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1.0T-1 SERIES

Scope: This specification covers the 1.0mm spacing WIRE TO BOARD connector series.

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FILE NO	ENS008	APPROVAL	CHECK	DRAWING
ECR/N B	New spec			

[1. Product name and part number]

Product Name	Part Number
Terminal	1.0T-1-T
Housing	1.0T-1(SH)-NY/1.0T-1(SH)-NY-L/1.0T-1(SHD)-2×NY
Wafer Assembly ST. (SMT)	1.0T-1-LT(SH)-NA/1.0T-1-LT(SHD)-2×NA
Wafer Assembly R.A (SMT)	1.0T-1-WT(SH)-NA/1.0T-1-WT(SHD)-2×NA

[2. Ratings and applicable wires]

ITEM	STANDARD
Rated Voltage	50V DC/AC(rms)
Rated Current	1A
Applicable wires	AWG. #32~#28
Insulation O.D	Ø0.40~Ø0.80mm(max.)
Ambient Temperature	-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. Mated Length : 50mm (AWG. #28) (Based upon JIS C5402 5.4)	20mΩ (max.)
3-1-2	Insulation resistance	Mate connectors, apply 500V DC between adjacent terminals or ground. (Based upon JIS C5402 5.2/MIL-STD-202 method 302 Cond.B)	100MΩ (min.)
3-1-3	Dielectric strength	Mate connectors, apply 500V AC for 1 minute between adjacent terminal or ground. (Based upon JIS C5402 5.1/MIL-STD-202 Method 301)	No breakdown and flashover
3-1-4	Contact resistance on crimped portion	Crimp the maximum applicable wire on to the terminal, measure by dry circuit, 20mV MAX., 10mA. Wire Length : 50mm (AWG. #28)	10mΩ (max.)

3-2. Mechanical Performance

ITEM		Test condition	Requirement
3-2-1	Insertion force and withdrawal force	Insert and withdraw connectors at a speed of 25±3mm/minute.	Refer to paragraph 5

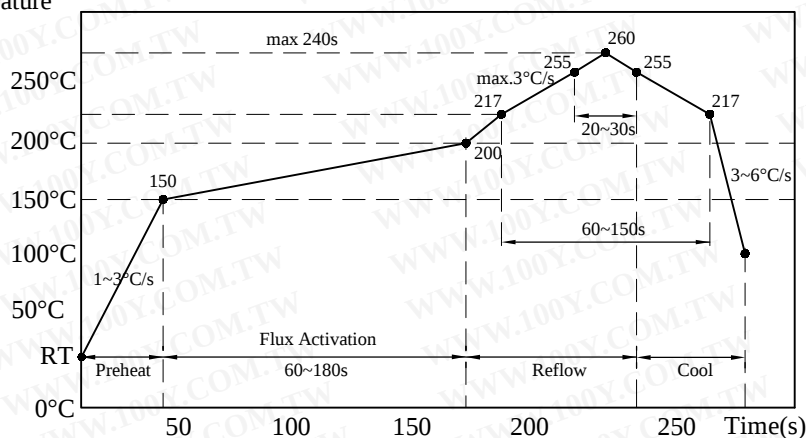
3-2-2	Crimping pull out force	Fix the crimped terminal, apply axial pull out force on the wire at a speed of 25±3mm/minute (Based upon JIS C5402 6.22)	Wire size	#28	#30	#32
			1	width	0.7±0.1	
			1	height	0.58 ~0.62	0.55 ~0.60 0.45 ~0.58
			2	width	0.70	
			2	height	1.10	1.00 0.90
			Crimp strength		1.5kgf min	0.8kgf min 0.5kgf min
			1: CONDUCTOR(mm)			
			2: INSULATION(mm)			
3-2-3	Terminal insertion force	Insert the crimped terminal into the housing at a speed of 25±3mm/min.	0.5kgf (max.)			
3-2-4	Terminal/Housing retention force	Apply axial pull out force at a speed of 25±3mm/minute on the terminal assembled In the housing.	0.5kgf (max.)			
3-2-5	Pin retention force	Apply axial push force at a speed of 25±3mm/minute on the contact pin assembled in the base wafer.	0.5kgf (max.)			

