

Product Name	DL20040 (PHM) series	Rev.	A
Part Number.	20040	Date	2023-06-05
CONN TYPE	2.0mm WTB SMT CONN	Page	3/8

1. SCOPE: (适用范围)

1.1 This specification covers production and inspection of Model PHM Connector.

本规范内容适用于本公司 PHM 型条形连接器产品的生产与检验.

2. Product Classification: (产品分类)

2.1 Poles: 2~15.

接触件数目: 2~15.

2.2 Catalog Identification:

产品型号示例:

7 female contact Housing: PHM-7Y.

具有 7 个阴接触件的 PHM 型连接器: PHM-7Y.

7 male contact Wafer: PHM-7AWB.

具有 7 个阳接触件的 PHM 型连接器: PHM-7AWB.

3. USE CONDITION: (使用条件)

3.1 Ambient temperature Range (环境温度): -25°C~+85°C.

3.2 Applicable Wire Sizes (适用线规): AWG#30~#22.

Insulation O.D. Ø0.8 to 1.4mm.

4. Appearance and Dimension: (外观及尺寸)

4.1 Appearance (外观): Product surface without defect: dirt, crack, and mechanical damage, contact without rust, plating not oxidized and not peeled.

产品表面不应有对制品有害的缺陷、污垢、裂痕及机械损伤; 接触件无锈蚀、镀层氧化、脱落等现象.

4.2 Dimension (外形尺寸): According to drawings. 依照附图所示.

4.3 Exchangable (互换性): Exchangable with same specification products.

相同规格应能互换.



ZHEJIANG DELI CONNECTORS CO., LTD.

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5. Material: (材料)

P/N (零件名称)	Type (类型)	Material (材料)	Finish (表面处理)	Explain (说明)
Terminal	Contact (插簧)	Phosphor bronze (磷青铜)	Tin Plated.	RoHS Compliant
Wafer (针座)	Contact (插针)	Brass (黄铜)	Tin Plated	
	Welding piec (焊片)	Brass (黄铜)	Tin Plated.	
	Plastic (塑壳)	LCP UL94V-0	Color: Nature (颜色: 本色)	
Housing (孔座)	Plastic (塑壳)	PBT UL94V-0 (2)	Color: Nature (颜色: 本色)	

6、Electrical Performance: (电气性能)

NO. (序号)	Item (项目)	Requirement (技术要求)
6.1	Voltage Rated (额定电压)	125V AC/DC.
6.2	Current Rated (额定电流)	3A AC/DC.
6.3	Contact Resistance (接触电阻)	$\leq 20 \text{ m}\Omega$
6.4	Insulation Resistance (绝缘电阻)	$\geq 1000 \text{ M}\Omega$
6.5	Dielectric Strength (耐压)	500V AC/minute

7、Mechanical Performance: (机械性能)

NO. (序号)	Item (项目)	Requirement (技术要求)
7.1	Female contact Retention force (端子固定力)	$\geq 10\text{N}$ (per pin)



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7.2	Male contact Retention force (PIN 针固定力)	$\geq 10\text{N}$ (per pin)
7.3	Plug-in force (插入力)	$\leq 10\text{N}$ (per pin)
7.4	Plug-out force (拔出力)	$\geq 0.3\text{N}$ (per pin)

8、Endurance Characteristics: (环境性能)

NO. (序号)	Item (项目)	Requirement (技术要求)
8.1	Soldering rest (可焊性)	Time (时间): $2.5 \pm 0.5\text{S}$; Temperature (温度): $235 \pm 5^\circ\text{C}$; Area of Soldering (焊锡面): $\geq 90\%$
8.2	Resistance to Soldering Heat (耐焊接热)	Time (时间): $5 \pm 1\text{S}$; Temperature (温度): $260 \pm 5^\circ\text{C}$; Appearance (外观): No Damage (无损坏)
8.3	Heat test (耐热性)	Time (时间): 96h Temperature (温度): $+85 \pm 3^\circ\text{C}$; Appearance (外观): No Damage (无损坏) Contact resistance (接触电阻): $\leq 40\text{ m}\Omega$
8.4	Cold test (耐冷性)	Time (时间): 48h Temperature (温度): $-25 \pm 3^\circ\text{C}$; Appearance (外观): No Damage (无损坏) Contact resistance (接触电阻): $\leq 40\text{ m}\Omega$

