固 體 電 子 有 限 公 司
Solitronics Engineering Ltd.
2202, Perfect Ind. Bldg., 31 Tai Yau St., Kowloon, Hong Kong S.A.R., China
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E-mail: info@solitronics.com

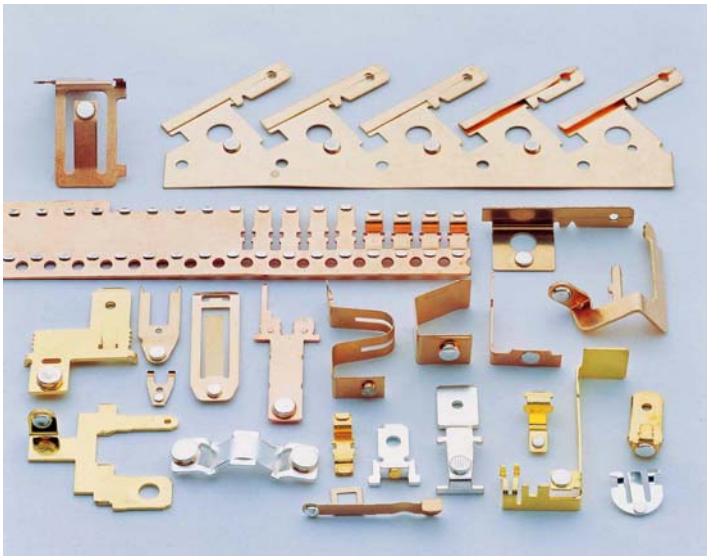
5th May 2008

1. Electrical Contacts (貴金屬電氣接點)

Type of Contacts (觸點種類) : Clad (夾層), Solid (實心), Electroplating (電鍍), Button (鈕扣型), Sintered (燒結) & Multi-layer Contact Tape(多層觸點帶)

Main Material (主要材料): Ag(純銀); AgNi(银镍); AgSnO2InO3(銀氧化锡氧化铟); AgCdo(银氧化镉); AgZnO (銀氧化鋅).

