格瑞康實業有限公司

No. 139 Wuhan Rd., Longtan Township, Taoyuan County, Taiwan 32549

Tel: +886-3-4993132 Fax: +886-3-4991561

www.gradconn.com

PRODUCT SPECIFICATION

GradConn Part No.:	BB02-AKXX2-K0X-000000
Product Description.:	0.8mm Board to Board Stackers, Right Angle, Female, SMT Type

PRODUCT SPECIFICATION

1.Scope

This specification covers the 0.8mm Board To Board Female Plug Right Angle

2.Product name and part number

Product Name	Part Number
0.8mm Board To Board Plug Right Angle Female Plug	BB02-AK, BB02-AL

3.Material/Finish

Name	Material	Finish	Color
Plastic	Nylon 46 (UL94V-0)		
Terminal	Phosphor Bronze	Gold Plated	
Shell			

*Refer to the drawing.

4.Rating

Item	Standard	
Rated Voltage (MAX.)	100 V	AC/DC
Rated Current (MAX.)	0.5 A	
Ambient Temperature Range	-40℃~+105℃	

*1: Including terminal temperature rise.

5. Performance

5-1.Electrical Performance

Item		Test Condition	Requirement
5-1-1	Contact Resistance	Mate connectors the 0.8mm Board To Board Plug Right Angle 4.70mm Height and measure by dry circuit, 20mV MAX.10mA. (JIS C5402 5.4)	40 mΩ MAX
5-1-2	Insulation Resistance	Mate connectors the 0.8mm Board To Board Plug Right Angle 4.70mm Height and apply 500V DC between adjacent terminal or ground. (JIS C5402 5.2/MIL-STD-202 Method 302)	100MΩ MIN
5-1-3	Dielectric Strength	Mate connectors the 0.8mm Board To Board Plug Right Angle 4.70mm Height and apply 500V AC (rms) for 1 minute between adjacent terminal or ground. (JIS C5402 5.1/MIL-STD-202 Method 301)	No Breakdown

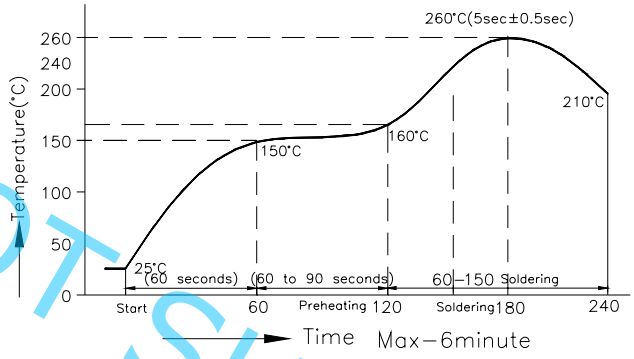
5-2 Mechanical Performance

Item		Test Condition		Requirement
5-2-1	Insertion and Withdrawal	Insert and withdraw connectors at the speed rate of 25±3mm/minute.	Insertion Force	Kgf/Pin(Max)

	Force		Withdrawal Force	kgf/Pin(Min)
5-2-2	Terminal Retention Force	Apply axial pull out force at the speed rate of 25±3mm per minute.		kgf MIN

5-3. Environmental Performance and Others

Item	Test Condition		Requirement	
5-3-1	Repeated Insertion and Withdrawal	When mated up to 30 cycles repeatedly by the rate of 10 cycles per minute.	Contact Resistance	40 mΩ MAX
5-3-2	Temperature Rise	Carrying rated current load. (UL 498)	Temperature rise	30 ℃ MAX
5-3-3	Vibration	Amplitude:1.5mm P-P Sweep time:10-55-10 Hz In 1 minute Duration: 2 hours in each of X.Y .Z .axes (MIL-STD-202 Method 201)	Appearance	No Damage
			Contact Resistance	40 mΩ MAX
			Discontinuity	1μsec. MAX .
5-3-4	Shock	490m/S^2 (50G),3 strokes in each X, Y, Z axes. (JIS C0041/MIL-STD-202 Method 213)	Appearance	No Damage
			Contact Resistance	40 mΩ MAX
			Discontinuity	1μsec. MAX.
5-3-5	Heat Resistance	105±2℃ 96 hours (JIS C0021/MIL-STD-202 Method 108)	Appearance	No Damage
			Contact Resistance	40 mΩ MAX
5-3-6	Cold Resistance	-40±3℃ 96 hours (JIS C0020)	Appearance	No Damage
			Contact Resistance	40 mΩ MAX
5-3-7	Humidity	Temperature: 60±2℃ Relative Humidity:90~95% Duration: 96hours (JIS C0022/MIL-STD-202 Method 103)	Appearance	No Damage
			Contact Resistance	40 mΩ MAX
			Dielectric Strength	Must meet 4-1-3
			Insulation Resistance	100MΩ MIN
5-3-8	Temperature Cycling	5 cycles of: a)-55℃ 30 minutes b)+105℃ 30 minutes (JIS C0025)	Appearance	No Damage
			Contact Resistance	40 mΩ MAX
5-3-9	Salt Spray	12±4 hours exposure to a salt spray from the 5±1% solution at 35±2℃ (JIS C0023/MIL-STD-202 Method 101)	Appearance	No Damage
			Contact Resistance	40 mΩ MAX
5-3-10	SO_2 Gas	24 hours exposure to 50±5ppm. SO_2 gas at 40±2℃	Appearance	No Damage
			Contact Resistance	40 mΩ MAX
5-3-11	NH_3 Gas	40 minutes exposure to NH_3 gas evaporating from 28% Ammonia solution	Appearance	No Damage
			Contact Resistance	40 mΩ MAX