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8.5	Temperature Cycling (温度循环)	Low temperature (低温): $-25\pm3^{\circ}\text{C}$ High temperature (高温): $+85\pm3^{\circ}\text{C}$; For 5 cycles.test after keeping in Normal condition for 30 min. 5 次循环后, 放置在正常环境中 30 分钟, 再进行测试 Appearance (外观): No Damage (无损坏) Contact resistance (接触电阻): $\leq 40\text{ m}\Omega$
8.6	Invariablenes humidity (恒定湿热)	Temperature (温度): $60\pm2^{\circ}\text{C}$ Relative humidity (相对湿度): 90%-96% RH; Time (时间): 96h Appearance (外观): No Damage (无损坏) Contact resistance (接触电阻): $\leq 40\text{ m}\Omega$ Insulation Resistance 绝缘电阻: $\geq 1000\text{ M}\Omega$
8.7	Salt Spray (盐雾试验)	Salt concentration (浓度): $5\pm1\%$ Temperature (温度): $35\pm2^{\circ}\text{C}$ Testing time (时间): $24\pm2\text{h}$ After salt is removed by running wafer and a drop is removed , it is measured. 把试验样品从试验箱顶悬挂下来, 采用浓度为 $(5\pm1)\%$ 的氯化钠溶液, 连续雾化 24h, 试验后用流动的蒸馏水轻轻洗去表面沉积物. 在常温常驻湿条件下恢复 1-2h. 外观无明显损伤 Appearance (外观): 外观无明显损伤 Contact resistance (接触电阻): $\leq 40\text{ m}\Omega$



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9、Packaging Transportation Storage: (包装 运输 贮存)

9.1 Packaging(包装)

- (1) The inner packaging of the plastic case is plastic bag, the inner packaging of the terminal is tray packing with material packaging, loading (paste) into the certificate, SMT loading and packaging, indicating the product name, specifications and models, quantity and production date.

塑壳内包装为塑料袋，端子内包装为盘装带料包装，装（贴）入合格证，SMT载带包装，注明产品名称、规格型号、数量生产日期.

- (2) Exterior package is carton, facing the packing list, the packing list marked with product name, specification model, quantity, date of dispatch.

外包装为纸箱，贴装箱单，装箱单上注明产品名称、规格型号、数量、出货日期.

- (3) The product in the box must not rock.

产品在箱内不晃动.

9.2 Transportation (运输)

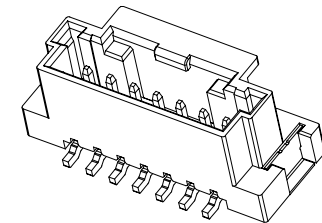
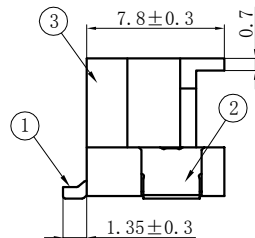
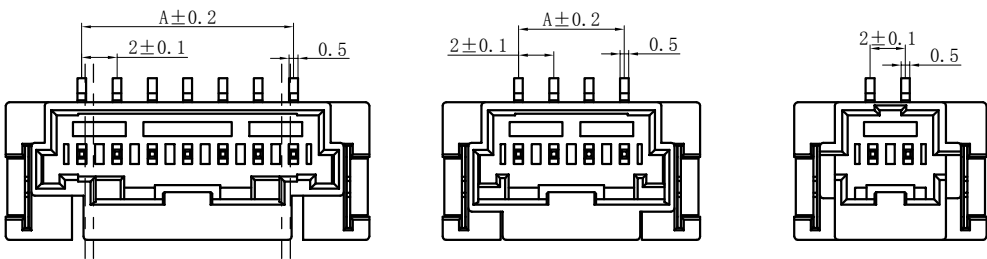
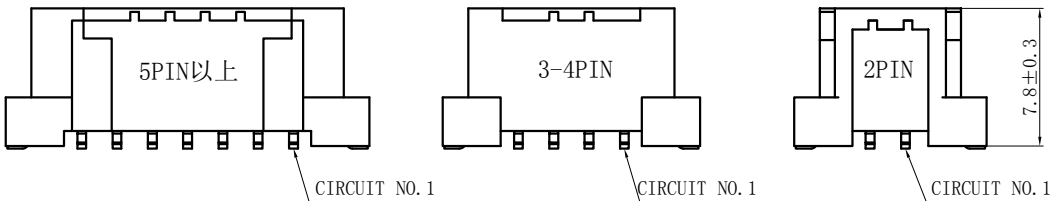
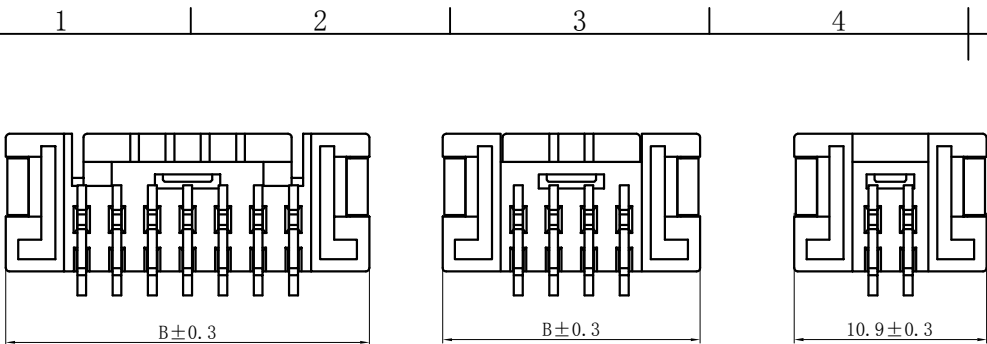
Allow for any way transportation, can't get wet and mechanical injury.

