

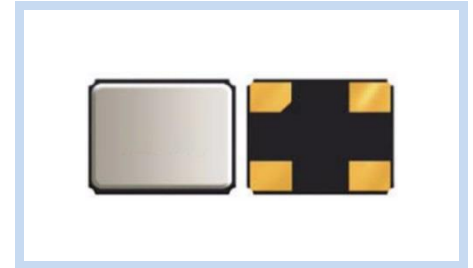
# Ceramic SMD Crystal Oscillator SMD 7.0 x 5.0mm HCMOS/TTL

MO7C series

**MERITEK**

## FEATURE

- Output Logic: HCMOS/TTL
- Small SMD Ceramic Package
- High precision and high frequency stability
- Applications: Wired Network, Mobile Communication, WiMAX, WLAN, DSC, Set-Top Box, HDTV



## PART NUMBERING SYSTEM

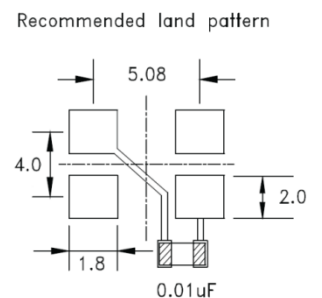
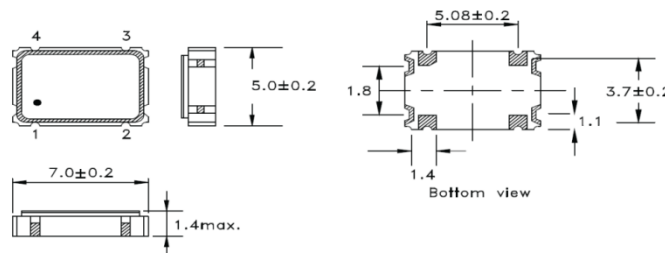
MO7 C 50 J C 24M0  
(1) (2) (3) (4) (5) (6)



No	Item	Code	Description	Series Reference (options)
(1)	Meritek Series	MO7	Oscillator Unit	Ceramic SMD Crystal Oscillator 7.0x5.0mm 4 Pads
(2)	Logic	C	C: HCMOS/TTL	C: HCMOS/TTL
(3)	Supply Voltage	50	50: 5.0V	50: 5.0V
(4)	Frequency Stability	J	J: $\pm 50$ ppm	F: $\pm 20$ ppm, G: $\pm 25$ ppm, H: $\pm 30$ ppm (see avail options)
(5)	Operating Temp.	C	C: $-20\sim+70^{\circ}\text{C}$	A: $-10\sim+60^{\circ}\text{C}$ , B: $0\sim+70^{\circ}\text{C}$ , I: $-40\sim+85^{\circ}\text{C}$ (see options)
(6)	Frequency	24M0	24M0: 24.000MHz	1M544 ~ 150M0 (M denotes decimal point)
(7)	Pin 1	Blank	Blank: Tri-State	N: No Connection
(8)	Output Load	Blank	Blank: 15pF	Blank: 15pF (Standard), Y: 50pF
(9)	Duty Cycle	Blank	Blank: 45/55%	T: 40/60%

## DIMENSIONS AND RECOMMENDED PATTERN

Pin	Function
1	Tri-State Enable/Disable
2	GND/Case
3	Output
4	Vdd



(Unit:mm)

## AVAILABLE OPTIONS

Parameters	Part Number Options
Supply Voltage	18: 1.8V $\pm 10\%$ , 25: 2.5V $\pm 10\%$ , 33: 3.3V $\pm 10\%$
Frequency Stability	F: $\pm 20$ ppm, G: $\pm 25$ ppm, H: $\pm 30$ ppm, J: $\pm 50$ ppm, K: $\pm 100$ ppm
Operating Temp.	A: $-10\sim+60^{\circ}\text{C}$ , B: $0\sim+70^{\circ}\text{C}$ , C: $-20\sim+70^{\circ}\text{C}$ , K: $-30\sim+85^{\circ}\text{C}$ , I: $-40\sim+85^{\circ}\text{C}$ , R: $-40\sim+105^{\circ}\text{C}$

Note: Custom options available. Contact Meritek for more information.

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MO7C series

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## ELECTRICAL CHARACTERISTICS

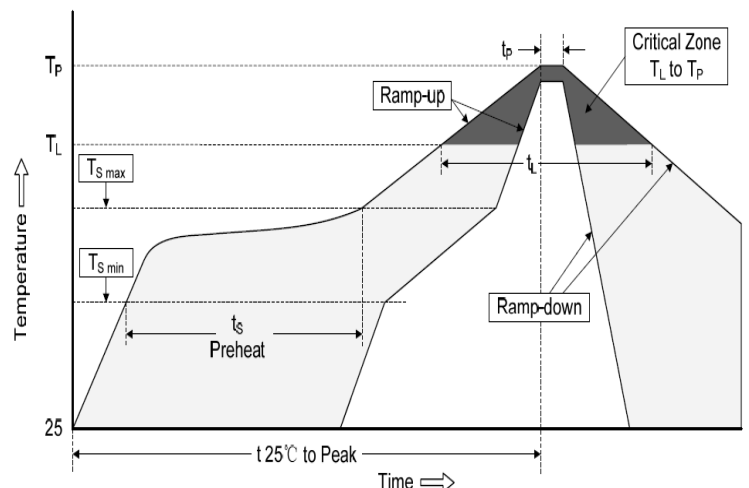
Parameters		Characteristic
Frequency Range		1.544 ~ 150.000 MHz
Logic		HCMOS/TTL
Supply Voltage		5.0V ±10% (see options)
Frequency Stability		±50 ppm (see options)
Operating Temperature		-20 ~ +70°C (see options)
Storage Temperature		-55 ~ +125°C
Duty Cycle		50±5%
Aging @25°C (first year)		±5 ppm
CMOS Load Max		15pF/50pF max.
TTL Load Max		10TTL
Output Level (CMOS)	High (Logic 1)	90% Vdd min.
	Low (Logic 0)	10% Vdd max.
Supply Current	5.0V	55mA max.
Standby Current		10µA
Start Up Time		10mSec max.
Rise/ Fall Time (Tr/Tf)	1.544MHz ~ 150.0MHz	10nSec max.
Tri-State (Input Pin 1)	Enable High or Float	0.7 Vdd min.
	Disable Low or GND	0.3 Vdd max.
Absolute Clock Period Jitter		40pSec max.
RMS Phase Jitter (12Khz~20MHz)		1pSec max.

**TABLE 1: SUPPLY CURRENT (mA max.)**

Frequency	15pF	50pF
1.544 MHz ~ 31.999 MHz	35	40
32.00 MHz ~ 150.00 MHz	45	55

## RECOMMENDED SOLDERING PROFILES

Reflow Condition		
Pre Heat	Temp. Min $T_{s(min)}$	150°C
	Temp. Max $T_{s(max)}$	180°C
	Time (min. to max.) ( $t_s$ )	60~120 seconds
Average ramp up rate ( $T_L$ ) to peak		1°C/second max.
$T_{s(max)}$ to $T_L$ (Ramp-up rate)		3°C/second max.
Reflow	Temp. ( $T_L$ )	230°C
	Time (min. to max.) ( $t_L$ )	30~40 seconds
Peak Temperature ( $T_P$ )		260°C
Time within 5°C of actual peak Temperature ( $t_p$ )		10 seconds max.
Ramp-down Rate		6°C/second



\*Specifications subject to change without notice.