5-3-12	Solder-ability	Solder Time:5±0.5 sec. Solder Temperature:260±5℃	Solder Wetting	95% of immersed area must show no voids, pin holes
5-3-13	Resistance To Soldering Heat	Soldering Time:5±0.5 sec. Solder Temperature:260±5℃	Appearance	No Damage
5-3-14	Soldering Profile 5-3-14-1 Manual soldering 5-3-14-2 IR Reflowg	Solder temp: 400±5°C Time: 5± 3 sec Soldering temp : 260 ± 5°C Soldering time : 5 ± 0.5 s Preheating : 150 ± 10°C for 1 to 2 min.  Nylon 46 Recommended Temperature Profile		Supplier to provide measured data into the Table 1.

Datasheet TE250F6 - 00001

30% GF reinforced, flame retardant, heat stabilized, grade with good strength and toughness for E/E applications

Typical properties	*Unit*	*ISO/IEC*	*DIN*	*Grade TE250F6*
General properties				
Density	g/cm³	ISO 1183	53479	1,68
Melting temperature	°C	ISO 3146		295
Temperature properties				
HDT-A (1.8 MPa)	°C	ISO 75-1	53461	290
Peak temperature (1min.)	°C	UL 746B		-
Continuous use temperature	°C	IEC 60216		
- 5000 hrs				163
Coeff. linear thermal expansion	E-4/K	DIN 53752		
- // (23-55°C)				0,2
- _|_ (23-55°C)				0,8
Electrical properties				
RTI electrical	°C,mm	UL 746B		140 (0.75)
Insulation class	-	UL 1446		H
Flammability (at thickness)	class(mm)	UL 94		V-0 (0.35)
Comparative tracking index (CTI)	PLC	IEC 60112		2
Electric strength	kV/mm	IEC 60243-1		
- dry (23°C)				30
- con (23°C/50%RH)				20
Volume resistivity	Ohm.cm	IEC 60093		
- dry (23°C)				1E+15
- con (23°C/50%RH)				1E+10
Mechanical properties				
Izod impact strength (notched)	kJ/m²	ISO 180-1A		
- dry (23°C)				10
- con (23°C/50%RH)				11
Tensile strength	MPa	ISO 527-1	53455	
- dry (23°C)				180
- con (23°C/50%RH)				125
Tensile Modulus	MPa	ISO 527-1	53457	
- dry (23°C)				12500
- con (23°C/50%RH)				8000
Strain at break	%	ISO 527-1	53455	
- dry (23°C)				2,5
- con (23°C/50%RH)				3,5
Dimensional properties				
Moulding shrinkage	%	DSM		
- //				0,4
- _|_				1,1
Humidity absorption (equi. 23°C/50%RH)	%	ISO 62		1,6

DSM Kunststoffen BV. Trade Register Heerlen 31843

試　験　成　績　書

INSPECTION CERTIFICATE

日鉱金属加工株式会社　倉見工場
KURAMI WORKS,NIKKO METAL MANUFACTURING CO.,LTD.

需要家　同朋中国　殿
CUSTOMER

扱　先　同朋香港　有限公司
MESSRS.

製品名　C5191R-H(190-210)
PRODUCTS

寸　法　0.25 X 305 X L
SIZE

規　格
SPECIFICATION

発　行　日　2005年03月28日　0002
DATE OF ISSUE

納品書番号　57166
DELIVERY SHEET NO.

注文番号　NK5-0303
CONTRACT NO.

オーダー番号　03
ORDER NO.