允许用任何方式运输，勿淋湿及机械性损伤.

9.3 Storage (贮存)

The connector of packing finished should be in the ambient temperature between -10°C to $+40^{\circ}\text{C}$, relative humidity $\leq 80\%$. To store in storehouse does not have acidic, alkaline air and other corrosive gas in the ambient air.

包装完毕的连接器的应在环境温度为 $-10^{\circ}\text{C}\sim+40^{\circ}\text{C}$ ，相对湿度 $\leq 80\%$ ，周围空气中没有酸性，碱性及其它腐蚀性气体的库房中贮存.

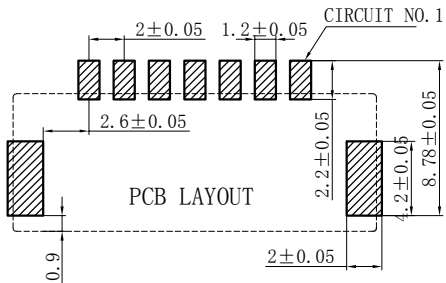


技术特性/Specifications:
额定电流 Rated current: 3A AC\DC
额定电压 Rated voltage: 125V AC\DC
接触电阻 Contact resistace:20mΩ max
绝缘电阻 Insulation resistance:1000MΩ min
耐压 Withstand voltage: 500V AC/ minute
环境温度 Ambient temperature: -25℃ to 85℃
材料/Matetials:
针座Wafer:LCP UL94V-0
插针Pin Material : 黄铜Brass / Tin-Plated.

DLXXXXX - XX X - X XX - X X - X - XX
1 2 3 4 5 6 7 8 9

1. PART NO.
2. .NO. OF CIRCUIT
3. CONN. TYPE
4. MATERIAL: 0:PA66 V0 1:PA66 V1 2:PA66 V2
3:PA66 V0 750℃ 4:LCP 5:PBT
6:PA9T 7:PA6T 8:GF PA66
5. COLOR: NA:NATURE RE:RED BR:BROWN
GY:GREY BK:BLACK YE:YELLOW
BL:BLUE GR:GREEN PU:PURPLE PI:PINK
OR:ORANGE TR:TRANSPARENT OT:OTHER
6. CONTACT MATERIAL: P:PHOSPHOR BRONZE B:BRASS
7. FINISH: T:TIN MT:MATTE TIN BG/QG:GOLD S:SILVER
8. STYLE: Z:WITHOUT K K:WITH K
9. SERIAL NUMBER: 00.01.02.....

3	③	基座	LCP	1	UL94V-0
2	②	焊片	黄铜	2	镀锡
1	①	接触件	黄铜	N*	镀锡
序号	图号	名称	材料	数量	附件



Circuits	Type	Dimension mm		Circuits	Type	Dimension mm	
		A	B			A	B
2	PHM-2AB	2.00	10.90	9	PHM-9AB	16.00	24.60
3	PHM-3AB	4.00	12.60	10	PHM-10AB	18.00	26.60
4	PHM-4AB	6.00	14.60	11	PHM-11AB	20.00	28.60
5	PHM-5AB	8.00	16.60	12	PHM-12AB	22.00	30.60
6	PHM-6AB	10.00	18.60	13	PHM-13AB	24.00	32.60
7	PHM-7AB	12.00	20.60	14	PHM-14AB	26.00	34.60
8	PHM-8AB	14.00	22.60	15	PHM-15AB	28.00	36.60

