

# 32.768 kHz Crystal Unit SMD 8.0x3.8x2.5mm Type

MXTQ series

**MERITEK**

## FEATURE

- Industry Standard Package
- Surface Mount Low Profile
- Suitable for RoHS Compliant Reflow
- Applications: Wired Network, Mobile Communication, WiMAX, WLAN, Hand-held Electronic Devices, Computer Clock



## PART NUMBERING SYSTEM

MXTQ B F I 32K768  
(1) (2) (3) (4) (5)

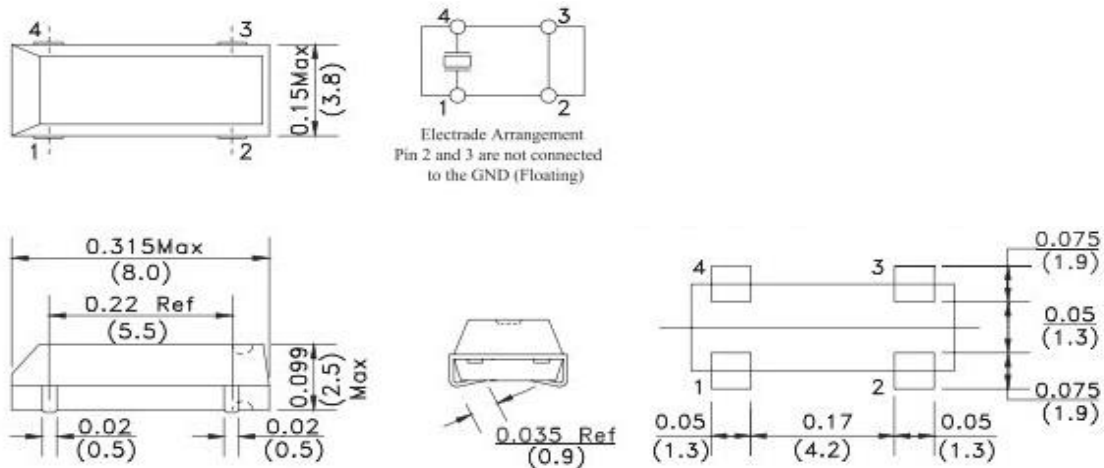


No	Item	Code	Description	Series Reference (Options)
(1)	Meritek Series	MXTQ	Crystal Unit	Ceramic SMD Crystal 8.0x3.8x2.5mm
(2)	Load Capacitance	B	B: 12.5pF	B: 12.5pF, 6: 6pF (Note: 1)
(3)	Frequency Tolerance	F	F: ±20ppm	F: ±20ppm, A: ±10ppm, H: ±30ppm
(4)	Operating Temp.	I	I: -40~+85°C	I: -40~+85°C
(5)	Frequency	32K768	32K768: 32.768kHz	32K768 (K denotes decimal point)

Notes:

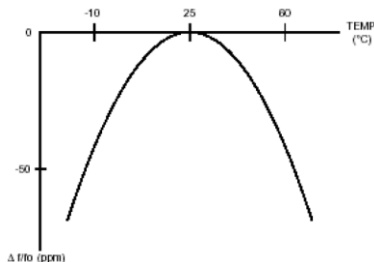
1. Contact Meritek for more info on Custom Load Capacitance

## DIMENSIONS AND RECOMMENDED PATTERN



Unit: inch(mm)

## FREQUENCY VS TEMPERATURE



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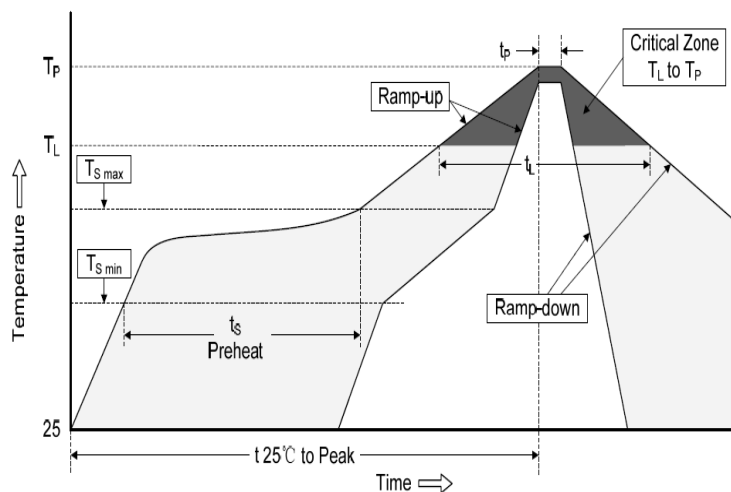
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## ELECTRICAL CHARACTERISTICS

Parameters	Characteristic	Unit
Frequency Range	32.768	kHz
Load Capacitance (C <sub>L</sub> )	12.5 (see options)	pF
Frequency Tolerance (at 25°C)	±20 (see options)	ppm
Operating Temperature	-40 ~ +85 (see options)	°C
Storage Temperature	-55 ~ +125	°C
Turnover Temperature	25 ±5	°C
Frequency Temperature Curve	-0.035 ±0.006	ppm/°C
Drive Level	1.0 max.	μW
Aging (at 25°C)	±3 max.	ppm / year
Shunt Capacitance (C <sub>0</sub> )	1.35 typ.	pF
Capactiance Ratio (C <sub>0</sub> /C <sub>1</sub> )	450	-
Insulation Resistance @100Vdc ±15V	500 min.	MΩ
Equivalent Series Resistance	50 max.	kΩ

## RECOMMENDED SOLDERING PROFILES

Reflow Condition		
Pre Heat	Temp. Min T <sub>S(min)</sub>	150°C
	Temp. Max T <sub>S(max)</sub>	180°C
	Time (min. to max.) (t <sub>s</sub> )	60~120 seconds
Average ramp up rate (T <sub>L</sub> ) to peak		1°C/second max.
T <sub>S(max)</sub> to T <sub>L</sub> (Ramp-up rate)		3°C/second max.
Reflow	Temp. (T <sub>L</sub> )	230°C
	Time (min. to max.) (t <sub>L</sub> )	30~40 seconds
Peak Temperature (T <sub>P</sub> )		260°C
Time within 5°C of actual peak Temperature (t <sub>p</sub> )		10 seconds max.
Ramp-down Rate		6°C/second



\*Specifications subject to change without notice.