

# Solder paste SB58-COSMO-NH-T4

## Product description

GENMA solder paste – our proven COSMO solder paste is now available with a low temperature alloy. The SB58-COSMO-NH-T4 is a low-temperature solder paste. Because of the low melting point it is used in areas where a second reflow solder process is necessary, for temperature-sensitive components or to save electricity with the lower reflow temperature needed. The NP303-COSMO-LH-T4 SMD solder paste convinces with its outstanding printability, highly precise contours, long open time, and consistent adhesiveness in the pick-and-place process. Its extremely good wetting properties, also on difficult surfaces, produce perfect soldering joints on BGAs. Its extraordinarily consistent viscosity allows storage of up to 12 months which facilitates material planning. Moreover, solder paste can be transported without cooling. Cleaning after soldering is not necessary. The solder paste can be soldered under air or nitrogen reflow.

## Technical properties

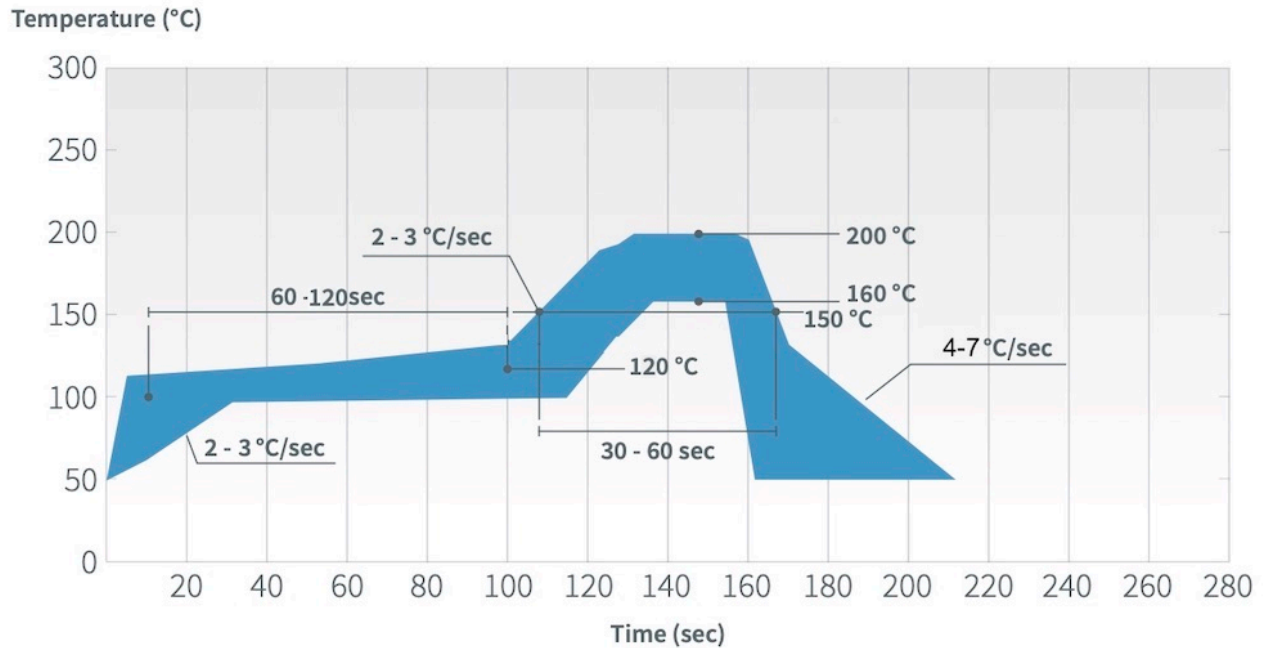
	Specific value	Testing method
<b>Alloy</b>	Sn 42 / Bi 58	
<b>Melting temperature range</b>	139 - 139	IEC61189-11
<b>Powder size (µm)</b>	22 - 38, type 4	IPC-TM-650-2.2.14.2
<b>Viscosity (Pa · s)</b>	180 ± 30	IPC-TM-650-2.4.34.3
<b>Flux content (wt %)</b>	11 ± 0.5	IPC-TM-650-2.3.34.1
<b>Flux type</b>	ROL0, no clean	IPC-J-STD-004B
<b>Printing pitch (mm)</b>	0,4	
<b>Halide content (%)</b>	< 0.01	IPC-TM-650-2.3.35
<b>Slump in print (mm)</b>	≤ 0,2	IPC-TM-650-2.4.35
<b>Slump in heat (mm)</b>	≤ 0,3	IPC-TM-650-2.4.35 (120°C / 60sec)
<b>Insulation resistance (Ω)</b>	≥ 1 x 10 <sup>11</sup> ( 40°C 90 % r. L )	IPC-TM-650-2.6.3.3
<b>Insulation resistance (Ω)</b>	≥ 5 x 10 <sup>8</sup> ( 85°C 85 % r. L )	IPC-TM-650-2.6.3.3
<b>Migration test</b>	No migration	IPC-TM-650-2.6.14.1
<b>Copper mirror test</b>	No corrosion	IPC-TM-650-2.3.32
<b>Packaging</b>	Jar (0,5 kg) Semco cartridge (0,65 kg, 1,2 kg)	
<b>Shelf life</b>	12 month at 0-10°C, 1 month at < 35°C	
<b>Transport</b>	keep cool	
<b>Tempering the solder paste</b>	Set to room temperature before opening to avoid condensation.	
<b>Recommended printing speed (mm/s)</b>	20 - 50	
<b>Recommended temperature during print ( °C )</b>	25 ± 3	
<b>Recommended relative humidity in % during print</b>	50 ± 20	

## Compliance

Conform with RoHS-Regulation 2011/65/EU

Contains no substances more than threshold (0,1%) according to REACH legislation EG Nr. 1907/2006 (SVHC-list - dated 27.01.2022)

## Recommended Reflow Profile



## Preheating

The temperature increase should be 2°C to 3°C/sec until the preheating zone is reached. If the temperature rises too quickly this may cause a running of the solder paste.

To achieve a temperature spread ( $\Delta t$ ) on the circuit board that is as limited as possible, the temperature in the preheating zone should be between 120 and 150°C and the preheating time should be 60 to 120 seconds. If the temperature is too low or the preheating time too short, the temperature spread ( $\Delta t$ ) on the circuit board will be too high. If the temperature is too high and the preheating time too long the activators will get lost which may lead to poor melting of the solder paste.

## Reflow peak

We recommend keeping the temperature at 160°C for 20 to 150 seconds.

## Cooling down

The cooling rate should be between 4 and 7°C/sec. If the cooling rate is too low components may be displaced or come up and reduce the strength of the solder connections. If the cooling rate is too high, however, components can be damaged through thermal shock.