GENERAL TOLERANCES (UNLESS SPECIFIED)		ZHE JIANG DELI CONNECTORS CO.,LTD			
.X: ± 0.25	.X° : ± 3.0°	PRODUCT NAME: DL20040 (PHM)-AB		TITLE: 2.00 mm Pitch Wire To Board SMT Wafer	
.XX: ± 0.15	.X° : ± 2.0°	DR:Chen Quan Long	DATE:23/08/20	PART NO: DL20040-XXB-XXX-XX-X-XX	
.XXX: ± 0.01	.XX° : ± 1.0°	CHKD: Wu Hui	DATE:23/08/20	SCALE: N/A	PAGE: 1/1
FINISH:		APPD: Ren An De	DATE:23/08/20	UNITS: mm	REV.: A
DRAWING NO: QC-DL20040-XXB-XXX-XX-X-XX					

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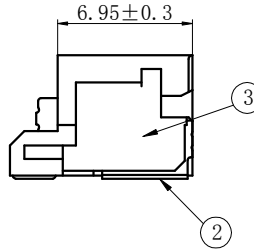
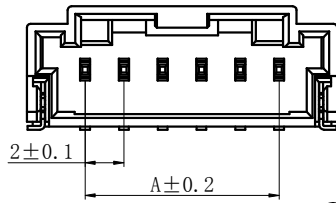
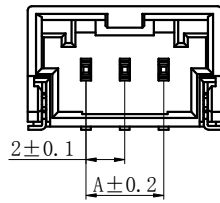
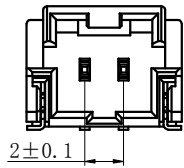
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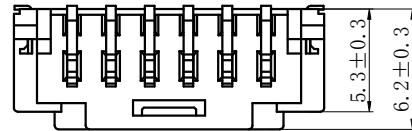
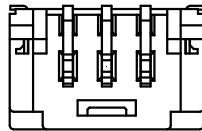
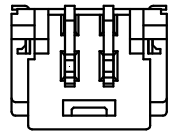
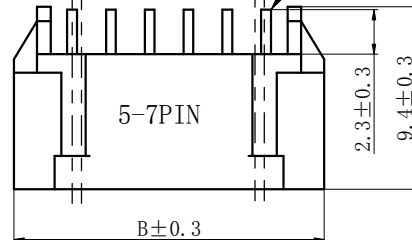
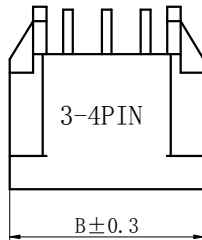
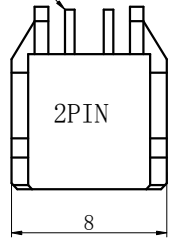
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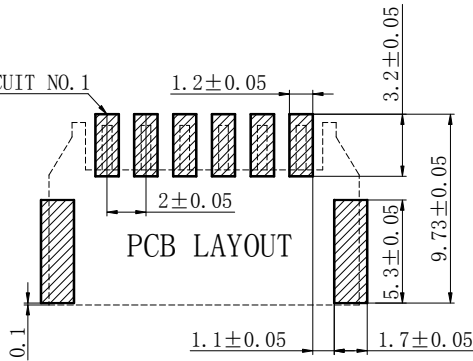
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CIRCUIT NO.1



CIRCUIT NO.1



PCB LAYOUT

Circuits	Type	Dimension mm	
		A	B
2	PHM-2AWB	2.00	8.00
3	PHM-3AWB	4.00	10.00
4	PHM-4AWB	6.00	12.00
5	PHM-5AWB	8.00	14.00
6	PHM-6AWB	10.00	16.00
7	PHM-7AWB	12.00	18.00

3	③	基座	LCP	1	UL94V-0
2	②	焊片	黄铜	2	镀锡
1	①	接触件	黄铜	N*	镀锡
序号	图号	名称	材料	数量	附件

REV.	REVISION DESCRIPTION	DATE	

技术特性/Specifications:

额定电流 Rated current: 3A AC\DC

额定电压 Rated voltage: 125V AC\DC

接触电阻 Contact resistance: 20mΩ max

绝缘电阻 Insulation resistance: 1000MΩ min

耐压 Withstand voltage: 500V AC/ minute

环境温度 Ambient temperature: -25℃ to 85℃

材料/Materials:

针座Wafer: LCP UL94V-0

插针Pin Material: 黄铜Brass / Tin-Plated.

