

3001 SERIES

Scope: This specification covers the 3.0mm spacing WIRE TO BOARD/WIRE TO WIRE Connector series.

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Note: 以上测试视公司之测试条件/能力而定。

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ECR/N NO	New spec			

[1. Product name and part number]

Product Name	Part Number
Socket Terminal	3001-T (母端)
Pin Terminal	3001-T (公端)
Plug Housing(for socket terminal)	3001-2xNY
Receptacle Housing(for pin terminal)	3001-2xNR
Wafer Assembly S.T (DIP) 180°	3001-2xNA
Wafer Assembly R.A (DIP) 90°	3001-2xNAW 3001-2xNAW(带金属定位柱)

[2. Ratings and applicable wires]

ITEM	STANDARD
Rated Voltage	250V DC,AC(rms)
Rated Current	5A
Applicable Wires	AWG#20~#24
Insulation O.D	φ1.85mm(max.)
Ambient Temperature	-40°C~+105°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., 100mA. Mated Length : 50mm (Based upon JIS C5402 5.4)	10mΩ(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 condition B)	1000MΩ(min.)
3-1-3	Dielectric strength	Mate connectors, apply 1000V AC for 1 minute between adjacent terminal or ground. (Based upon JIS C5402 5.1/MIL-ST-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., 100mA. Wire Length : 50mm	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	Insertion force:(Per PIN)				
			1st(max)	0.6Kgf			
			Withdrawal force:(Per PIN)				
			1st(min)	0.35Kgf			
			10th(min)	0.25Kgf			
			30th(min)	0.20Kgf			
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	#20	#22	#24	
			1	width	1.65±0.1		
				height	1.02 ~0.92	0.98 ~0.88	0.95 ~0.85
			2	width	1.65±0.1		
				height	1.75	1.70	0.65
			Crimp strength	6.0kg min	4.0kg min	3.0kg 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/minute	1.0kgf (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.	3.0kgf (min.)				
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.	2.5kgf (min.)				

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	20mΩ (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 Sweep time: 10-55-10Hz/minute Duration: 2 Hours in each X、Y、Z axlals (Based upon MIL-STD-202 method 201)	Appearance	No Damage
			Contact Resistance	20mΩ (max.)
			Discontinuity	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	20mΩ (max.)
			Discontinuity	1μ sec (max.)
3-3-5	Heat resistance	Mated connector shall be placed in an oven for 96hours at +85±2°C. (based upon JIS C5402 7.8)	Appearance	No Damage
			Contact Resistance	20mΩ (max.)
3-3-6	Cold resistance	Mated connector shall be placed in a temperature chamber for 96hours at -25±2°C (based upon JIS C5402 7.9)	Appearance	No Damage
			Contact Resistance	20mΩ (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 : 96 Hours (Based upon MIL-STD-202 Method 103 conditions.A)	Appearance	No Damage
			Contact Resistance	20mΩ (max.)
			Dielectric strength	No breakdown at 500VAC
			Insulation resistance	1000MΩ (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>. -25°C ~ 30 minutes 3>. +25°C ~ 3 minutes 4>. +85°C ~ 30 minutes (Based upon JIS C5402 7.2)	Appearance	No Damage
			Contact Resistance	20mΩ (max.)
			Dielectric strength	No breakdown at 500VAC
			Insulation resistance	1000MΩ (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 : 24±4 Hours (Based upon JIS C5402 7.1 /MIL-STD-202 Method 101 Condition B)	Appearance	No Damage
			Contact Resistance	20mΩ (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±1sec, temperature: 260±5°C	No Damage in appearance	

[4. Product shape, Dimensions and materials]

Refer to the drawing