1. Scope

Wafer Connector FWF42002/FWF42003 Series

This specification covers the Wafer Connector FWF42002/FWF42003 Series

2. Connector Dimensions

Refer to the drawing.

3. Material

Housing:PA66 UL94V-0

Color :Transparent

Contacts Terminal:Brass

Plating:Tin-Plated all

4. Accommodated P.C.B Layout

Refer to the drawing.

5. Rating

Operating Voltage(Max.)	600V AC/DC
Current Rating(Max.)	7A DC/AC
Operating Temperature	-40°C -- +105°C(Including terminal temperature rese)

6. **Performance**

Electrical Performance

Contact Resistance	10mΩ Max	Mate connectors,Measure by dry circuit.20mV Max. 10mA Mated length: 50mm (Based upon JIS C5402 5.4)

Insulation Resistance	1000MΩ Min	Mate applicable connectors and apply 500V DC between adjacent terminal or ground. (Based upon JIS C5402 5.2/MIL-STD-202, method 302 cond.B)

Dielectric Strength	No breakdown and flashover	Mate applicable connectors,apply 1500V AC(rms) for 1 minute between adjacent terminal or ground. (Based upon JIS C5402 5.1/MIL-STD-202, method 301)

Contact resistance on Crimped Portion	10mΩ Max	Crimp the maximum applicable wire on to the terminal,measure by dry circuit,20mV MAX,10mA Wire length: 50mm

Mechanical Performance

Crimping pull out force	AWG #16	9.0 kgf Min	Fix the crimped terminal,apply axial pull out force on the wire at the speed rate of 25±3mm/minute. (Based upon JIS C5402 6.22)
	AWG #18	9.0 kgf Min	
	AWG #20	6.0 kgf Min	
	AWG #22	4.0 kgf Min	
	AWG #24	2.9 kgf Min	
	AWG #26	1.9 kgf Min	
	AWG #28	1.0 kgf Min	

Terminal Insertion force	1.5kgf Max	Insert the crimped terminal into the housing at a speed rate of 25±3mm/minute.

Terminal/Housing Retention force	3.0kgf Min	Apply axial pull out force at the speed rate of 25±3mm/minute on the terminal assembled in the housing

Pin retention force	1.0kgf(Min)	Apply axial push force at a speed of 25±3mm/minute on the contact pin assembled in the base wafer

Environmental Performance and others

Repeated insertion/withdrawal	When mated up to 30 cycles repeatedly by the rate of 10 cycles per minute	Contact Resistance	20 mΩ Max

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)	Temperature rise	30°C Max

Vibration	Mate connectors and subject to the following vibration conditions,for period of 2 hours in each of 3 mutually perpendicular axes,passing DC 1mA during the test . Amplitude:1.52mm P-P Frequency:10-55-10Hz in 1 munute Duration:2 hours in each of X.Y.Z axe (Based upon MIL-STD-202 method 201)	Appearance	No Damage
		Contact Resistance	20mΩ Max
		Discontinuity	1μsec Max

Shock	50G , 3 strokes in each X,Y,Z axlals. (Based upon JIS C0041)	Appearance	No Damage
		Contact Resistance	20mΩ Max
		Discontinuity	1μsec Max

Heat Resistance	Mated connector shall be placed in a oven for 96±4 hours at +105±2°C (Based upon JIS C5402 7.8)	Appearance	No Damage
		Contact Resistance	20mΩ Max

Cold Resistance	Mated connector shall be placed in a temperature chamber for 96±4 hours at -40±3°C (Based upon JIS C5402 7.9)	Appearance	No Damage
		Contact Resistance	20mΩ Max

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
		Insulation Resistance	100MΩ Min

Temperature Cycling	Mated connector shall be set to temperature cycling for 5 cycles of which 1 cycle consists of : 1.-55°C---------3minutes 2.+105°C---------30minutes (Based upon JIS C0025)	Appearance	No Damage
		Contact Resistance	20mΩ Max

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

Solderability	Immerse fluxed soldered section of contact pin into a solder bath for 3±0.5sec, temperature: 230±5°C	Solder Wetting	95% ofimmersed area must show no voids ,pin holes

Resistance to Soldering Heat	Mated connector shall be dipped on solder bath for 5±1sec temperature :260±5°C	Appearance	No Damage in appearance