



JUST MAKE TERMINAL & MACHINE CO.,LTD

捷仕美精工股份有限公司

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SPECIFICATION FOR APPROVAL

規格承認書

CUSTOMER 客戶	
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P/N 料號	J11188BS-2/2A J11188PS-2/2A
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DESCRIPTION 品名	2.2基板端
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ISSUED REV. 發行版本	00
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DATE 日期	2007-08-10
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CUSTOMER'S APPROVED:	APPROVED:	CHECKED:	PREPARED: 伍立群
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Please return to us one of "SPECIFICATION FOR APPROVAL" with your approved signatures. (敬請承認後回簽!)

承認書

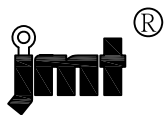
SPECIFICATION FOR APPROVAL SHEET

ITEM

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J11188BS-2/2A
Product Performance
Certificate of Material
UL-E127691
Packing Standard



11188 SERIES

Scope:

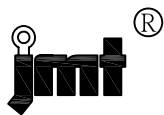
This specification covers the 2.20mm Terminal Board-in Connector series.

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REV	ECN NO.	REV	ECN NO.	DRAWING	CHECK	APPROVAL
1	NEW SPEC.			唐 寧		



1. PRODUCT NAME AND PART NUMBER.

Product Name	Part Number
Terminal	J11188BS-2 / J11188PS-2
	J11188BS-2A / J11188PS-2A

N : Refer to the drawing.

1. Ratings And Applicable Wires

Item	Part Number
Rated Voltage(MAX)	250V AC,DC
Rated Current(MAX)	5A
Applicable wire Insulation O.D	AWG #18x2&16x1 ø3.05mm
Ambient Temperature Range	-25°C ~ +85°C

Including terminal temperature rise.

3. PERFORMANCE

3-1. Electrical Performance:

Item	Test Condition	Requirement
3-1-1 Contact Resistance	Mate connectors, measure by dry circuit, 20mv MAX, 10mA (Based upon JIS C5402 5.4)	10m ΩMAX

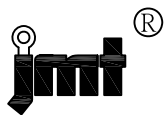
3-2. Mechanical performance:

Item	Test Condition	Requirement	
3-2-1 Crimping Pull Out Force	Fix the crimped terminal, apply axial pull out force on the wire at the speed rate of 25±3mm/minute. (Based upon JIS C5402 6.8)	AWG #18x2	9.1kgf MIN
		AWG #16x1	13.7kgf MIN
3-2-2 Terminal Insertion Force	Press the crimped terminal into the P.C.Board.	1.2 Kgf MAX	
3-2-3 Terminal Retention Force	Apply axial push force at the speedrate of 25±3mm/minute on the terminal assembled in the P.C.Board.	0.8 Kgf MIN	

Notes:

* Using 1.60mm thickness P.C.Board.

* P.C.Board hole is 2.20mm diameter.



3-3. Environmental performance and others:

Item		Test Condition	Requirement	
3-3-1	Temperature Rise	Carrying rated current load (Based upon UL 1997)		30°C MAX
3-3-2	Heat Resistance	105°±2° 96 hours (Based upon JIS C0021/MIL-STD-202 Method 108A Cond. A)	Appearance	No Damage
			Contact Resistance	20m Ω MAX
3-3-3	Cold Resistance	-25°±°C, 96 hours (Based upon JIS C0020)	Appearance	No Damage
			Contact Resistance	20m Ω MAX
3-3-4	Temperature Cycling	5 Cycles: a) -25°C 30 minutes. b) +85°C 30 minutes. (Based upon JIS C0025)	Appearance	No Damage
			Contact Resistance	20m Ω MAX
3-3-5	Salt Spray	48±4 hours exposure to a salt spray from the 5±1% solution at 35±2°C (Based upon JIS C502B/MIL-STD-202 Method101D Cond.B)	Appearance	No Damage
			Contact Resistance	20m Ω MAX
3-3-6	Solder-ability	Soldering Time : 3±0.5sec Solder Temperature: 230±5°C	95% of immersed	
			area must show no	
			voids pin holes	

