

# CSMD

Full Lean Technology



**Sauro**<sup>®</sup>  
ELECTRONIC CONNECTORS  
*by the law*

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# Why choose it

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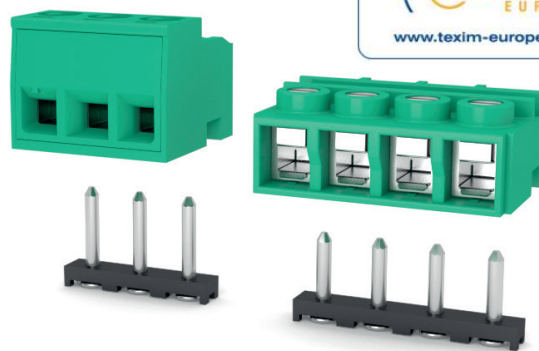
This new **SMD** (Surface Mounted Device) series, CSMD, product has been designed to offer our customers **small and smart solutions** when the most important requirement **is compactness and miniaturization**

Height = **9,5 mm or customized**

Pitch = **5 mm**

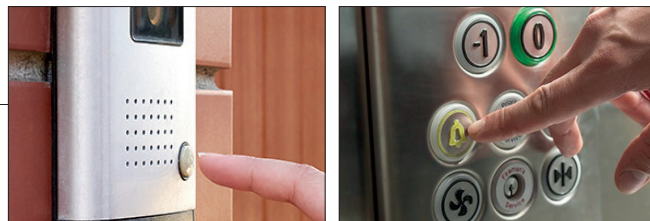
Voltage = **300 V**

Current = **12 A**



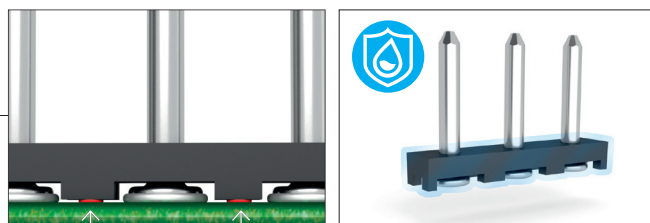
## Application fields:

BUILDING AUTOMATION devices like: heating, ventilation and air conditioning control devices, lighting control devices, video door entry panels, lift control panels, entrance panels, alarm devices where the aesthetics and design of the device are important and often it is required to reduce the overall dimensions of the device itself.



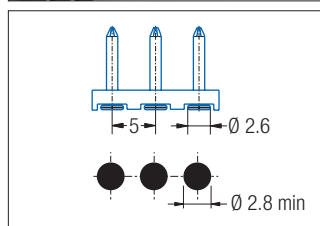
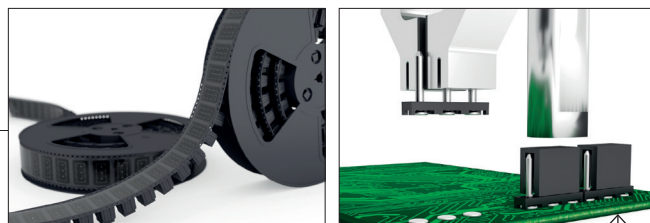
## Features:

- **UL** certified
- **glue points** can be added to increase the stability of the product on the PCB
- made by plastic material rated **MSL1 (Moisture Sensitivity Level 1)**: it is insensitive to moisture and no moisture bag or exsiccation before the reflow oven are needed



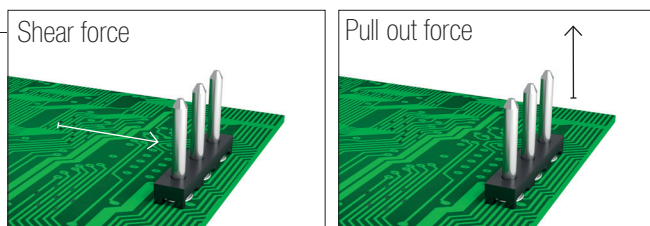
## Packaging and PCB assembly

- packed in **tape on reel** and meant to be **automatically assembled** onto the PCB via pick and place system and then soldered in the reflow oven.
- the **innovative pick and place pad** used for CSMD reduces the "sail effect", increasing the reliability of the product position and also maintaining it during the various assembly cycles. Additionally, this smaller profile pad allows for monitoring with **AOI (Automatic Optical Inspection)** of all the solder points including the ones obstructed by the pad's footprint.
- PCB footprint:  $\varnothing$  2.8 mm min soldering pad



## Mechanical performance

- CSMD shows industrial strength resistance both in terms of shear stress that can be applied by the female connector to the base of the pin (parallel to the PCB) and in pull out force guaranteeing the anchoring of the pins while subjected to stress from the disconnection from the female.
- average **shear force** per pole **70 N**
- **pull out force** on single pole **137 N**

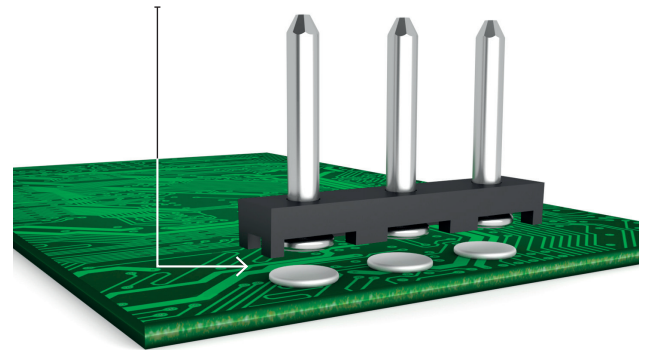


# How to use it

## Tin paste:

- good viscosity
- formed by compact microspheres so as to ensure a high seal of the paste itself and of the components that will be assembled
- must have a minimum content of 3% Silver (Ag), 0.51 ÷ 1% Copper (Cu) and contain the right quality and quantity of flux in order that the paste remains in the desired position without dripping
- EMCO 502 is an example of paste preferred by assemblers
- thickness of the stencil used is 200 µm

