Tin Disk Single Crystal

Tin disk single crystal providing defect?free structure and uniform conductivity for semiconductor research, solder alloy studies, and precision thin?film growth. **SKU:** 1000018466-group
Product Code: SN00-SC-000208

Material Properties for Metals

Atomic Properties

Element	Value
Atomic number	50
Crystal structure	Tetragonal
Electronic structure	Kr $4d^{1}$? $5s^{2}$ $5p^{2}$
Valences shown	2,4
Atomic weight(amu)	118.69
Thermal neutron absorption cross-section(Barns)	0.63
Photo-electric work function(eV)	4.3
Natural isotope distribution(Mass No./%)	122/ 4.6
Natural isotope distribution(Mass No./%)	124/ 5.6
Natural isotope distribution(Mass No./%)	114/ 0.7
Natural isotope distribution(Mass No./%)	120/ 32.4
Natural isotope distribution(Mass No./%)	118/ 24.3
Natural isotope distribution(Mass No./%)	112/ 1.0
Natural isotope distribution(Mass No./%)	116/ 14.7
Natural isotope distribution(Mass No./%)	115/ 0.4
Natural isotope distribution(Mass No./%)	117/ 7.7
Natural isotope distribution(Mass No./%)	119/ 8.6
Atomic radius - Goldschmidt(nm)	0.158
Ionisation potential(No./eV)	2/ 14.63
Ionisation potential(No./eV)	5/ 72.3
Ionisation potential(No./eV)	3/ 30.5
Ionisation potential(No./eV)	4/ 40.7
Ionisation potential(No./eV)	1/ 7.34

Mechanical Properties

Element	Value
Hardness - Mohs	1.5-1.8
Material condition	Polycrystalline
Poisson's ratio	0.357
Bulk modulus(GPa)	58.2
Tensile modulus(GPa)	49.9

Electrical Properties

Element	Value
Electrical resistivity(µOhmcm)	12.6@20°C
Superconductivity critical temperature(K)	3.722
Temperature coefficient(K?¹)	0.0046@0-100°C
Thermal emf against Pt (cold 0C - hot 100C)(mV)	0.42

Physical Properties

Element	Value
Boiling point(C)	2270
Density(gcm?³)	7.28@20°C

Thermal Properties

Element	Value
Melting point(C)	231.9
Latent heat of evaporation(J g?¹)	2497
Latent heat of fusion(J g?¹)	59.6
Specific heat(J K?¹ kg?¹)	213@25°C
Thermal conductivity(W m?¹ K?¹)	66.8@0-100°C
Coefficient of thermal expansion(x10?? K?¹)	23.5@0-100°C