

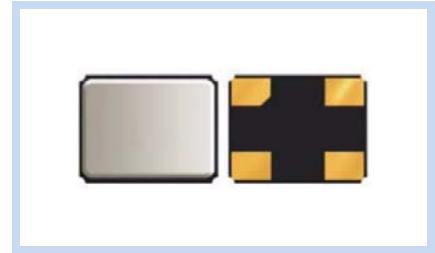
Ceramic SMD Crystal Oscillator SMD 3.2 x 2.5mm CMOS

MO3M series

MERITEK

FEATURE

- Output Logic: CMOS
- 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

MO3 **M** **33** **J** **C** **32M0**
(1) (2) (3) (4) (5) (6)

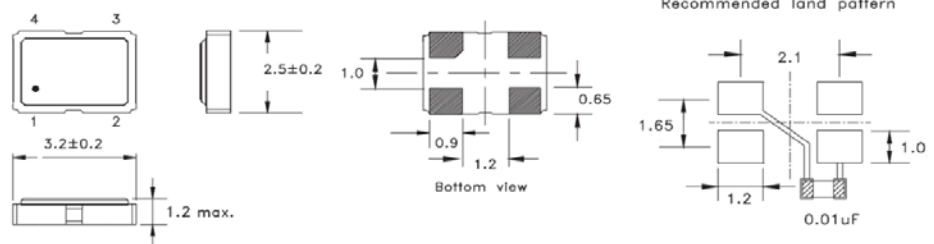


No	Item	Code	Description	Series Reference (options)
(1)	Meritek Series	MO3	Oscillator Unit	Ceramic SMD Crystal Oscillator 3.2x2.5mm 4 Pads
(2)	Logic	M	M: CMOS	M: CMOS
(3)	Supply Voltage	33	33: 3.3V	25: 2.5V, 18: 1.8V
(4)	Frequency Stability	J	J: ± 50 ppm	F: ± 20 ppm, G: ± 25 ppm, H: ± 30 ppm (see avail options)
(5)	Operating Temp.	C	C: $-20\sim+70^{\circ}\text{C}$	B: $0\sim+70^{\circ}\text{C}$, I: $-40\sim+85^{\circ}\text{C}$ (see avail options)
(6)	Frequency	32M0	32M0: 32.000MHz	32K768 ~ 125M0 (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±10%, 25: 2.5V±10%, 33: 3.3V±10%
Frequency Stability	A: ± 10 ppm, F: ± 20 ppm, G: ± 25 ppm, H: ± 30 ppm, J: ± 50 ppm, K: ± 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.

ELECTRICAL CHARACTERISTICS

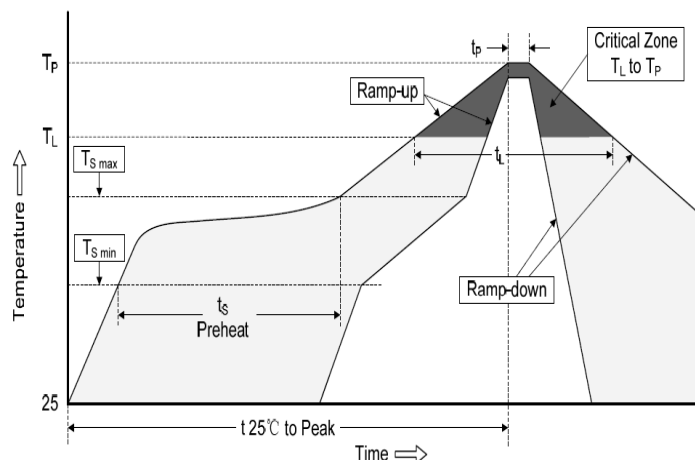
Parameters		Characteristic
Frequency Range		0.032768 ~ 125.000 MHz
Logic		CMOS
Supply Voltage		3.3V ±10% (see options)
Frequency Stability		±50 ppm (see options)
Operating Temperature		-20 ~ +70°C (see options)
Storage Temperature		-55 ~ +125°C
Duty Cycle		50±5%
Aging @25°C (first year)		±3 ppm
Output 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		15µA max.
Start Up Time		2mSec max.
Rise/ Fall Time (Tr/Tf)	32.738 KHz	50nSec max.
	1.00 MHz ~ 19.99 MHz	5nSec max.
	20.0MHz ~ 50.0MHz	4nSec 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	3.3V	2.5V	1.8V
32.768 KHz	3	2	1.5
1.00 MHz ~ 99.99 MHz	15	10	7
100.00 MHz ~ 125.00 MHz	25	20	12

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.)	60~120 seconds
Average ramp up rate (T_L) to		1°C/second
$T_{s(max)}$ to T_L (Ramp-up rate)		3°C/second
Reflow	Temp. (T_L)	230°C
	Time (min. to max.)	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.