3-3. Environmental Performance and Others

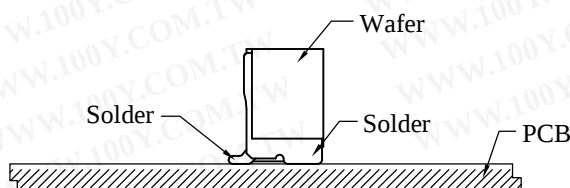
ITEM		Test condition	Requirement	
3-3-1	Repeated insertion/withdrawal	Mate connector up to 30 cycles repeatedly at a rate of 10 cycles/ minute. After which test the contact resistance	Contact resistance	40mΩ (max.)
3-3-2	Temperature rise	Apply rated current load on mated connector in series-connection. Measure change of temperature on contact using thermocouples for 4 hours. (Based upon UL 1977)		30°C (max.)
3-3-3	Vibration	Amplitude: 1.52mm P.P Sweep time: 10-55-10Hz/minute Duration: 2 hours in each X、Y、Z axlals. (Based upon MIL-STD-202 method 201A)	Appearance	No Damage
			Contact Resistance	40mΩ (max.)
			Discontinui-ty	1μ sec (max.)
3-3-4	Shock	50G, 3 strokes in each X、Y、Z. axlals. (Based upon JIS C0041)	Appearance	No Damage
			Contact Resistance	40mΩ (max.)
			Discontinui-ty	1μ sec (max.)
3-3-5	Heat resistance	Mated connector shall be placed in an oven for 96±4 hours at +85±2°C. (Based upon JIS C5402 7.8)	Appearance	No Damage
			Contact Resistance	40mΩ (max.)
3-3-6	Cold resistance	Mated connector shall be placed in a temperature chamber for 96±4 hours at -25±3°C (Based upon JIS C5402 7.9)	Appearance	No Damage
			Contact Resistance	40mΩ (max.)

3-3-7	Humidity	Mated connector shall be placed in a humidity chamber on the following conditions. Temperature: 40±2°C Relative humidity: 90~95% Duration : 240 Hours (Based upon MIL-STD-202 Method 103 Cond.A)	Appearance	No Damage
			Contact Resistance	40mΩ (max.)
			Dielectric strength	Must meet 3-1-3
			Insulation resistance	10MΩ (min.)
3-3-8	Temperature cycling	Mated connector shall be set to temperature cycling for 5 cycles of which 1 cycle consists of: 1>.+25°C ~ 3 minutes 2>.-35°C ~ 30 minutes 3>.+25°C ~ 3 minutes 4>.+85°C ~ 30 minutes (Based upon JIS C5402 7.2)	Appearance	No Damage
			Contact Resistance	40mΩ (max.)
			Dielectric strength	Must meet 3-1-3
			Insulation resistance	10MΩ (min.)
3-3-9	Salt spray	Mated connector shall be placed in a salt spray chamber on the following conditions. Salt Solution Density : 5±1% Temperature : 35±2°C Duration : First punch,second plate:24±4Hours First plate,second punch:8±2Hours Remarks : we make sure the important area	Appearance	No Damage
			Contact Resistance	40mΩ (max.)
3-3-10	Solderability	Immerse fluxed soldered section of contact pin into a solder bath for 3±0.5sec temperature: 230±5°C	95% of immersed area must show no voids nor pin holes.	
3-3-11	Resistance to soldering heat	Mated connector shall be dipped on solder bath for 5±0.5sec temperature: 260±5°C	No Damage in appearance	

Temperature



Standard JEDEC Temperature Profile (Lead Free Reflow)



[4. Insertion force and withdrawal force]

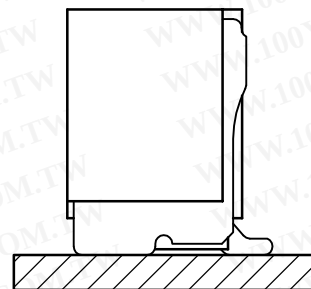
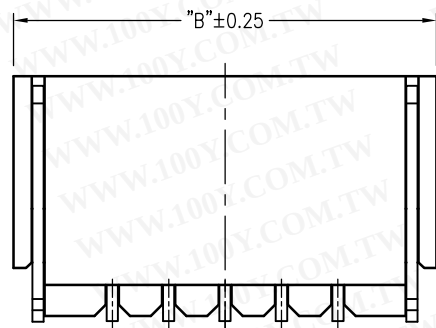
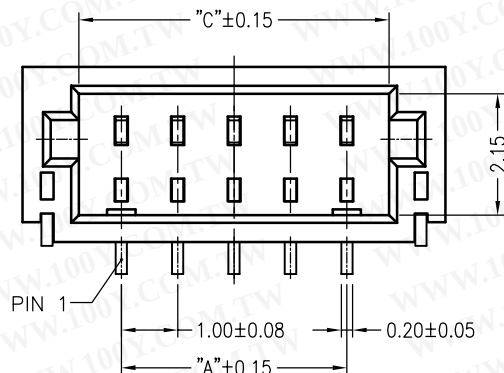
[UNIT:Kgf]

