

KOKI original low Ag solder paste

S01X7C series Sn 0.1Ag 0.7Cu+Co

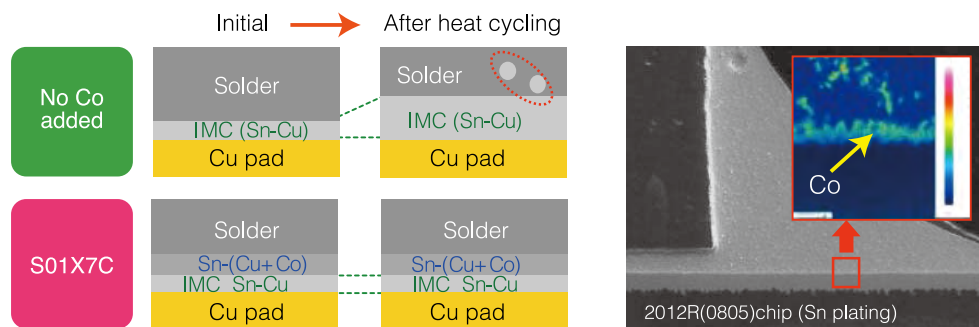
JPN PAT. #4554713

Low cost with high quality, KOKI original low Ag alloy with Co

Inhibits the growth of IMC layer (formation of Co containing barrier layer)

Co inhibits the growth of the IMC layer of Cu₆Sn₅ by forming another Co containing barrier layer on Cu₆Sn₅. So the solder structure remains fine and the joint reliability is improved under thermal cycling conditions.

Figure 1. Joint interface with Cu pad



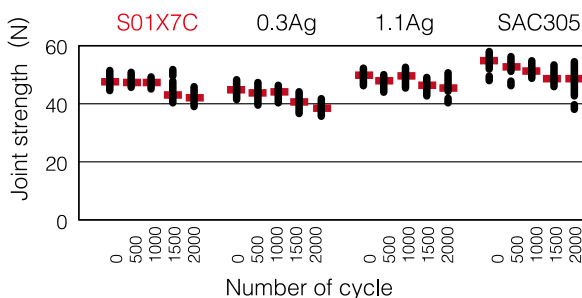
1. Coarsened IMC (Cu₆Sn₅) is formed due to diffusion of Cu from the pad.
2. Co containing barrier layer blocks the diffusion of Cu and inhibits the growth of IMC layer.

Improves thermal cycle resistance

Thanks to the “Co containing barrier layer” and “fine solder structure”, the thermal cycle resistance of S01X7C alloy has been reinforced considerably despite only 0.1% Ag content.

Figure 2. Shear strength

Condition: -30 ⇄ 80°C every 30 min. Component: 2012R



Application

S01X7C alloy has already been in actual use in a variety of products, such as mobile phones and other digital devices.



Product specifications

Product name	S01X7C58-M500C	S01X7C58-M500-3	S01X7C58-A230
Product category	Standard	Halogen free	Cleanable
Alloy composition (%)	Sn 0.1Ag 0.7Cu + Co		
Melting point (°C)	217-227		
Particle size (µm)	20-38		
Viscosity (Pa.s)	200	200	220
Flux content (%)	11.5	12.0	11.8
Halide content (%)	0	0	0.06
Flux type	ROLO	ROLO	ROL1

- 0.1Ag+α Solder alloy **Low Ag**
- Anti-pillow defect
- Low voiding
- Fine pitch printing >0.4mm pitch >0.3mm dia. CSP
- Applicable for high pre-heating reflow
- Tack time >48hours