DLXXXXX - XX X - X XX - X X - X - XX
1 2 3 4 5 6 7 8 9

1. PART NO.

2. NO. OF CIRCUIT

3. CONN. TYPE

4. MATERIAL: 0:PA66 V0 1:PA66 V1 2:PA66 V2

3:PA66 V0 750℃ 4:LCP 5:PBT

6:PA9T 7:PA6T 8:GF PA66

5. COLOR: NA:NATURE RE:RED BR:BROWN

GY:GREY BK:BLACK YE:YELLOW

BL:BLUE GR:GREEN PU:PURPLE PI:PINK

OR:ORANGE TR:TRANSPARENT OT:OTHER

6. CONTACT MATERIAL: P:PHOSPHOR BRONZE B:BRASS

7. FINISH: T:TIN MT:MATTE TIN BG/QG:GOLD S:SILVER

8. STYLE: Z:WITHOUT K K:WITH K

9. SERIAL NUMBER: 00.01.02.....

GENERAL TOLERANCES (UNLESS SPECIFIED)		ZHE JIANG DELI CONNECTORS CO., LTD	
.X: ± 0.25	.X°: ± 3.0°	PRODUCT NAME: DL20040 (PHM)-AWB	TITLE: 2.00 mm Pitch Wire To Board SMT Wafer
.XX: ± 0.15	.X°: ± 2.0°	DR: Chen Quan Long	DATE: 23/08/20
.XXX: ± 0.01	.XX°: ± 1.0°	CHKD: Wu Hui	DATE: 23/08/20
FINISH:		APPD: Ren An De	DATE: 23/08/20
DRAWING NO: QC-DL20040-XXWB-XXX-XX-X-XX			

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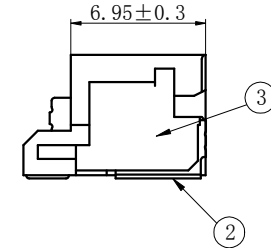
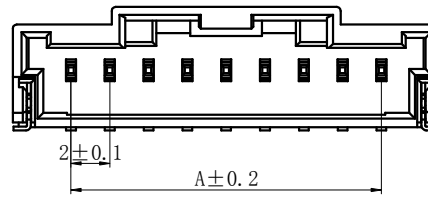
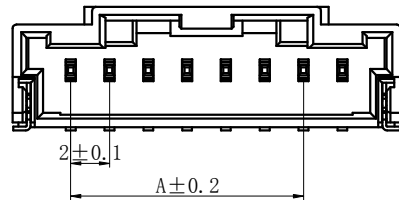
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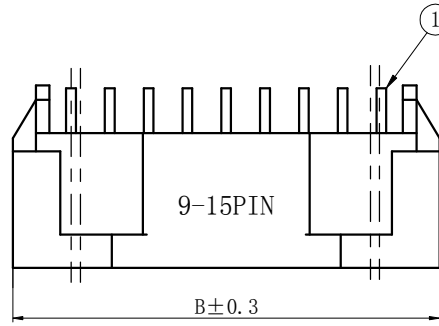
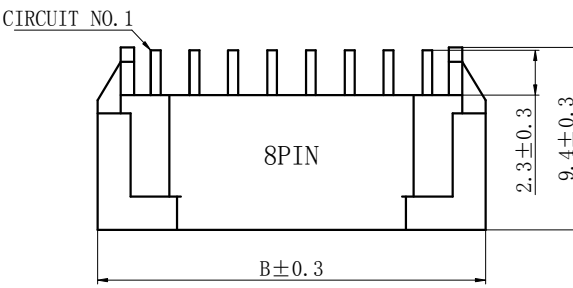
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REV.	REVISION DESCRIPTION
DATE	

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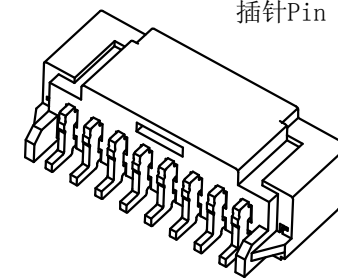


技术特性/Specifications:
额定电流 Rated current: 3A AC\DC
额定电压 Rated voltage: 125V AC\DC
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绝缘电阻 Insulation resistance:1000MΩ min
耐压 Withstand voltage: 500V AC/ minute
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材料/Matetials:
针座Wafer:LCP UL94V-0
插针Pin Material : 黄铜Brass / Tin-Plated.