## Tin paste thickness 200 µm



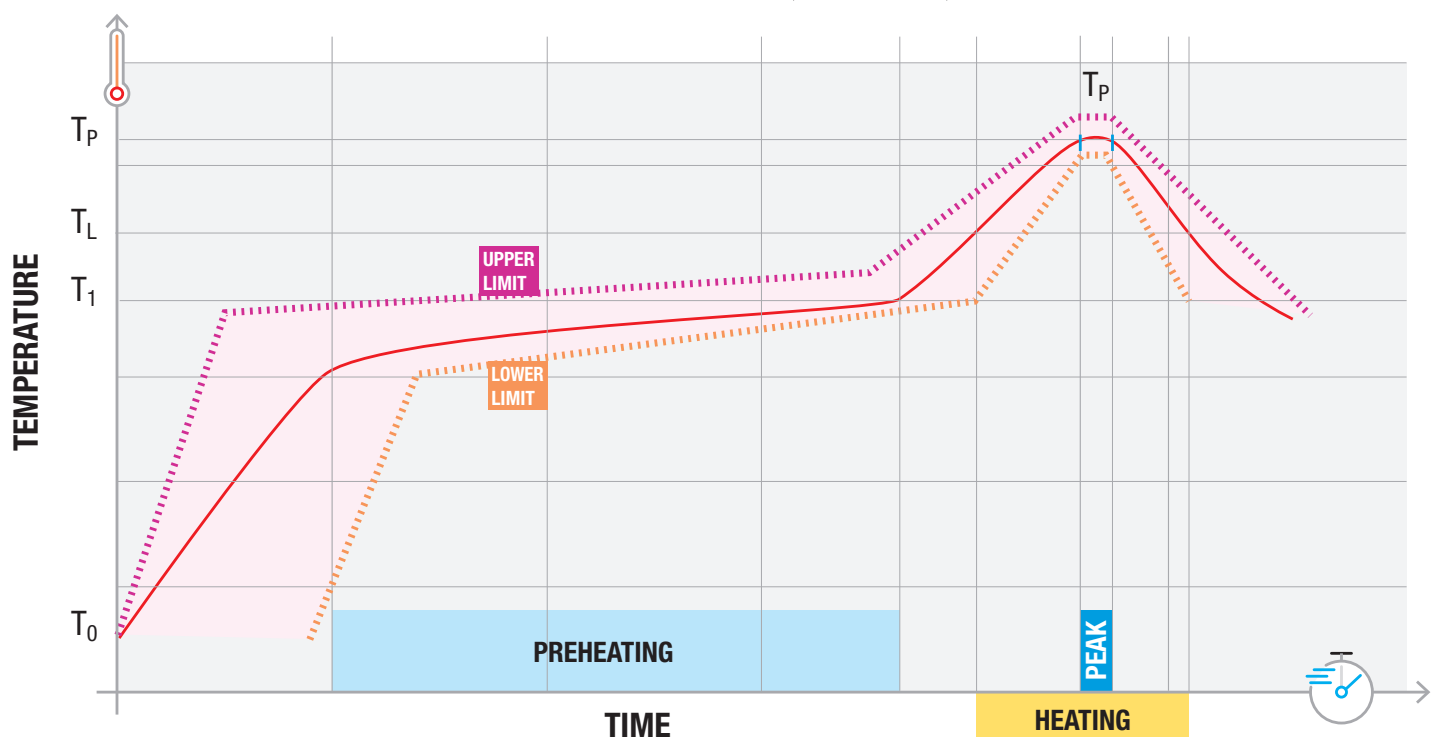
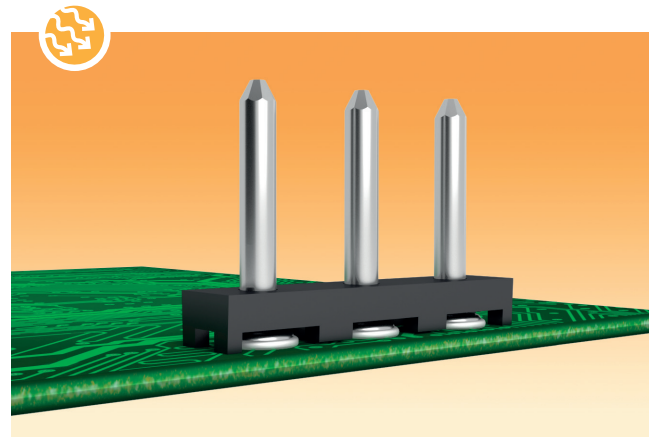
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## Reflow soldering parameters:

SMD products are manufactured with a resistant to high temperature insulating material and therefore they can be soldered by all lead-free reflow processes with a peak temperature till **260 °C / 500 °F**, according to the related profile.

REFLOW SOLDERING		Lead-free tin soldering
PREHEATING	$T_0$ Time Gradient	25 °C (77 °F) from 150 °C (302 °F) to 190 °C (374°F) from 150 s to 180 s 1,5 °C/s (34 °F/s)
PEAK	$T_P$ Time	up to 260 °C (500 °F) from 10 s to 30 s
HEATING	$T_L$ Time	above 217 °C (422 °F) from 60 s to 150 s



Ramp-up rate ( $T_L$  to  $T_P$ ) 3°C/second max.

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