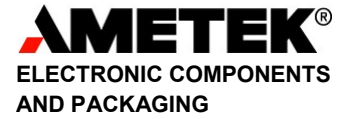




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Data Sheet: 60 Tin-36 Lead-4 Silver

Physical Properties of Bulk Solder

Solder Alloy Composition	60Sn-36Pb-4Ag (weight per cent)
Solidus	179°C
Liquidus	354°C
Density	8.48 Mg/m ³
Coefficient of Thermal Expansion	27.0 x 10 ⁻⁶ K ⁻¹
Young's Modulus	27 GNm ⁻² (est.)
Hardness	18 HV
Thermal Conductivity	54 W m ⁻¹ K ⁻¹ (est.)
Electrical Conductivity	12.5% IACS(est.)
Electrical Resistivity	14. μΩ cm(est.)

Mechanical Properties: Tensile Strength (Stress, Nmm⁻²)

(Data are for Sn62Pb36Ag2)		20°C	100°C
Test speed	50 mm min ⁻¹ /Stress, Nmm ⁻²	66.6	58.8
	20	80.4	51.7
	5.0	65.4	44.3
	1.0	65.4	31.1
	0.2	42.6	27.8
	0.05	42.5	18.3

Typical impurity levels for electronic grade are less than:

Au: 0.05 Cu: 0.08 Ni: 0.01 Al: 0.005
 Bi: 0.10 Fe: 0.02 Zn: 0.003 As: 0.03
 Cd: 0.002 In: 0.10

Application: Soldering temperature for reflow should be at or above 235°C for a minimal time of 20 seconds. This assumes either very clean, soldering surfaces and an inert- (<20ppm O₂) or reducing atmosphere or the presence of a deoxidizing agent/flux during the soldering cycle. If and when the components are slightly oxidized, a combination with higher temperatures and/or longer soldering temperatures is required. For more oxidized surfaces, an appropriate flux must be used.

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