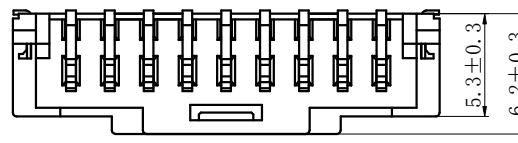
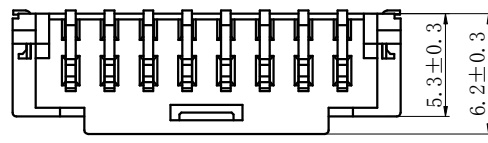
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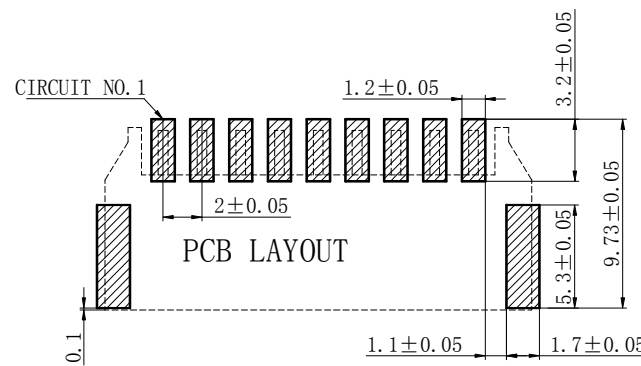
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DLXXXXX - XX X - X XX - X X - X - XX
1 2 3 4 5 6 7 8 9

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2. .NO. OF CIRCUIT
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GY:GREY BK:BLACK YE:YELLOW
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OR:ORANGE TR:TRANSPARENT OT:OTHER
6. CONTACT MATERIAL: P:PHOSPHOR BRONZE B:BRASS
7. FINISH: T:TIN MT:MATTE TIN BG/QG:GOLD S:SILVER
8. STYLE: Z:WITHOUT K K:WITH K
9. SERIAL NUMBER: 00.01.02.....

E



F

Circuits	Type	Dimension mm	
		A	B
8	PHM-8AWB	4.00	20.00
9	PHM-9AWB	16.00	22.00
10	PHM-10AWB	18.00	24.00
11	PHM-11AWB	20.00	26.00
12	PHM-12AWB	22.00	28.00
13	PHM-13AWB	24.00	30.00
14	PHM-14AWB	26.00	32.00
15	PHM-15AWB	28.00	34.00

3	③	基座	LCP	1	UL94V-0
2	②	焊片	黄铜	2	镀锡
1	①	接触件	黄铜	N*	镀锡
序号	图号	名称	材料	数量	附件

GENERAL TOLERANCES (UNLESS SPECIFIED)		ZHE JIANG DELI CONNECTORS CO.,LTD			
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.XX: ± 0.15	.X°: ± 2.0°	DR: Chen Quan Long	DATE: 23/08/20	PART NO: DL20040-XXWB-XXX-XX-X-XX	
.XXX: ± 0.01	.XX°: ± 1.0°	CHKD: Wu Hui	DATE: 23/08/20	SCALE: N/A	PAGE: 2/2
FINISH:		APPD: Ren An De	DATE: 23/08/20	UNITS: mm	REV.: A
DRAWING NO: QC-DL20040-XXWB-XXX-XX-X-XX					

REV.	REVISION DESCRIPTION	DATE	APPD

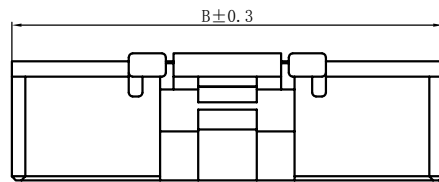
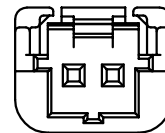
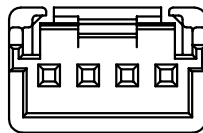
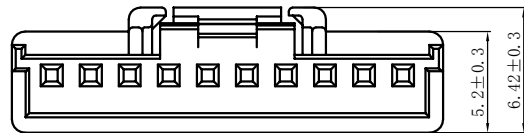
NOTES

Available in 02 through 15 Circuits.

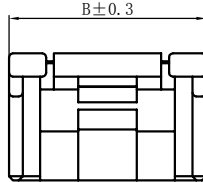
Match with DL20040 series housing

Material : PBT UL94V-0(2).

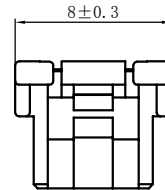
Accepts DL20040-T Crimp Terminal.



