

## Lead-Free Sn-Cu-Ag-Ni-Ge Solder Wire



### DESCRIPTION

Lead-free 5-element solder containing tin, copper, silver, nickel and germanium. The trace addition of nickel and germanium increases the fluidity of the solder and improves its wettability by reducing oxidation on the surface. It produces bright, smooth fillets without shrink cracks or hot tears.

### DISTINCTIVE FEATURES

- Excellent solder joint reliability
- Superior joint strength
- Excellent thermal and mechanical fatigue resistance
- Suitable for no-clean process
- Increased reliability in harsh environments
- Superior performance in marine applications
- Wets faster than silver-containing alternatives
- Produces bright, crack-free fillets
- Produces minimal dross
- Available on 500g reels of 22SWG (0.7mm) or 18SWG (1.2mm) diameters

### APPLICATIONS

Particularly suited to demanding applications such as marine and harsh environments, high vibration and where high reliability is required.

Sn/  
Ag3

3%  
flux

IPC-  
TM-650





## GENERAL SPECIFICATION

Melting Point	217°C to 219°C approx.
Gravity	7.4
Spreadability	> 75%



## MATERIALS

Alloy	Sn / Ag3.0 / Cu0.5 / Ni0.06 / Ge0.01
Appearance	Bright and shiny surface finishes
Flux Content	3.0 ± 1.0%
Halide Content	< 0.5%
Alloy Composition	See below

Sn	Ag	Cu	Ni	Ge	Pb	Sb	Bi	Cd	Au	In	Al	As	Fe	Zn
REM.	2.8~ 3.2	0.3~ 0.7	0.04~ 0.08	0.005~ 0.02	0.05 Max	0.05 Max	0.10 Max	0.002 Max	0.05 Max	0.10 Max	0.001 Max	0.03 Max	0.02 Max	0.001 Max



## CERTIFICATION AND STANDARDS

Reliability Tests:		
Test item	Test result	Test method
Copper Mirror Test	Pass	IPC-TM-650, 2.3.32
Copper plate Corrosion	Pass	IPC-TM-650, 2.6.15
S.I.R Test	Pass $1 \times 10^{10} \Omega$ up	IPC-TM-650, 2.6.3.3
Electrochemical migration Test	Pass $1 \times 10^{10} \Omega$ up	IPC-TM-650, 2.6.14.1



## ENVIRONMENTAL/OPERATING SPECIFICATION

Storage	Must be stored in a dry and non-corrosive environment. Avoid contact with acids and hydrogen peroxide.
Shelf life	2 years from date of manufacture



## DIMENSIONS/DRAWINGS

Diameter tolerance	0.3 to 0.7 $\pm 0.05$ mm, 0.8 to 3.0 $\pm 0.1$ mm
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Part Number Units	Wire diameter mm	Pack size
85-6874	0.7	0.5kg
85-6875	1.2	0.5kg



## PART NUMBER TABLE

Part Number	EAN	UNSPSC	Country of Origin
85-6874	5053556002078	23271806	Taiwan
85-6875	5053556002085	23271806	Taiwan

# R-TECH

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