2. Automatic Riveting Parts (自動鉚接組件)



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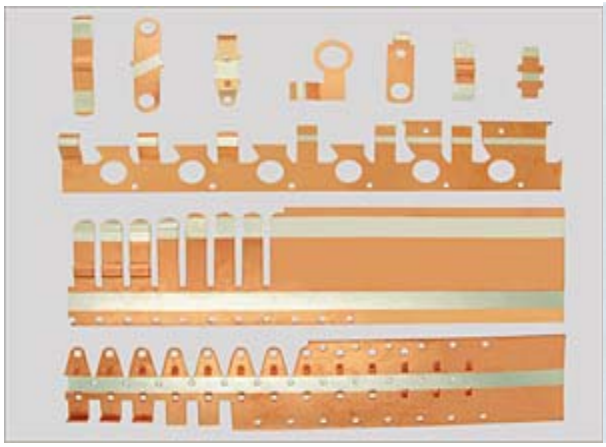
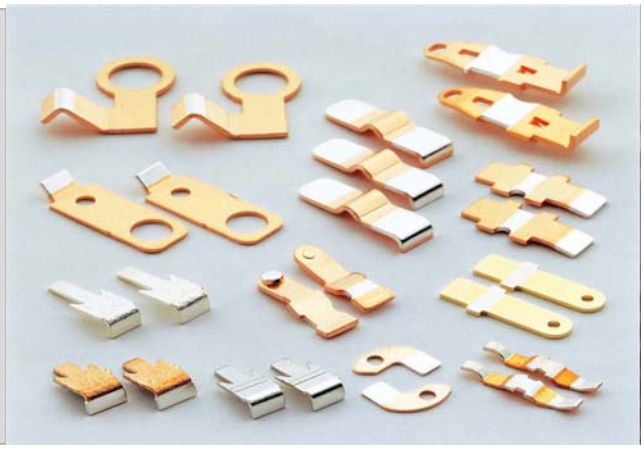
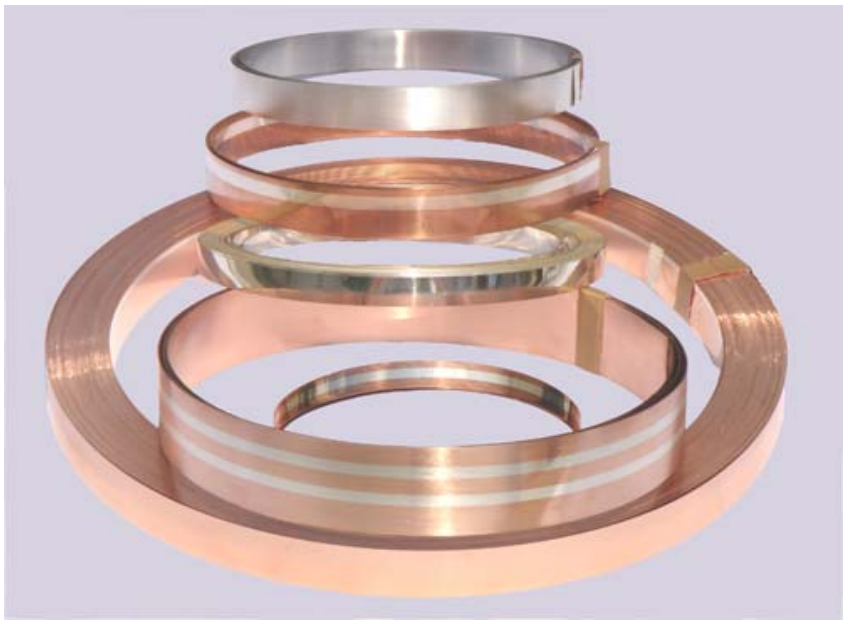
3. Inlay-Silver; Overlay-Silver Stamped Contact Parts
銀銅覆合帶及沖壓件





4. Inlay and Overlay-Silver-Clad-Metal-Strips



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Electrical Contact Rivets

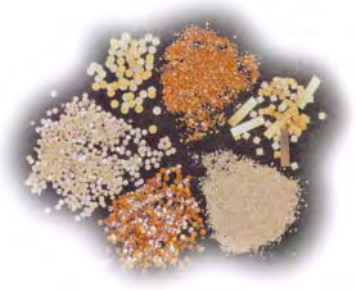
Date: 19TH Aug 2005

Group: Rivet Type Contact

Part Number: SEL-ECR-XXXXXXXXXX

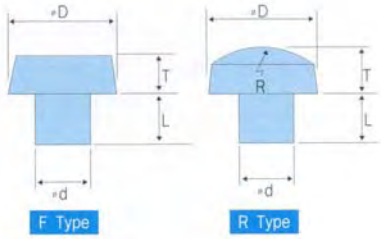
Data Sheet: SEL-ECR-01

Standard Contact Rivet Sizes



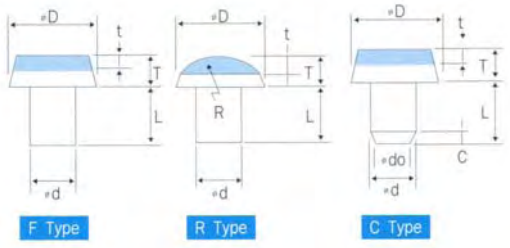
Solid Type Contact Rivets Flat-type and Radial Type

D±0.1 (mm)	T±O.05 (mm)	d±0.05 (mm)	L±0.1 (mm)	F	R
2.0	0.5	1.2	1.5	F	3
2.0	0.6	1.2	1.5	F	3
2.5	0.8	1.5	1.5	F	3
3.0	0.8	1.5	1.5	F	8
30	10	15	15	F	8
3.5	0.8	2.0	2.0	F	10
3.5	1.0	2.0	2.0	F	10
4.0	1.0	2.0	2.0	F	10
4.0	1.2	2.0	2.0	F	10
4.5	1.0	2.5	2.0	F	15
4.5	1.2	2.5	2.5	F	15
5.0	1.2	2.5	2.5	F	20
6.0	1.5	3.0	2.0	F	20