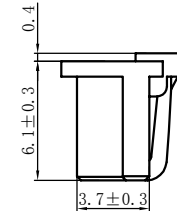
5-15PIN



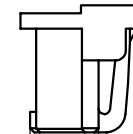
3-4PIN



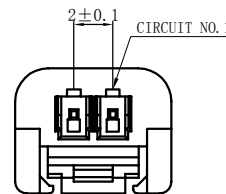
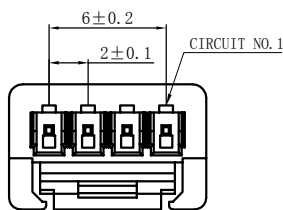
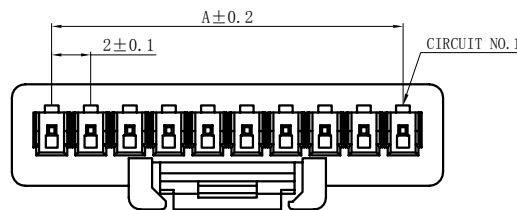
2PIN



3-15PIN



2PIN



ORDERING INFORMATION

DLXXXX - XX X - X XX - XX
1 2 3 4 5 6

1. PART NO.

2. .NO. OF CIRCUIT

3. CONN. TYPE

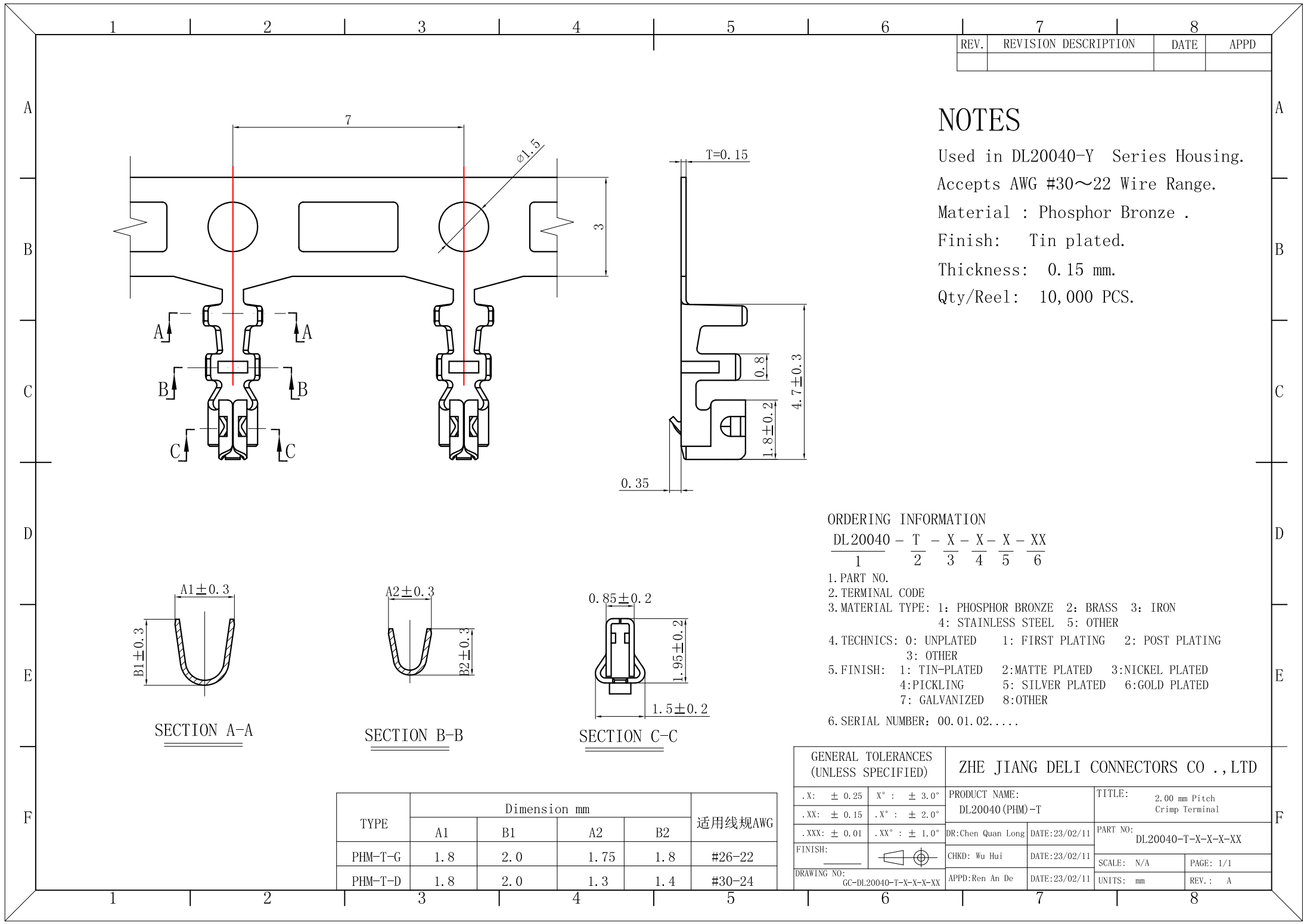
4. MATERIAL: 0:PA66 V0 1:PA66 V1 2:PA66 V2
3:PA66 V0 750℃ 4:LCP 5:PBT
6:PA9T 7:PA6T 8:GF PA66