4. PRODUCT SHAPE, DIMENSIONS AND MATERIALS Refer to the drawing.



合 金 種 類		Corson 合金		含錫 / 磷青銅合金					洋白 & 白銅合金			
		C7025	C7026	C1441	C5050	C5102	C5191	C5210	CN25	C7451	C7521	C7701
化 性 成 份 (%)		銅:餘量. 鎳:2.2~4.2 矽:0.25~1.20 鎂:0.05~0.30	銅:餘量. 鎳:1.0~3.0 矽:0.20~0.70 鎂:0.05~0.30	銅:餘量. 錫:0.10~0.20 磷 0.003~0.024	銅:餘量.. 錫:1.0~1.7 磷 0.004~0.01	銅:餘量. 錫:4.5~5.5 磷:0.09~0.11 鋅≤0.2 鉛≤0.01	銅:餘量. 錫:5.5~7.0 磷:0.11~0.13 鋅≤0.2 鉛≤0.01	銅:餘量. 錫:7.0~9.0 磷:0.15~0.17 鋅≤0.2 鉛≤0.05	銅:餘量. 鎳:24~26 錳≤0.5 鋅≤0.05 碳≤0.1	銅:63.5~66.5 鎳:9.0~11.0 錳≤0.5 鋅:餘量. 鉛≤0.05	銅:62.0~66.0 鎳:16.5~19.5 錳≤0.5 鋅:餘量. 鉛≤0.1	銅:54.0~58.0 鎳:16.5~19.5 錳≤0.5 鋅:餘量. 鉛≤0.1
比 重 (gm/cm ³)		8.82	8.9	8.90	8.89	8.86	8.83	8.80	8.9	8.7	8.73	8.70
熱膨脹係數 (10 ⁻⁶ /°C)		17.3	18.0	17.7	17.8	17.8	18	18.2	17.5	16.4	16.2	16.7
熱傳導係數 (Cal/ cm ² /cm/sec/°C)		0.4	0.37	0.81	0.49	0.17	0.16	0.15	0.09	0.089	0.08	0.09
導電率 (%IACS, 20°C)		≥40	≥40	≥85	≥45	≥20	≥13	≥12	--	≥9	≥6	≥5.5
抗張強度 (N/mm ²)	燒鈍軟化	620~ 755	590 ~ 655	195~245	≥245	≥300	310~395	--	290~345	320~395	≥375	--
	1/4H	--	--	215~275	--	370~470	395~490	--	320~395	395~425	--	--
	1/2H	655 ~ 825	675~ 745	245~315	360~425	470~570	490~590	470~610	395~445	425~470	440~570	540~655
	3/4H	685~860	725~795	--	--	--	--	--	--	--	--	--
	H	795~900	755~835	275~345	390~470	570~670	525~670	585~710	445~530	450~530	≥540	630~735
	EH	--	--	≥315	440~510	≥615	≥670	635~735	530~610	--	--	705~805
	SH	--	--	--	≥490	--	--	≥725	610~660	--	--	760~860
伸長率 (%)	ESH	--	--	--	--	--	--	--	--	--	--	--
	燒鈍軟化	≥10	≥25	≥35	≥25	≥40	≥42	--	≥32	≥20	≥20	--
	1/4H	--	--	≥25	--	≥28	≥35	--	≥20	≥10	--	--
	1/2H	≥7	≥7	≥15	≥15	≥15	≥20	≥27	≥10	≥5	≥5	≥8
	3/4H	≥5	≥5	--	--	--	--	--	--	--	--	--
	H	≥1	≥1	≥4	≥5	≥7	≥10	≥20	≥4	--	≥3	≥4
	EH	--	--	≥2	≥2	≥4	≥5	≥11	≥2	--	--	--
硬 度 (Hv)	SH	--	--	--	--	--	--	≥9	--	--	--	--
	ESH	--	--	--	--	--	--	--	--	--	--	--
	燒鈍軟化	180~210	170~200	≤55	≤110	--	90~110	--	80~100	≤100	--	--
	1/4H	--	--	55~75	--	90~130	110~140	--	100~120	100~120	--	--
	1/2H	200~230	190~220	75~90	105~135	130~170	140~170	170~190	120~140	120~140	120~180	140~200
	3/4H	220~250	210~240	--	--	--	--	--	--	--	--	--
	H	240~270	230~260	90~105	125~155	170~190	170~200	190~210	140~160	140~160	≥150	175~220
軟化溫度.(°C)	EH	--	--	≥100	135~165	≥190	≥200	210~230	160~180	--	--	195~240
	SH	--	--	--	≥155	--	--	230~250	180~200	--	--	210~250
彈性係數 (KN/mm ²)	ESH	--	--	--	--	--	--	--	--	--	--	--
		132	130	118	118	107	109	109	147	121	125	127



