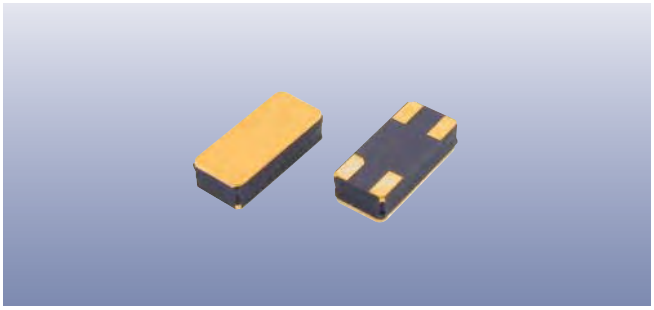
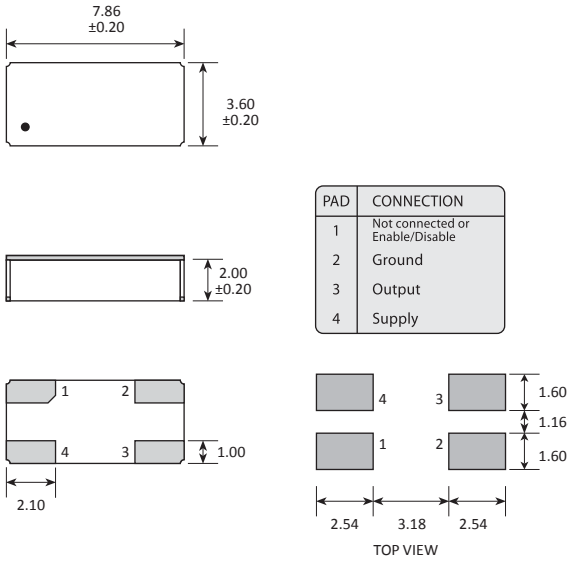
CMOS Oscillator -55+125°C Low Jitter

MCSO1F





PAD	CONNECTION
1	Not connected or Enable/Disable
2	Ground
3	Output
4	Supply

Features

- **Low jitter**
- **Military temperature range -55+125°C option**
- **Excellent shock & vibration resistance**
- **Enable / disable tristate option (>500kHz)**
- **Wide frequency range available**

Enable / Disable Function

Input (pad 1)	Output (pad 3)
Open	Enabled
'1' level	Enabled
'0' level	High Impedance

Supply current

Freq / Supply	2.5V	3.3V
32kHz	300µA	1mA
<10MHz	2mA	4mA
10 ~ 20MHz	3mA	5mA
>20 ~ 160MHz	25mA	30mA

Maximum values, no load.

Specifications

MCSO1F: 10.0kHz ~ 20.0MHz

MCSO1FH: 20.0 ~ 225MHz

Parameters	Product MCSO1F	Option Codes
Frequency range: 10.0kHz ~ 225MHz	■	
Supply voltage (V_{DD}): +3.3V (±5%)	■	V
+2.5V (±5%)	□	W
Frequency stability*: ±100ppm	■	
±50ppm	□	T
tighter stabilities on request	□	specify
Operating temperature range:		
0 to +70°C	□	A
-40 to +85°C	□	B
-55 to +125°C	■	C
Storage temperature range: -55 to +125°C	■	
Supply current:	See table	
Driving ability: CMOS	■	
Load: 3pF min, 47pF max	■	
Logic levels: '0' level = +0.4V max	■	
'1' level = V_{DD}-0.5V min	■	
Start up time: 5ms max	■	
Waveform symmetry: 40:60 max @ 50%V_{DD}	■	
Jitter RMS (1σ): < 2ps (≤20.0MHz)	■	
< 10ps (>20.0MHz)	■	
Rise / fall times: 7ns max ≤20MHz	■	
3ns max >20MHz	■	
150ns max@ 32.768kHz	■	
Enable / disable function:		
None (pad 1 NC)	■	
Tristate* (control via pad 1)	□	E
* not available under 500kHz		
Shock resistance: 5,000G, 0.3ms, ½ sine	■	
Vibration resistance: 20G rms 10.0 ~ 2,000Hz	■	
Soldering condition: 260°C, 10 sec max	■	

■ Standard. □ Optional - Please specify required code(s) when ordering

* Frequency stability is inclusive of calibration @ 25°C, operating temperature range, supply voltage change, load change and ageing over 10 years.

Ordering Information

Product name + option codes + frequency

eg: **MCSO1FV/CE 10.0MHz** 3.3V ±100ppm -55 to +125°C Enable / disable

For frequencies >20.0MHz add an 'H' to the product name

eg: **MCSO1FHW/TB 32.0MHz** 2.5V ±50ppm -40 to +85°C no E/D

Option code X (eg MCSO1F/X) denotes a custom specification.

◆ Packed in trays (91pcs/tray) or T&R 250 ~ 1,000pcs/reel

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