Circuits	Insertion (max.)	Withdrawal (min.)	
	Initial	Initial	30th
2	2.04	0.20	0.20
3	2.04	0.20	0.20
4	2.04	0.20	0.20
5	3.06	0.30	0.30
6	3.06	0.30	0.30
7	3.06	0.30	0.30
8	4.08	0.40	0.40
9	4.08	0.40	0.40
10	4.08	0.40	0.40
11	5.10	0.50	0.50
12	5.10	0.50	0.50
13	5.10	0.50	0.50
14	6.12	0.60	0.60
15	6.12	0.60	0.60
16	6.12	0.60	0.60
17	7.14	0.70	0.70
18	7.14	0.70	0.70
19	7.14	0.70	0.70
20	8.16	0.80	0.80

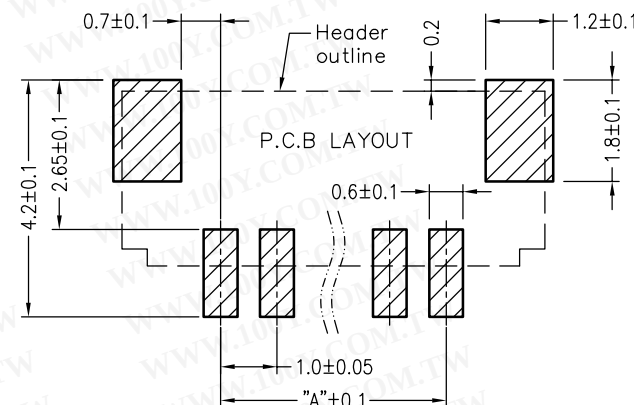
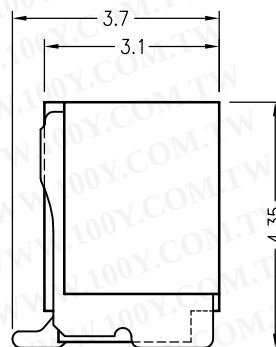
[5. Product shape, Dimensions and materials]

<REFER TO THE DRAWING>

Poles	DIM. A	DIM. B	DIM. C
2P	1.0	4.5	2.6
3P	2.0	5.5	3.6
4P	3.0	6.5	4.6
5P	4.0	7.5	5.6
6P	5.0	8.5	6.6
7P	6.0	9.5	7.6
8P	7.0	10.5	8.6
9P	8.0	11.5	9.6
10P	9.0	12.5	10.6
11P	10.0	13.5	11.6
12P	11.0	14.5	12.6
13P	12.0	15.5	13.6
14P	13.0	16.5	14.6
15P	14.0	17.5	15.6
16P	15.0	18.5	16.6
17P	16.0	19.5	17.6
18P	17.0	20.5	18.6
19P	18.0	21.5	19.6
20P	19.0	22.5	20.6



Assembly Layout



■ 技术参数 SPECIFICATIONS

- ◆ 适用线规: AWG#28~#32
Applicable Wire: AWG#28~#32
- ◆ 额定电压: 50V DC/AC(rms)
Rated voltage: 50V DC/AC(rms)
- ◆ 额定电流: 1A (AWG #28)
Rated Current: 1A (AWG #28)
- ◆ 耐压值: 500V AC/minute
Withstand voltage: 500V AC/min.
- ◆ 工作温度: -25°C ~ +85°C
Working Temp : -25°C ~ +85°C
- ◆ 绝缘电阻: ≥100 MΩ
Insulation resistance: ≥100 MΩ
- ◆ 接触电阻: ≤20mΩ
Contact resistance: ≤20mΩ

■ 材料 MATERIAL

- ◆ 绝缘体: 尼龙9T, UL94-V0
Insulator: PA9T, UL94-V0
- ◆ 接触针: 磷铜
Contact PIN: Phosphor bronze
- ◆ 焊片: 磷铜
Solder tab: Phosphor bronze



GENERAL TOLERANCE	
XX. ±0.40	
X. ±0.30	
.X ±0.25	X.* ± 2°
.XX ±0.15	.X.* ± 1°

SCALE:	8:1
UNIT:	mm
SIZE:	A4

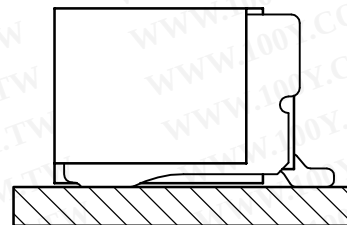
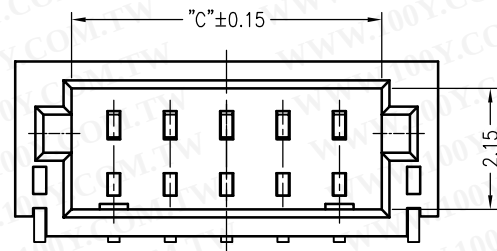
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CHECK:	DATE: 2014.7.2
APPROVE:	DATE: 2014.7.2