合 金 種 類		丹銅&黃銅合金								含錫黃銅			
		C2100	C2200	C2300	C2400	C260S	C2600	C2680	C2720	C2801	C2801S	C4250	C425M
化 性 成 份 (%)		銅:94.0~96.0 鋅:餘量	銅:89.0~91.0 鋅:餘量	銅:84.0~86.0 鋅:餘量	銅:78.5~81.5 鋅:餘量	銅:70.5~73.5 鋅:餘量	銅:68.5~71.5 鋅:餘量	銅:64.0~68.0 鋅:餘量	銅:62.0~64.0 鋅:餘量	銅:59.0~62.0 鋅:餘量	銅:59.0~62.0 錫:0.3~0.6 鋅:餘量	銅:87~90. 錫:1.5~3.0 鋅:餘量. 磷 ≤0.35	銅:86~88 錫:2.5~4.0 鋅:餘量. 磷 ≤0.35
比 重 (gm/cm ³)		8.86	8.80	8.75	8.67	8.53	8.53	8.50	8.45	8.39	8.39	8.78	8.78
熱膨脹係數 (10 ⁻⁶ /°C)		18.1	18.4	18.7	19.1	19.9	19.9	20.3	20.6	20.8	20.8	18.5	18.5
熱傳導係數 (Cal/ cm ² /cm/sec/°C)		0.56	0.45	0.38	0.33	0.29	0.29	0.29	0.30	0.29	0.29	0.29	0.25
導電率 (%IACS, 20°C)		≥56	≥44	≥37	≥32	≥25	≥25	≥24	≥26	≥23	≥23	≥26	≥24
抗張強度 (N/mm ²)	燒鈍軟化	≥205	≥225	≥245	≥255	≥295	≥295	≥295	≥295	≥320	≥320	295~380	295~380
	1/4H	250~305	275~335	295~365	295~375	330~415	330~415	330~415	330~415	350~440	350~440	340~405	340~405
	1/2H	270~345	295~365	310~385	320~405	370~440	370~440	370~440	370~440	410~490	410~490	390~475	390~475
	3/4H	--	--	--	--	410~470	410~470	410~470	410~470	--	--	430~510	430~510
	H	≥280	≥320	≥340	≥375	430~510	430~510	430~510	430~510	≥450	≥450	480~565	480~565
	EH	--	--	--	--	510~610	510~610	510~610	510~610	--	--	525~605	525~605
	SH	--	--	--	--	565~630	565~630	565~630	565~630	--	--	580~650	580~650
伸長率 (%)	ESH	--	--	--	--	610~725	610~725	610~725	610~725	--	--	≥635	≥635
	燒鈍軟化	≥33	≥35	≥40	≥44	≥45	≥45	≥45	≥45	≥35	≥35	≥35	≥40
	1/4H	≥23	≥25	≥28	≥30	≥40	≥40	≥40	≥40	≥25	≥25	≥25	≥30
	1/2H	≥18	≥20	≥23	≥25	≥30	≥30	≥30	≥30	≥15	≥15	≥15	≥20
	3/4H	--	--	--	--	≥20	≥20	≥20	≥20	--	--	≥10	>15
	H	--	--	--	--	≥14	≥14	≥14	≥14	--	--	≥5	>10
	EH	--	--	--	--	≥8	≥8	≥8	≥8	--	--	--	--
	SH	--	--	--	--	≥5	≥5	≥5	≥5	--	--	--	--
硬 度 (Hv)	ESH	--	--	--	--	--	--	--	--	--	--	--	--
	燒鈍軟化	≤65	≤70	≤70	≤80	≤90	≤90	≤90	≤90	--	--	50~100	50~100
	1/4H	65~80	70~95	70~95	75~105	90~105	90~105	90~105	90~105	85~105	85~105	80~130	80~130
	1/2H	80~100	95~120	95~120	100~130	105~130	105~130	105~130	105~130	105~130	105~130	110~160	110~160
	3/4H	--	--	--	--	130~145	130~145	130~145	130~145	--	--	120~170	120~170
	H	≥100	≥120	≥120	≥125	145~160	145~160	145~160	145~160	≥130	≥130	140~180	140~180
	EH	--	--	--	--	160~175	160~175	160~175	160~175	--	--	150~190.	150~190.
軟化溫度.(°C)	SH	--	--	--	--	175~190	175~190	175~190	175~190	--	--	165~205	165~205
	ESH	--	--	--	--	190~210	190~210	190~210	190~210	--	--	≥180	≥180
彈性係數 (KN/mm ²)		118	118	118	110	110	110	103	103	103	103	112	112