5. COLOR: NA:NATURE RE:RED BR:BROWN
GY:GREY BK:BLACK YE:YELLOW
BL:BLUE GR:GREEN PU:PURPLE PI:PINK
OR:ORANGE TR:TRANSPARENT OT:OTHER

6. SERIAL NUMBER: 00.01.02.....

Circuits	Type	Dimension mm		Circuits	Type	Dimension mm	
		A	B			A	B
2	PHM-2Y	2.00	8.00	9	PHM-9Y	16.00	20.10
3	PHM-3Y	4.00	8.10	10	PHM-10Y	18.00	22.10
4	PHM-4Y	6.00	10.10	11	PHM-11Y	20.00	24.10
5	PHM-5Y	8.00	12.10	12	PHM-12Y	22.00	26.10
6	PHM-6Y	10.00	14.10	13	PHM-13Y	24.00	28.10
7	PHM-7Y	12.00	16.10	14	PHM-14Y	26.00	30.10
8	PHM-8Y	14.00	18.10	15	PHM-15Y	28.00	32.10

GENERAL TOLERANCES (UNLESS SPECIFIED)		ZHE JIANG DELI CONNECTORS CO., LTD			
.X: ± 0.25	X°: ± 3.0°	PRODUCT NAME: DL20040 (PHM)-Y		TITLE: 2.00 mm Pitch Housing	
.XX: ± 0.15	.X°: ± 2.0°			PART NO: DL20040-XXY-XXX-XX	
.XXX: ± 0.01	.XX°: ± 1.0°	DR:Chen Quan Long	DATE:23/02/11	SCALE: N/A	
FINISH:		CHKD: Wu Hui	DATE:23/02/11	PAGE: 1/1	
DRAWING NO: GC-DL20040-XXY-XXX-XX		APPD:Ren An De	DATE:23/02/11	UNITS: mm	REV.: A



REV.	REVISION DESCRIPTION	DATE	APPD

NOTES

Used in DL20040-Y Series Housing.
Accepts AWG #30~22 Wire Range.
Material : Phosphor Bronze .
Finish: Tin plated.
Thickness: 0.15 mm.
Qty/Reel: 10,000 PCS.

ORDERING INFORMATION

DL20040 - $\frac{T}{1}$ - $\frac{X}{2}$ - $\frac{X}{3}$ - $\frac{X}{4}$ - $\frac{X}{5}$ - $\frac{XX}{6}$

1. PART NO.
2. TERMINAL CODE
3. MATERIAL TYPE: 1: PHOSPHOR BRONZE 2: BRASS 3: IRON
4: STAINLESS STEEL 5: OTHER
4. TECHNICS: 0: UNPLATED 1: FIRST PLATING 2: POST PLATING
3: OTHER
5. FINISH: 1: TIN-PLATED 2: MATTE PLATED 3: NICKEL PLATED
4: PICKLING 5: SILVER PLATED 6: GOLD PLATED
7: GALVANIZED 8: OTHER
6. SERIAL NUMBER: 00.01.02....

GENERAL TOLERANCES (UNLESS SPECIFIED)		ZHE JIANG DELI CONNECTORS CO.,LTD			
.X: ± 0.25	X° : ± 3.0°	PRODUCT NAME: DL20040 (PHM)-T		TITLE: 2.00 mm Pitch Crimp Terminal	
.XX: ± 0.15	.X° : ± 2.0°				
.XXX: ± 0.01	.XX° : ± 1.0°	DR:Chen Quan Long	DATE:23/02/11	PART NO: DL20040-T-X-X-X-XX	
FINISH:		CHKD: Wu Hui	DATE:23/02/11		
DRAWING NO: GC-DL20040-T-X-X-X-XX	APPD:Ren An De	DATE:23/02/11	UNITS: mm	SCALE: N/A	PAGE: 1/1
				REV.: A	

TYPE	Dimension mm				适用线规AWG
	A1	B1	A2	B2	
PHM-T-G	1.8	2.0	1.75	1.8	#26-22
PHM-T-D	1.8	2.0	1.3	1.4	#30-24