

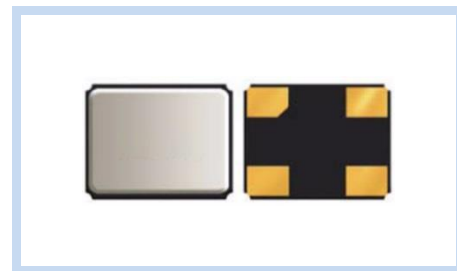
Ceramic SMD Crystal Oscillator SMD 5.0 x 3.2mm CMOS

MO5M series

MERITEK

FEATURE

- Output Logic: CMOS
- Small SMD Ceramic Package
- High precision and high frequency stability
- Applications: Wireless, Mobile Communication, WiMAX, WLAN, PDA, DSD, Notebook



PART NUMBERING SYSTEM

MO5 M 33 J C 50M0
(1) (2) (3) (4) (5) (6)

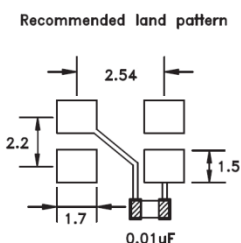
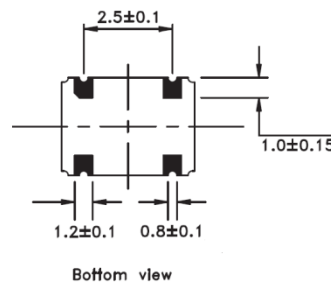
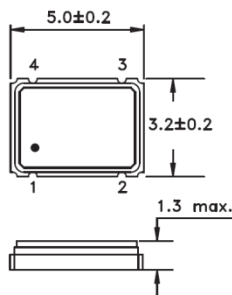


No	Item	Code	Description	Series Reference (options)
(1)	Meritek Series	MO5	Oscillator Unit	Ceramic SMD Crystal Oscillator 5.0x3.2mm 4 Pads
(2)	Logic	M	M: CMOS	M: CMOS
(3)	Supply Voltage	33	33: 3.3V	25: 2.5V, 18: 1.8V
(4)	Frequency Stability	J	J: ± 50 ppm	F: ± 20 ppm, G: ± 25 ppm, H: ± 30 ppm (see avail options)
(5)	Operating Temp.	C	C: -20~+70°C	A: -10~+60°C, B: 0~+70°C, I: -40~+85°C (see options)
(6)	Frequency	50M0	50M0: 50.000MHz	13K7 ~ 133M0 (K and M denotes decimal point)
(7)	Pin 1	Blank	Blank: Tri-State	N: No Connection
(8)	Output Load	Blank	Blank: 15pF	Blank: 15pF (Standard)
(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: ± 20 ppm, G: ± 25 ppm, H: ± 30 ppm, J: ± 50 ppm, K: ± 100 ppm
Operating Temp.	A: -10~+60C, B: 0~+70C, C: -20~+70C, K: -30~+85C, I: -40~+85C, R: -40~+105C

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

ELECTRICAL CHARACTERISTICS

Parameters	Characteristic
Frequency Range	0.0137 ~ 133.000 MHz
Logic	CMOS
Supply Voltage	3.3V $\pm 10\%$ (see options)
Frequency Stability	± 50 ppm (see options)

Ceramic SMD Crystal Oscillator

SMD 5.0 x 3.2mm CMOS

MO5M series

MERITEK

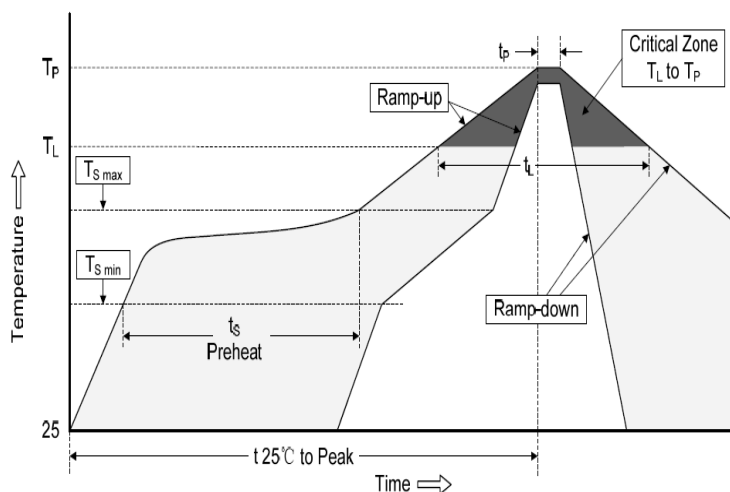
Operating Temperature		-20 ~ +70°C (see options)
Storage Temperature		-55 ~ +125°C
Duty Cycle		50±5%
Aging @25°C (first year)		±3 ppm
Output Load		15pF max.
Output Level (CMOS)	High (Logic 1)	90% Vdd min.
	Low (Logic 0)	10% Vdd max.
Supply Current		See Table 1
Standby Current		10µA max.
Start Up Time		10mSec max. (5 Typ.)
Rise/ Fall Time (Tr/Tf)	13.70 KHz ~ 70.00 KHz	50nSec max.
	0.3125 MHz ~ 99.99 MHz	7nSec max. (5 Typ.)
	100.0MHz ~ 133.0MHz	7nSec max. (3 Typ.)
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	3.3V	2.5V	1.8V
13.70 KHz ~ 93.00 KHz	1	0.5	0.1
0.3125 MHz ~ 39.99 MHz	10	8	7
40.00 MHz ~ 74.99 MHz	20	18	15
75.00 MHz ~ 133.00 MHz	35	30	25

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.