85 WEISWEI W RD

KANGSHAN

KAOHSIUNG HSIEN, TAIWAN

Connectors. Model JM2416 followed by 2 thru 24, may be followed by R; Model JP2416 followed by 2 thru 24; Model JM24188, JP24188 followed by 2 thru 15; Model JP3301 followed by 2 thru 40; Model JP3304 followed by 2 thru 25.

Model J1012BS.

Models JP2015, -2413 followed by 2 thru 15; Model JM2413 followed by 2 thru 15, may be followed by S.

Connectors. Model Nos. JP2030, JP2130 followed by 2 thru 6, 9, or 12; Model Nos. JP2030, JP2130 followed by 2 thru 4, 6, 9 or 12 followed by A or B; Model Nos. JP2030, JP2130 followed by 1 thru 4, 6, 9 or 12 followed by K; Model Nos. JP1631, JP1731 followed by 3, 4, 6 or 9; Model Nos. JP1631, JP1731 followed by 2 thru 4, 6, or 9, followed by K; Model Nos. JP1661, JP1761 followed by 1 thru 4 or 6, may be followed by A; Model Nos. JP1661, JP1761 followed by 2 thru 4 or 6, followed by K.

Low voltage connector. Model JP2017 followed by 2 thru 15.

Socket connectors. Series JP1017, -1019, -1020, -1120, -1130, -1030, -1135, -1138, -1158, -1058, -11635-4, -2120, -2020, -2411, -2418, -2422 -3101, -3102 -3175-20, -3201, -3304, -3966-6; Pin Plug Series JM1135, -1138, -2411, -2418, -2422 -2541, -2542 -3175-20.

Series JP24118, -24181, -24182 -24186, -24228; Pin plug Series JM24118, -24181, -24182 -24186, -24228.

Terminals. Cat. Nos. J1010BS, J1018BS, J10181PS-2, J1041BS, J1042BS, J1051BS, J1110BS, J1119PS, J11202BS, J1136BS, J1141BS, J1151BS, J1161BS, J1710BS, J1711BS, J1736BS, J1841BS, J2121BS, J2133BS, J2134BS, J2143BS, JR2121BS, JS2122BS.

Connectors. Models JP1020V2, JP1120V2 followed by 2 or 4. Models JP2422V2, JM2422V2 followed by 2 thru 20. Models JP2020V2, JP2120V2 followed by 1, 2 3, 4, 6, 9, 12 or 15. Model JP3960V2 followed by 6. Model JM3960V2 followed by 6 or 12. Models JP1135V2, JM1135V2, JP1138V2, JM1138V2 followed by 1 thru 6. Models JP11635V2, JM11635V2 followed by 2 or 4. Models JP2411V2, JM2411V2 followed by 2 thru 20. Models JP2016V2, JP2416V2 followed by 2 4, 6, 8, 10, 12 14, 16, 18, 20, 22 or 24. Models JP24182V2, JM24182V2 followed by 2 thru 20.

Low voltage connectors. Model JP24125 followed by 2 thru 15; Model JM24125 followed by 2 thru 15, may be followed by R.

Connectors. Models JP24189, JM24189, followed by 02 thru 15.

Low voltage connector. Model JP125FFC, followed by 3 thru 40, may be followed by R.

