

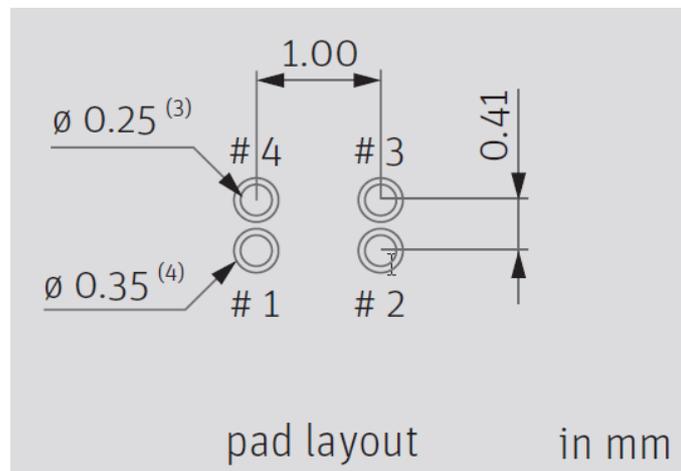
JSO15 TR – a 32.768kHz TCXO with excellent frequency stability for RTC applications:

The JSO15 TR is an ultra-low power 32.768kHz oscillator in a tiny CSP package. It offers an unrivaled frequency stability down to +/-5ppm in a temperature range of -40°C ~ +85°C. This excellent stability is achieved by a temperature compensation that is performed at multiple temperatures during the production process. The factory trimming also makes this 32.768kHz oscillator very insensitive to supply voltage variations.

As JSO15 -TR is delivered in a 1.5mm x 0.8mm CSP package, please read this document carefully for best soldering results.

Recommendation for pad layout

For reliable soldering and operation of the JSO15 -TR, please follow the recommendation for PCB pad layout below:



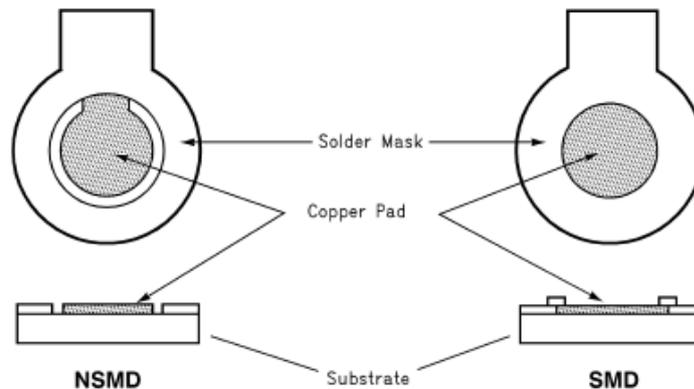
- (3) non-solder mask defined pads (NSMD)
- (4) soldermask opening diameter

Recommendation for CSP soldering

PCB pad size	250 +25 -0	µm
PCB pad shape	round	
Pad type	NSMD	
Solder mask opening	350 +/-25	µm
Solder stencil thickness	100	µm
Stencil aperture diameter	200	µm
Stencil shape	round	
Solder paste type	Type 4 or finer	No Clean
Trace finish	OSP Cu or NiAu	

Explanation of NSMD vs. SMD pads

NSMD configuration should be used for the J5015 -TR CSP package



Recommendation for CSP soldering profile and soldering paste

The solder reflow profile should be IPC/JEDEC J-STD-020 compliant. Maximum reflow temperature is 260°C. An optimized reflow profile depends on several factors such as the solder paste, board density, and type of reflow equipment used.

We recommend that any reflow profile is characterized with a fully populated production PCB and thermocouple placed on or closest to the CSP package during profile. Thermocouples are generally used to record temperatures across the PCB surface, as well as the temperatures at any sensitive components on the PCB. The thermocouple should be placed in contact with the top surface of any thermally sensitive component to ensure maximum temperature is not exceeded.

Additional reflow recommendations can be obtained from solder paste vendor data sheets.

Trace Width

Avoid non-uniform heat transfer during the assembly process by providing short length (~ 3mm) and thin width (~150µm) traces to each pad.

Do not connect any of the pads directly to a copper polygon or a wide PCB trace, to avoid undesirable heat transfer.