品質保証課長
MANAGER OF QUALITY ASSURANCE SECTION

Hiroshi Watanabe

化学成分
CHEMICAL COMPOSITIONS

規格 SPECIFICATION		Zn %	Sn %	P %	Fe %	Pb %	Cu+Sn+P %	質量 MASS (KG)
製造番号	MIN		5.5	0.05			99.7	
LOT NO.	MAX	0.20	7.0	0.26	0.10	0.05		
62512		0.01	5.99	0.12	0.003	0.002	99.96	5,136.00

機械的および物理的性質
MECHANICAL AND PHYSICAL PROPERTIES

規格 SPECIFICATION		引張強さ TENSILE STRENGTH N/mm²	伸び ELONGATION %	硬さ HARDNESS HV
製造番号	MIN	590	8.0	190
LOT NO.	MAX	685		210
62512		615	17.6	203.0

寸法検査 DIMENSIONAL INSPECTIONS	GOOD
外観検査 SURFACE INSPECTIONS	GOOD
備考 REMARKS.	

この製品は品質管理計画に基づき製造され、検査・試験を行ない、規格に合格したことを証明する。
WE HEREBY CERTIFY THAT THE PRODUCTS DESCRIBED HEREIN HAVE BEEN MANUFACTURED,INSPECTED AND TESTED IN ACCORDANCE WITH THE SPECIFICATION AND Q.C.PROGRAM.

测试报告

编号：GZ0709142822/CHEM　　日期：2007 年 10 月 8 日

东莞市金乐金属材料有限公司
东莞市虎门镇镇口第二工业区 11 栋之二

以下测试之样品是由申请者所提供及确认：高精度磷铜 C5191
客户参考信息: 高精度磷铜 C5191

SGS 参考编号	：GC070906038
收板日期	：2007 年 9 月 24 日
信息确认日期	：2007 年 9 月 26 日
测试日期	：2007 年 9 月 24 日至 2007 年 10 月 8 日

测试要求　：按照 RoHS 指令 2002/95/EC 及其修订文件要求进行测试。

测试方法　：参照 IEC 62321 Ed.1 111/54/CDV 电子电器产品中限用物质含量的测定程序
(1) 用 ICP 测定镉的含量
(2) 用 ICP 测定铅的含量
(3) 用 ICP 测定汞的含量
(4) 用比色法测定六价铬的含量

测试结果　：请参见下一页

测试结论　：基于所送样品进行的测试，测试结果与欧盟 RoHS 指令 2002/95/EC 以及后续修正指令的要求相符。

Signed for and on behalf of
SGS-CSTC Ltd.

Huang Fang, Sunny
Sr. Engineer

198 Kezhu Road,SCIENTECH Park Guangzhou Economic & Technology Development District,Guangzhou,China 510663　t (86-20) 82155555　f (86-20) 82075125　www.cn.sgs.com
中国・广州・经济技术开发区科学城科珠路198号　邮编: 510663　t (86-20) 82155555　f (86-20) 82075125　e sgs.china@sgs.com

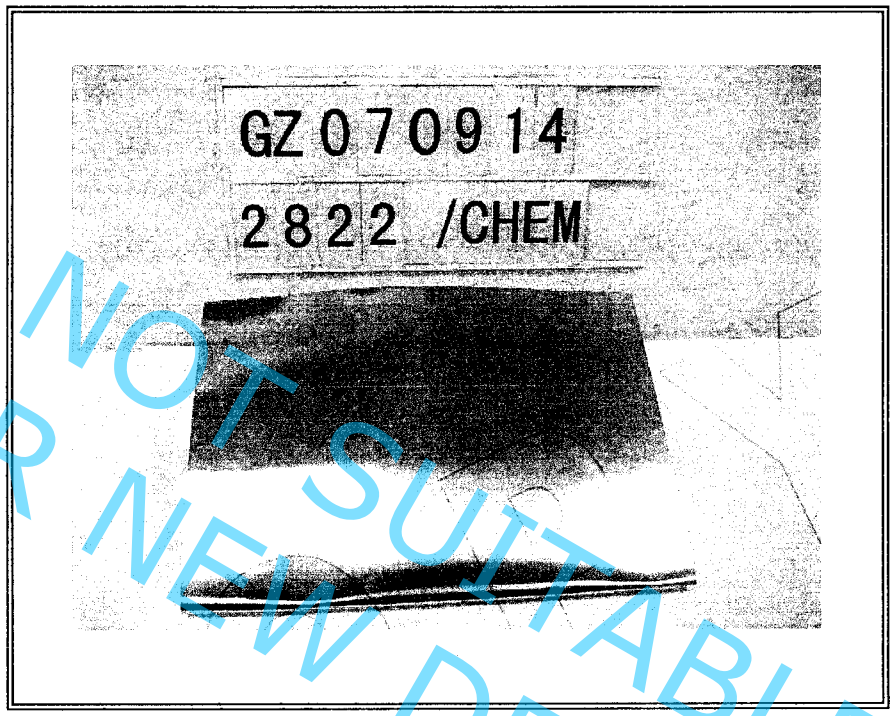
测试结果 (单位：毫克/千克)：

测试项目	参考方法	No.1	MDL	RoHS 限值
镉 (Cd)	(1)	N.D.	2	100
铅 (Pb)	(2)	18	2	1000
汞 (Hg)	(3)	N.D.	2	1000
沸水萃取法测六价铬(Cr VI)	(4)	Negative	参见注释 4	#