Uninsulated connectors , Cat. Nos. J1011BS-2, J1011BS-2A, J1011PS-2, J1011PS-2A, J1012BS-2, J1012BS-2A, J1012PS-2, J1012PS-2A, J11186BS-2, J11186BS-2A, J11186PS-2, J11186PS-2A, J11188BS-2, J11188BS-2A, J11188PS-2, J11188PS-2A, J11189BS-2, J11189BS-2A, J11189PS-2, J11189PS-2A, J10181BS-2, J10181BS-2A, J10181PS-2, J10181PS-2A, J10182BS-2, J10182BS-2A, J10182PS-2, J10182PS-2A, J10185BS-2, J10185BS-2A, J10185PS-2, J10185PS-2A, J10186BS-2, J10186BS-2A, J10186PS-2, J10186PS-2A, J10188BS-2, J10188BS-2A, J10188PS-2, J10188PS-2A, J10180BS-2, J10180BS-2A, J10180PS-2, J10180PS-2A, J10183BS-2, J10183BS-2A, J10183PS-2, J10183PS-2A, J10184BS-2, J10184BS-2A, J10184PS-2, J10184PS-2A, J10187BS-2, J10187BS-2A, J10187PS-2 and J10187PS-2A.

Connectors , Cat. Nos. JM6758, JP0303-7A, JP0303-15A, JP6758-15, JP0302-15A; Cat. Nos. JM2350-2 and JP2350-2; Cat. No. JM2351, followed by 2A, 2B, 2C or 3 thru 5, followed by R or blank; Cat. No. JP2351, followed by 2A, 2B, 2C or 3 thru 5; Cat. No. JP2540, followed by 2 thru 12; Cat. No. JP2500, followed by 2 thru 6.

Connectors , Cat. No. JM1000, followed by 02 thru 16, followed by R or blank; Cat. No. JP1000, followed by 02 thru 16; Cat. Nos. JM1121-4, JP0301-4A, JP0301-4B, JP0301-4C; Cat. No. JM24150, followed by 2 thru 15, followed by R or blank; Cat. No. JP24150, followed by 2 thru 15.



Marking: Company name or trademark or tradename "JMT" or file number E127691 and model, catalog or series designation on device or carton.

Test Report

No. 2082320/EC

Date : Nov 30 2006

Page 1 of 4

JUST MAKE ELECTRONICS CO., LTD
XI NIU PI INDUSTRIAL ESTATE,
DA LANG TOWN, DONGGUAN

Report on the submitted sample said to be TERMINAL.

SGS Job No. : 1040466
SGS Ref. No. : SZ10158994-4.2
Terminal Lot No. :

J1011、J1012、J1017、J1018、J1019、J10181、J10182、J10183、
J10185、J10186、J11186、J10187、J10188、J11188、J10189、J11
189、J1000、J1051、J1431、J14311、J14312、J1432、J1441、J14
45、J1543、J1535、J14451、J14452、J1473、J1425、J1439、J143
92、J1456、J15351、J1660、J1661、J1612、J1631、J1730、J1732
、J1735、J1740、J1741、J1749、J1751、J1752、J1753、J1764、J1
130、J1030、J1158、J1058、J1020、J0301、J1120、J11202、J113
5、J1138、J11636、J1119、J2000、J2016、J2416、J2020、J2120、
J20201、J21201、J24111、J24221、J24228、J2350、J2351、J2312
5、J24125、J24150、J24181、J24182、J24188、J24189、J6425、J
2413、J2133、J2143、J24118、J2540、J2015、J2017、J2027、J23
18、J16312、J2030、J2130、10082、J2316、J2426、J2436、J2025
、J2347、J2362、J2363、J2418、J2423、J742411、J742462、C268
0、J24231、J3301、J5127

Lot No. : 061101
Main Substance : Cu
Material : Cu
Buyer : 惠州三星
Supplier : 臺灣第一伸銅
Sample Receiving Date : NOV 24 2006
Testing Period : NOV 24 - 30 2006



H 14304516

Test Report

No. 2082320/EC

Date : Nov 30 2006

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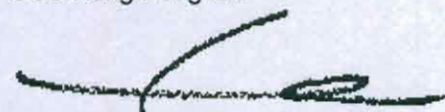
Test Requested : (1) To determine the Cadmium, Lead, Mercury on the submitted metal sample.
(2) Determination of the presence of Hexavalent Chromium Cr(VI) in the submitted metal samples.

