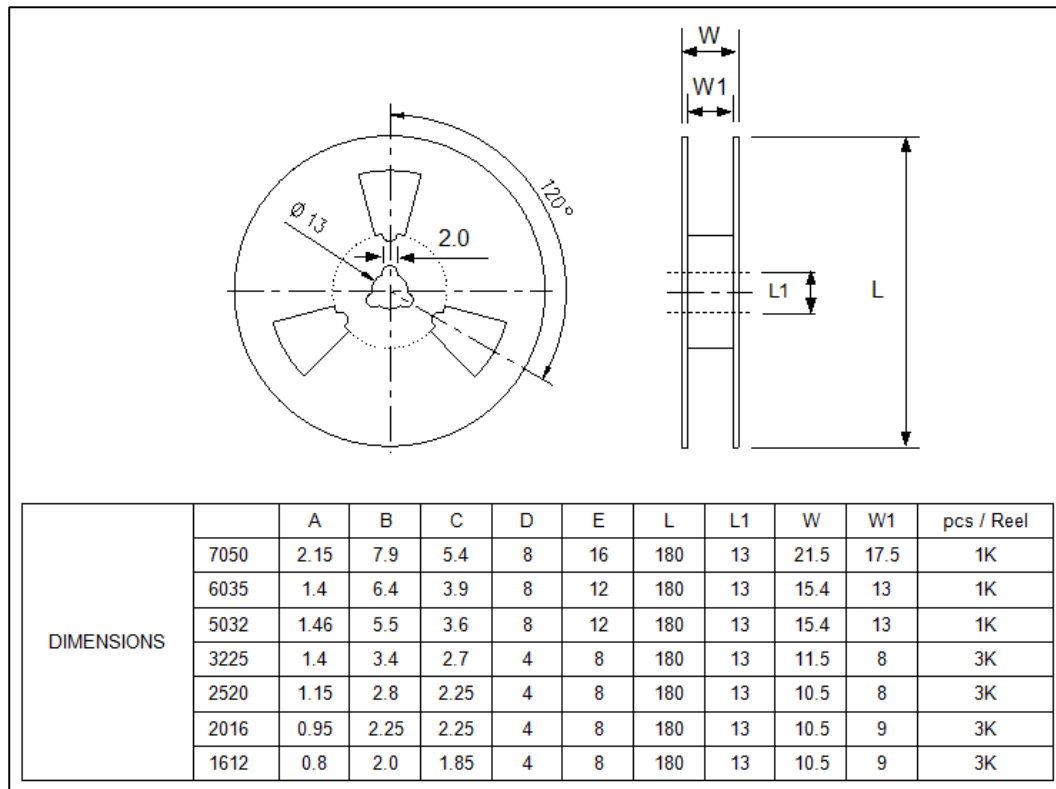
1. General cleaning solutions or ultrasonic cleaning method may be used to clean our products. However, under certain circumstances, ultrasonic cleaning machine could generate resonance at the oscillation frequency of our products and thus deteriorate the electrical characteristics in devices, and even damage the overall structure of devices. Therefore, verification test is recommended before cleaning.
2. Avoid mounting and processing by Ultrasonic welding this method has a possibility of an excessive vibration spreading inside the crystal products and becoming the cause of characteristic deterioration and not oscillating.

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CARRIER TYPE

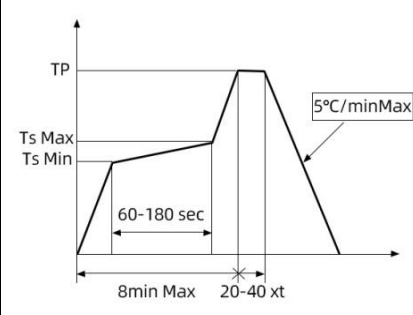


REEL



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**RELIABILITY TEST SPECIFICATIONS**

Test item	Equipment	Condition	Specification
1.SOLDERABILITY TEST	SJK-REL001、RC-328A	TP:260℃ TsMax: 200℃ TsMin: 150℃ 2 time 	MIL-STD-883E Method 2003.7
2. HERMETICITY TEST	HELIOT-306S	Pressurized 0.4~0.5Mpa ethanol sealed tank for 10 minutes	MIL-STD-883E Method 1014.10
3. VIBRATION TEST	HG-V4、S&A 250B	Enable Crystal(10g) from 10-55-10Hz,X、Y、Z horizontal,1 Minute vibration/time, 1time/ 2 hours.	MIL-STD-883E Method 2007.3
4. MECHANICAL SHOCK	HPC-200、S&A 250B	Enable Crystal 50G(490m/s <sup>2</sup> ) time=11 ms speed=3.4 m/s half sine wave oscillation	JIS C6701
5. DROP TEST	HARD BOARD.S&A250B	75cm High,3 times on hard board	MIL-STD-202F Method 213B
6. HIGH&LOW TEMP STORAGE TEST(Static test)	H-PTH-80CK & HM101-3ABN, S&A 350B/250B	High temperature: 125℃±2℃,1000hr; Low temperature:-40℃±3℃,1000hrs	MIL-STD883C, METHOD 1011.8
7. TEMP & HUM CYCLING TEST	H-PTH-80CK CHAMBE, S&A 350B/250B	Temperature:-10℃±2℃ ~65℃±2℃,Humidity:93±3%,1 cycle need 24 hrs. 5cycles.	MIL-STD-883E Method 1005.8
8. HIGH TEM. & HUM.STORAGE TEST	H-PTH-80CK CHAMBE, S&A350B/250B	Temperature:85℃±2, Humidity:85+3,-2%,Store 96 hrs	JIS C6701
9. AGING TEST	H-PTH-80CK CHAMBE, S&A350B/250	Temperature:85℃±2, Store 1000 hrs	JIS C5023