测试部件描述：
No.1 铜色金属片

注释：1. 毫克/千克 = ppm
2. N.D.= 未检出 (< MDL)
3. MDL = 方法检测限
4. **点测试：**
Negative = 未检测到六价铬，Positive = 检测到六价铬；
(如果点测试结果不能确认，测试样品将进一步由沸水萃取法进行测试)。
沸水萃取法：
Negative = 未检测到六价铬
Positive = 检测到六价铬；每 50cm^2 表面积的被测试样品的沸水萃取液中六价铬的浓度等于或大于 0.02mg/kg。
5. # Positive = 阳性，表示结果与 RoHS 要求相抵触
Negative = 阴性，表示结果与 RoHS 要求不相抵触
6. 本测试报告内容是参照报告编号为 GZ0709142821/CHEM 的中文译本，中英文版本如有歧异，概以英文版为准。

样品照片：



此图片仅限于随 SGS 正本报告使用

*** 报告完 ***

198 Kezhu Road,SCIENTECH Park Guangzhou Economic & Technology Development District,Guangzhou,China 510663 t (86-20) 82155555 f (86-20) 82075125 www.cn.sgs.com
中国·广州·经济技术开发区科学城科珠路198号 邮编：510663 t (86-20) 82155555 f (86-20) 82075125 e sgs.china@sgs.com
Member of the SGS Group (SGS SA)

16	Au/Ni/P-Bronze	(U")02/03 STD	d Coll.	2 Abs.	1

MEAN TOP COAT (Au=Gold) = 3.06u"
STD, DEVIATION = 0.543u"
NO. LF HEAS. = 10

MEAN INT COAT (Nickel) = 50.50u"
STD, DEVIATION = 2.118u"
NO. LF HEAS. = 10

T meas = 10 s

LOCATE SPECIMEN
TO MEASURE PRESS " GO "

Xt1= Xt2=

THICKNESS MEASUREMENT

			Au		Ni
N=	1	THICKNESS=	3.04u"	=	50.51u"
N=	2	THICKNESS=	3.01u"	=	50.10u"
N=	3	THICKNESS=	3.03u"	=	50.24u"
N=	4	THICKNESS=	3.05u"	=	50.37u"
N=	5	THICKNESS=	3.03u"	=	50.15u"

2006/10/14

Test Report

No. CANEC0800111003 Date: 16 Jan 2008

SHENZHEN HONGJUN HARDWARE CO., LTD.
NO.3,DALANG INDUSTRY AREA,HONGXING VILLAGE SONGGANG TOWN,BAO'AN DISTRICT,SHENZHEN
CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as :
AU PLATING

SGS Job No.	:	10787280 - SZ
SGS Internal Reference No.	:	4.3
Date of Sample Received	:	11 Jan 2008
Testing Period	:	11 Jan 2008 - 16 Jan 2008

Test Requested : To determine the Cadmium, Lead, Mercury & Hexavalent Chromium content in the submitted sample.

Test Method : With reference to IEC 62321 Ed.1 111/54/CDV Procedures for the Determination of Levels of Regulated Substances in Electrotechnical Products.
(1) Determination of Cadmium by ICP.
Determination of Lead by ICP.
Determination of Mercury by ICP.
(2) Determination of Hexavalent Chromium by Colorimetric Method.

Test Results : Please refer to next page(s).

Signed for and on behalf of
SGS-CSTC Ltd.

Huang Fang, Sunny
Sr. Engineer

SGS-CSTC Standards Technical Services Co., Ltd.
Guangzhou Branch Testing Service Laboratory
198 Kezhu Road,SCIENTECH Park Guangzhou Economic & Technology Development District,Guangzhou,China 510663 t (86-20) 82155555 f (86-20) 82075125 www.cn.sgs.com
中国·广州·经济技术开发区科学城科珠路198号 邮编:510663 t (86-20) 82155555 f (86-20) 82075125 e sgs.china@sgs.com

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

Test Item(s)	Method (Refer to)	No.1	MDL
Cadmium(Cd)	(1)	N.D.	2
Lead (Pb)	(1)	22	2
Mercury (Hg)	(1)	N.D.	2
Hexavalent Chromium (CrVI) by boiling water extraction	(2)	Negative	See Note 4

Note:
1. mg/kg = ppm
2. N.D. = Not Detected (< MDL)
3. MDL = Method Detection Limit
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 cm^2 sample surface area.

Test Part Description

No. 1 Golden/silvery plated metal

Sample photo:

No. 1

SGS authenticate the photo on original report only

*** End of Report ***