1. **Scope**

Wafer Connector FWF25012/FWF25013 Series

This specification covers the Wafer Connector FWF25012/FWF25013 Series

2. **Connector Dimensions**

Refer to the drawing.

3. **Material**

Housing:PA66 UL94V-0

Color :White

Contacts Terminal:Brass

Plating:Tin-Plated all

4. **Accommodated P.C.B Layout**

Refer to the drawing.

5. **Rating**

Operating Voltage(Max.)	250V AC/DC
Current Rating(Max.)	3A DC/AC
Operating Temperature	-25°C -- +85°C(Including terminal temperature rese)

6. **Performance**

Electrical Performance

Contact Resistance	20mΩ Max	Mate connectors,Measure by dry circuit.20mV Max. 10mA
Insulation Resistance	1000MΩ Min	Mate applicable connectors and apply 500V DC between adjacent terminal or ground
Dielectric Strength	No Breakdown	Mate applicable connectors,apply 1000V AC(rms)for 1 minute between adjacent terminal or ground
Contact resistance on Crimped Portion	20mΩ Max	Crimp the maximum applicable wire on to the terminal,measure by dry circuit,20mV MAX,10mA

Mechanical Performance

Insert and withdrawal force	Refer to paragraph 7	Insert and withdraw connectors at the speed rate of 25±3mm/minute.	
Crimping pull out force	AWG #22	4.0 kgf Min	Fix the crimped terminal,apply axial pull out force on the wire at the speed rate of 25±3mm/minute.
	AWG #24	3.0 kgf Min	
	AWG #26	2.0 kgf Min	
	AWG #28	1.5 kgf Min	
Terminal Insertion force	1.5kgf Max	Insert the crimped terminal into the housing	
Terminal/Housing Retention force	2.0kgf Max	Apply axial pull out force at the speed rate of 25±3mm/minute on the terminal assembled in the housing	
Pin retention force	2.0kgf(Min)	Apply axial push force at a speed of 25±3mm/minuted 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	40 mΩ Max
Temperature Rise	Mate applicable connectors and Measure the temperature rise of contact when the maximum AC rated current is passed	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:1.5mm P-P Frequency:10-55-10Hz in 1 munute Duration:2 hours in each of X.Y.Z axe	Appearance	No Damage
		Contact Resistance	40mΩ Max
		Discontinuity	1μsec Max

Shock	50G , 3 strokes in each X,Y,Z axlals.(based upon JIS C0041)	Appearance	No Damage
		Contact Resistance	40mΩ Max
		Discontinuity	1μsec Max
Heat Resistance	Mated connector shall be placed in a oven for 96±4 hours at +85±2°C (Based upon JIS C5402 7.8)	Appearance	No Damage
		Contact Resistance	40mΩ Max
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
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 conditions a)	Appearance	No Damage
		Contact Resistance	40mΩ Max
		Dielectric strength	No Breakdown
		Insulation Resistance	100MΩ Min
Temperature Cycling	Mated connector shall be set to temperature cycling for 5 cycles of which 1cycle consists of : 1.+25°C---------3minutes 2.-25°C---------30minutes 3.+25°C---------3minutes 4.+85°C---------30minutes (Based upon JIS C5402 7.2)	Appearance	No Damage
		Contact Resistance	40mΩ 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	Appearance	No Damage
		Contact Resistance	40mΩ Max
SO_2 Gas	Mate applicable connectors and exposethem to the following SO_2 gas atmosphere Temperature 40±2°C Gas Density 50±5 ppm Duration 24 hours	Appearance	No Damage
		Contact Resistance	40mΩ Max

NH_3 Gas	40 minutes exposure to NH3 gas evaporating from 28% Ammonia solution.	Appearance	No Damage
		Contact Resistance	40mΩ Max

Solderability	Tip of solder tails and fitting nails into the molten solder (held at 245±5°C) up to 0.1mm form the bottom of the housing for 3 ±0.5 seconds.	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±0.5sec temperature :260±5°C	Appearance	No Damage

7. **Insertion/Withdrawal Force**

No of CKT	Unit	Insertion Force (MAX.)			Extraction Force(MIN.)		
		1st	10th	30th	1st	10th	30th
2	kgf	2.5	2.3	2.3	0.8	0.6	0.6
3	kgf	3.0	2.8	2.8	1.0	0.8	0.8
4	kgf	3.5	3.3	3.3	1.2	0.9	0.9
5	kgf	4.0	3.8	3.8	1.2	0.9	0.9
6	kgf	4.5	4.3	4.3	1.4	1.0	1.0
7	kgf	5.0	4.8	4.8	1.4	1.0	1.0
8	kgf	5.5	5.3	5.3	1.6	1.2	1.2
9	kgf	6.0	5.8	5.8	1.6	1.2	1.2
10	kgf	6.5	6.3	6.3	1.8	1.4	1.4
11	kgf	7.0	7.8	7.8	1.8	1.4	1.4
12	kgf	7.5	7.2	7.2	2.0	1.6	1.6
13	kgf	8.0	7.7	7.7	2.0	1.6	1.6
14	kgf	8..5	8.3	8.3	2.2	1.8	1.8
15	kgf	9.0	8.7	8.7	2.4	2.0	2.0
16	kgf	9.5	9.2	9.2	2.6	2.0	2.0