DOC. NO:	JD-Y-E001
PARTS NO:	1.0T-1-LT(SH)-NA

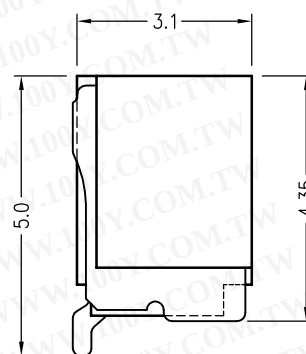
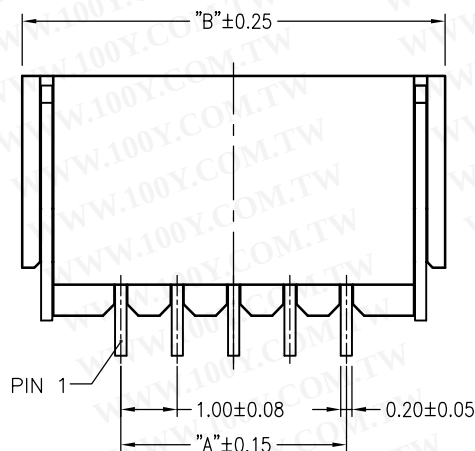
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工程图	SHEET: 1/1

Poles	DIM. A	DIM. B	DIM. C
2P	1.0	4.5	2.6
3P	2.0	5.5	3.6
4P	3.0	6.5	4.6
5P	4.0	7.5	5.6
6P	5.0	8.5	6.6
7P	6.0	9.5	7.6
8P	7.0	10.5	8.6
9P	8.0	11.5	9.6
10P	9.0	12.5	10.6
11P	10.0	13.5	11.6
12P	11.0	14.5	12.6
13P	12.0	15.5	13.6
14P	13.0	16.5	14.6
15P	14.0	17.5	15.6
16P	15.0	18.5	16.6
17P	16.0	19.5	17.6
18P	17.0	20.5	18.6
19P	18.0	21.5	19.6
20P	19.0	22.5	20.6

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Assembly Layout

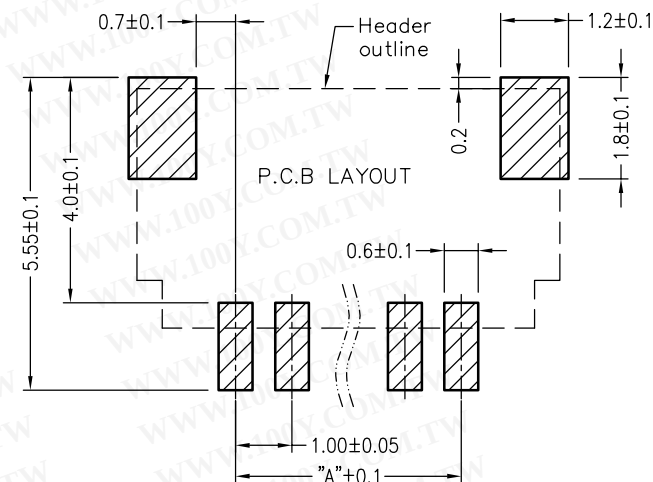


■ 技术参数 SPECIFICATIONS

- ◆ 适用线规: AWG#28~#32
Applicable Wire: AWG#28~#32
- ◆ 额定电压: 50V DC/AC(rms)
Rated voltage: 50V DC/AC(rms)
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Rated Current: 1A (AWG #28)
- ◆ 耐压值: 500V AC/minute
Withstand voltage: 500V AC/min.
- ◆ 工作温度: -25°C ~ +85°C
Working Temp : -25°C ~ +85°C
- ◆ 绝缘电阻: ≥100 MΩ
Insulation resistance: ≥100 MΩ
- ◆ 接触电阻: ≤20mΩ
Contact resistance: ≤20mΩ

■ 材料 MATERIAL

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Insulator: PA9T, UL94-V0
- ◆ 接触针: 磷铜
Contact PIN: Phosphor bronze
- ◆ 焊片: 磷铜
Solder tab: Phosphor bronze



GENERAL TOLERANCE	
XX. ±0.40	
X. ±0.30	
.X ±0.25	X.* ± 2°
.XX ±0.15	.X.* ± 1°

SCALE:	8:1
UNIT:	mm
SIZE:	A4

DRAWN:	DATE: 2014.3.26
CHECK:	DATE: 2014.3.26
APPROVE:	DATE: 2014.3.26

DOC. NO:	JD-Y-E002
PARTS NO:	1.0T-1-WT(SH)-NA

TITLE:	REV. B
工程图	SHEET: 1/1