GENERAL SPECIFICATION

Tape and Reel packaging Solder Preforms

LF305

Alloy: Sn96.5Ag3Cu0.5

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Gen.Spec.No: FGS879305LF

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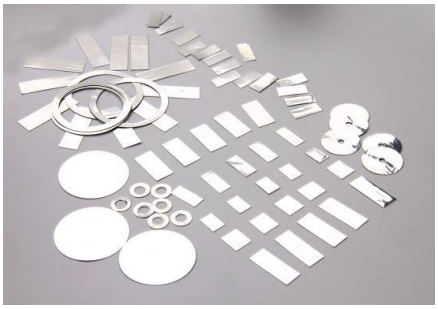


PRODUCT DESCRIPTION

Our solder preforms are used in a variety of applications that require precise amounts of solder. Dimensions can be held to tight tolerances to assure volume accuracy. Solder preforms are available in a range of alloys. Including lead, lead-free and many others. Tape and reel are available in different shapes and sizes to accommodate the automated process.

MANUFACTURER

In Shenzhen / China

CHEMICAL COMPOSITION OF ALLOY

96.5%Tin, 3%Silver and 0.5%Copper solder preforms in terms of composition of alloy is controlled strictly under international Lead Free Specification.

Elements		Specification(%wt/wt)
Tin	Sn	Remainder
Silver	Ag	2.80-3.20
Copper	Cu	0.40-0.60
Lead	Pb	Max0.050
Aluminium	Al	Max0.005
Antimony	Sb	Max0.100
Arsenic	As	Max0.030
Bismuth	Bi	Max0.050
Iron	Fe	Max0.010
Zinc	Zn	Max0.003
Cadmium	Cd	Max0.005
Nickel	Ni	Max0.010
Indium	In	Max0.050
Gold	Au	Max0.050

PRODUCT INFORMATION

Solder Preforms provide a precisely defined amount of solder volume on a pre-printed pad. They are offered in various sizes and are RoHS compliant. The alloy of the solder material is SAC305 - Sn96.5Ag3Cu0.5. The corresponding tolerances to the component thickness can be taken from the following table:

Thickness Tolerance

0.025mm to 0.050mm	±0.0076mm
0.050mm to 0.254mm	±0.0127mm
0.254mm to 0.508mm	±0.0254mm
0.508mm to 1.27mm	±0.0635mm
More than 1.27mm	±5%

TECHNICAL DATA

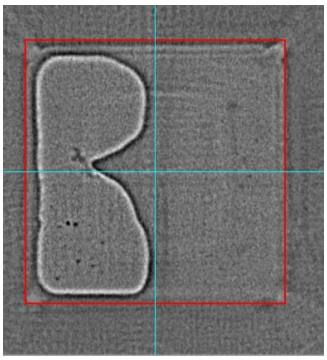
Norm	Alloy		Solidus **/** Liquidus **°C**
J-STD-006B	Lead free	SnAg3Cu0.5	217 – 221

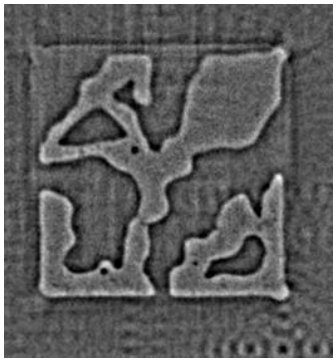
PACKAGING

1. Bulk packaging
2. Stacked packaging
3. Chip box packaging
4. Tape and reel packaging (Reel Size 7” & 13”)

AN EXAMPLE OF USE

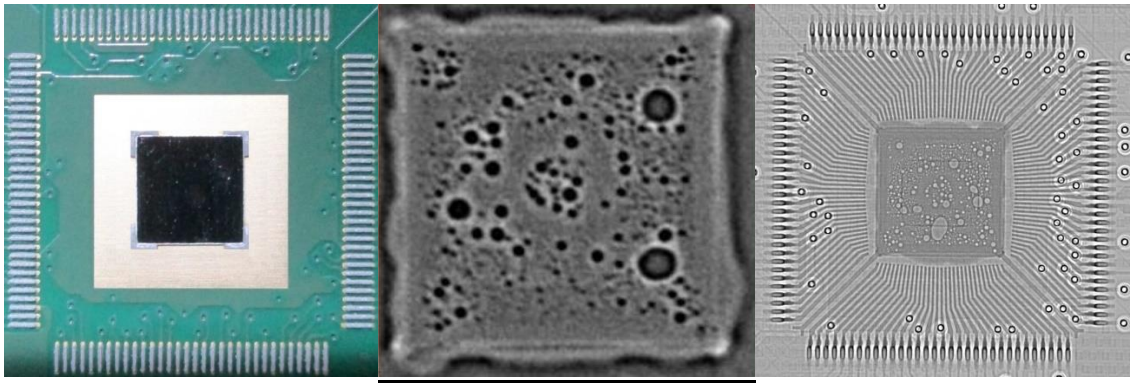
Exposed pads are often used to achieve heat dissipation in so-called BTCs (bottom terminated components). However, voids can occur during the reflow process, sometimes even with a proportion of 50% or more. An exposed pad with critical voids can look like this:





Trying to solve the voiding problem by adding more solder paste can lead to lifting of the component and problems soldering the side pins. Also, more solder paste inevitably leads to more flux/air bubbles on the exposed pad because it gets trapped and can't flow off.

To solve the problem, you can use preforms, for example. In simple words, you put more pure solder into the solder joint. The improved results by using preforms would be as follows:



Voiding has been reduced significantly. By using preforms the assembly process can get safer and more reproducible.

ADVANTAGES

- Improved thermo-mechanical stress on the solder joint

- Solder preforms are very uniform in shape, each has the exact same volume of solder

- Reduction of the repair effort

- Different sizes and shapes are available

STORAGE AND LIFE

Preformed solder should be stored under the environment with relative humidity lower than 55%, and temperature lower than 22°C. Normally one year storage time.