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(54) **Title:** HIGH IMPACT TOUGHNESS SOLDER ALLOY

(57) **Abstract:** High Impact Toughness Alloy The invention provides an alloy, preferably a lead-free solder alloy, comprising: from 35 to 59 %wt Bi; from 0 to 0.0 %wt Ag; from 0 to 1.0 %wt Au; from 0 to 1.0 %wt Cr; from 0 to 2.0 %wt In; from 0 to 1.0 %wt P; from 0 to 1.0 %wt Sb; from 0 to 1.0 %wt Sc; from 0 to 1.0 %wt Y; from 0 to 1.0 %wt Zn; from 0 to 1.0 %wt rare earth elements; one or more of: 10 from greater than 0 to 1.0 %wt Al; from 0.01 to 1.0 %wt Ce; from greater than 0 to 1.0 %wt Co; from greater than 0 to 0.0 %wt Cu; from 0.001 to 1.0 %wt Ge; from greater than 0 to 0.0 %wt Mg; from greater than 0 to 1.0 %wt Mn; from 0.01 to 1.0 %wt Ni; and from greater than 0 to 1.0 %wt Ti, and the 1 balance Sn, together with any unavoidable impurities.



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