



A 47nF ceramic capacitor must be connected between GND and V<sub>DD</sub>

## Features

- ▶ Suitable for Avionics, Down-hole, Geothermal etc
- ▶ Extreme temperature ranges up to 200°C
- ▶ High stability & low ageing under extremes
- ▶ High shock & vibration resistance
- ▶ Low current consumption

## Enable / Disable Function

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

Reaction time <5ms

## Specifications

Parameters	Product	Option Codes
	MCSO1EL	
<b>Frequency range:</b>	32.768kHz 10.0 ~ 50.0kHz	specify
<b>Supply voltage (V<sub>DD</sub>):</b>	+5.0V (±5%) +3.3V (±5%) +2.5V (±5%)	V W
<b>Frequency stability (max)*:</b>	±100ppm over -55 to +125°C ±150ppm over -55 to +150°C ±300ppm over -55 to +175°C ±400ppm over -55 to +200°C (Option G only available at 5V)	C E D G
<b>Storage temperature range:</b>	-65 to +125°C	
<b>Supply current (max @ 10pF load):</b>	120µA, V <sub>DD</sub> =5.0V 110µA, V <sub>DD</sub> =3.3V 100µA, V <sub>DD</sub> =2.5V	
<b>Driving ability:</b>	CMOS	
<b>Load:</b>	3pF min, 27pF max	
<b>Logic levels:</b>	'0' level = +0.4V max '1' level = V <sub>DD</sub> -0.5V min	
<b>Start up time:</b>	5ms max	
<b>Waveform symmetry:</b>	40:60 max @ 50%V <sub>DD</sub>	
<b>Rise / fall times:</b>	25ns max (15pF, 20%~80%)	
<b>Enable / disable function:</b>	None (pad 1 NC) Tristate (control via pad 1)	E
<b>Standby current:</b>	5µA max	
<b>Shock resistance:</b>	10,000G, 0.3ms, ½ sine	
<b>Vibration resistance:</b>	40G rms 10.0 ~ 2,000Hz	
<b>Soldering condition:</b>	260°C, 10 sec max	
<b>Terminations:</b>	Gold plated pads Tinned pads* (Ag/Cu/Zn)	T

■ 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 long term ageing (1,000hrs at T<sub>MAX</sub>).

## Ordering Information

Product name + option codes + frequency

eg: **MCSO1EL/DE 32.768kHz** 5V ±300ppm -55 to +175°C Enable / disable

**MCSO1EL/WD 32.768kHz** 2.5V ±300ppm -55 to +175°C no E/D

Option code X (eg MCSO1EL/X) denotes a custom specification.

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