Composite or Clad Type Contact Rivets (Flat-type, Radial-type and Flat-type with conical shaft end)

D±0.1 (mm)	T±0.05 (mm)	d+0/-0.1 (mm)	L±0.1 (mm)	t (mm)	do	C	F	R
2.4	0.7	1.2	1.0	0.35			F	3
3.0	1.0	1.5	2.0	0.45			F	8
3.5	1.0	2.0	2.0	0.4, 0.55			F	10
4.0	1.0	2.0	2.0	0.5			F	15
5.0	1.0	2.5	2.0	0.55			F	20
4.0	1.0	2.0	1.8	0.45	1.6	0.4	F	10
4.5	1.0	2.5	1.8	0.4	2.1	0.6	F	15
5.0	1.0	2.5		0.5	2.1	0.8	F	20



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Contact Rivet Material Type and Properties

Ag-Ni Series

Ng-Ni alloy is made by powder metallurgy technique. It is similar to Ag-Cdo alloy but has less anti-fusion properties. It has a higher stability due to lower contact resistance and better “anti-erosion by arc” characteristics than Ag-W series.
It is also more suitable for heavy load application than Ag-Cu-Ni alloy. AgNi10% alloy is most commonly used type of material.

Applications of different types of Ag-Ni Contact Rivets

Type	Ag	Ni	Density	Hardness	I.A.C.S% Electrical Conductivity	Wear Resistance	Anti-Fusion	Contact Resistance	Applications
SN-10	90	10	10.0	66	80 and above	Very Good	Excellent	Excellent	Small Breaker, Relay, Switches, Power, Switches
SN-15	85	15	9.9	67	75 and above	Very Good	Excellent	Excellent	Voltage Controller
SN-30	70	30	9.6	70	55 and above	Good	Very Good	Excellent	Voltage Contact, Relay

Ag-Cu Series

Ag-Cu series has higher hardness, although conductivity is less and contact resistance by oxidation is lower.
Ag-Cu series contacts have higher contact pressure than pure Ag and are used for electrical parts which can withstand temperature increase. 3-40% Cu content is commonly used. 92.5% Ag-Cu alloy is also used for sliding contacts.

Applications of different types of Ag-Cu Contact Rivets

Type	Composition	Density	Hardness	I.A.C.S% Electrical Conductivity	Wear Resistance	Anti-Fusion	Contact Resistance	Applications
SC-7	92.5-7.5	10.3	56	90	Very Good	Excellent	Excellent	Home Appliances, selector switch, timer switch, communication devices, dial hook switch, acoustic Apparatus, rotary Switch automotive Flasher etc.
SC-10	90-10	10.3	62	86	Very Good	Excellent	Excellent	
SC-20	80-20	10.2	85	82	Good	Very Good	Excellent	

Ag-Cdo Series

Ad-Cdo has good wear resistance and anti-fusion properties. Due to lower contact resistance, the temperature rise on continuously on contacts is relatively small. Ag-Cdo alloy also have good stability.

Kinds	Ag	Cdo	Others	Hardness	Density	I.A.C.S% Electrical Conductivity	Applications
SY-80	92	8		65	10.3	80	Home appliances (Electric pot, iron), head light control relay, magnet switch, push-button switch, buzzer, light switch, relay, light Electric grill, light load relay etc.
SY-100	90	10		70	10.3	75	
SY-120	88	12		70	10.2	75	
SY-140S	85.5	14	0.5	90	10.1	60	
SY-151	83.5	14	2.5	95	10.1	55	Relay, light load relay, security breaker, electronic switches, medium load connector, light switch, no fuse breaker, motor breaker, circuit breaker, TV power switch etc.
SY-161	81.5	17	1.5	100	10.1	50	
SY-181	83	15	2	100	10.1	60	

For plate contacts, chemical composition of Ag clad is not included.