Test Method : (1) With reference to IEC 62321 (Ed. 1) 111/54/CDV for Cadmium, Lead, Mercury content of metal sample.
Analysis was performed by ICP/ AAS.
(2) With reference to IEC 62321 (Ed. 1) 111/54/CDV – Section 8 for the presence of Hexavalent Chromium on the metal sample.
Analysis was performed by spot-test/ boiling-water-extraction.

Test Results : Please refer to next page.

Conclusion : When tested as specified, the results shown on the report do not exceed the limit in Operation Standard OQA-2049 of HUIZHOU SAMSUNG.

Signed for and on behalf of
SGS Hong Kong Ltd



Wan Chi Wai, Leo
Technical Manager



H14304517

Test results by chemical method (Unit: mg/kg)

1-2)

	<u>1</u>	<u>MDL</u>	<u>Limit</u>
Cadmium(Cd)	n.d.	2	80
Lead (Pb)	29	5	800
Mercury (Hg)	n.d.	2	800
Hexavalent Chromium (CrVI) by spot-test/ boiling-water-extraction	Negative (Note 4)		#

Note :

- (1) mg/kg = ppm; 0.1% = 1000 ppm
- (2) MDL = Method Detection Limit
- (3) n.d. = Not Detected (Less than MDL)
- (4) **Spot-test:**

Negative = Absence of CrVI coating; Positive = Presence of CrVI coating;

(The tested sample should be further verified by boiling-water-extraction method if the spot test result cannot be confirmed.)

Boiling-water-extraction:

Negative = Absence of CrVI coating

Positive = Presence of CrVI coating; the detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm² sample surface area.

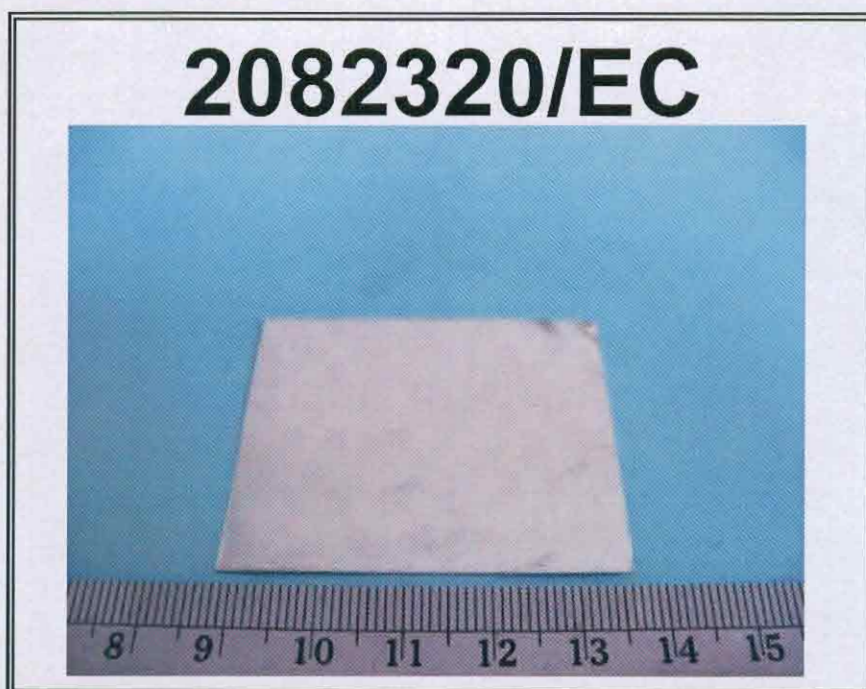
- (5) # = Positive indicates the presence of Hexavalent Chromium on the tested areas and result be regarded as conflict with RoHS requirement.
Negative indicates the absence of CrVI on the tested areas and result be regarded as no conflict with RoHS requirement.

Sample Description :

1. Silvery Metal



Sample photo :



SGS authenticate the photo on original report only

End of Report

