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Abstract



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Pb-FREE SOLDER ALLOY, AND SOLDER MATERIAL AND SOLDER JOINT USING SAME

A solder alloy based on an Sn-Zn-In-Ag system contains,
in weight, $3.0 \% < \text{Zn} < 5.0 \%$, $0.1 \% \leq \text{In} \leq 4.0 \%$, $0.1\% \leq \text{Ag}$
5 $\leq 0.4 \%$, and the balance Sn. Therefore, the current Sn-Pb
soldering method can be employed as it is. Further, a Pb-
free solder material having a solder characteristic with
excellent bonding strengths of the parts can be provided.
Still further, since a difference between a solidus
10 temperature and a liquidus temperature is small, floating of
the parts leads can be suppressed, even in case where
packaging processes are performed many times over. Still
further, when the joint is exposed to the high temperature
and high humidity atmosphere, the bonding strength can be
15 prevented from being lowered.

[suitable drawing]

Fig . 3A