



PRODUCT SPECIFICATION

1. SCOPE

This Product Specification covers the general requirement for product performance and test method of .070 Multi W/W Connector.

2. PRODUCT DESCRIPTION

2.1 PRODUCT NAME AND PART NUMBER

PRODUCT NAME	PART NAME	REMARK
.070 Multi W/W Male Housing-4P	35180-040*	* Color 0 : Natural 2 : Red 3 : Yellow 4 : Blue Housing : Natural Blue
.070 Multi W/W Male Housing-6P	35180-060*	
.070 Multi W/W Female Housing-2P (A-Type)	35965-020/920*	
.070 Multi W/W Female Housing-2P (B-Type)	35965-021/921*	
.070 Multi W/W Female Housing-2P (C-Type)	35965-022/922*	
.070 Multi W/W Female Housing-2P (D-Type)	35965-923*	
.070 Multi W/W Male Housing TPA-2P	35182-029*	
.070 Multi W/W Male Housing TPA-3P	35182-039*	
.070 Multi W/W Female Housing TPA-2P	35965-029*	
.070 Multi W/W Common TPA-2P	104081-028*	
.070 Male Terminal (A-Type)	35745-0*10	* Barrel Size 1 : Small 2 : Medium
.070 Male Terminal (B-Type)	35747-0*10	
.070 Female Terminal (A-Type)	35746-0*10	
.070 Female Terminal (B-Type)	35748-0*10	

2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

See the appropriate drawings for information on dimensions, materials, platings and markings.

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3. RATING

Voltage	300V AC(RMS) / DC		
Current	AWG	Current	Insulation Dia.
	#14	15A MAX.	F3.8 MAX.
	#16	10A MAX.	F3.4 MAX.
	#18	7A MAX.	F3.0 MAX.
	#20	5A MAX.	F2.7 MAX.
	#22	4A MAX.	F2.5 MAX.
Ambient Temperature : -40°C ~ + 120°C			

4. APPLICABLE PRODUCT

Name & Part Number	Applicable Terminal			Terminal Wire Size
	Male TM'L	Female TM'L	Applicable Number of Circuit	
Male HSG-4P (35180-040*)	35745-0*10	-	1	* : 1 (AWG #22~#20) 2 (AWG #18~#14)
	-	35746-0*10	3	
	35747-0*10	-	2	
	-	35748-0*10	4	
Male HSG-6P (35180-060*)	35745-0*10	-	3, 4	
	-	35746-0*10	2, 5	
	35747-0*10	-	1, 6	
Female HSG-2P(A) (35965-020*)	-	35746-0*10	1, 2	
Female HSG-2P(B) (35965-021*)	35745-0*10	-	1, 2	
Female HSG-2P(C) (35965-022*)	-	35748-0*10	1, 2	
Female HSG-2P(D) (35965-023*)	35745-0*10	-	1, 2	

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* TPA

Part Number	Applicable Housing	Quqntity
35182-029*	35180-040*	2
35182-039*	35180-060*	2
35965-029*	35965-020*	1
	35965-021*	1
	35965-022*	1
104081-028*	35965-020*	2*2
	35965-023*	
	35965-022*	

* Mating Circuit Number

		35180-040*	35180-060*
		(Male HSG-4P)	(Male HSG-6P)
35965-020* (A-Type)	1 CKT	2 CKT	4 CKT
	2 CKT	1 CKT	3 CKT
35965-021* (B-Type)	1 CKT	3 CKT	5 CKT
	2 CKT	4 CKT	2 CKT
35965-022* (C-Type)	1 CKT	-	6 CKT
	2 CKT	-	1 CKT
35965-023* (D-Type)	1 CKT	3 CKT	5 CKT
	2 CKT	4 CKT	2 CKT

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5. PERFORMANCE

5.1 ELECTRICAL PERFORMANCE

ITEM	TEST CONDITION	REQUIREMENT
Insulation Resistance	Mate connectors with a voltage of 500VDC between adjacent terminals and between terminals and ground.	100MΩ Min.
Dielectric Resistance	Mate connectors with a voltage of 1500VAC for one minute between adjacent terminals and ground.	No Breakdown
Contact Resistance	Mate connectors with a maximum voltage of 20mV and a current of 10mA.	10mΩ Max.

5.2 MECHANICAL PERFORMANCE

ITEM	TEST CONDITION	REQUIREMENT	
Connector Insertion & Withdrawal	Insert and withdraw connectors at a rate 25±6mm per minute.	Insertion Force(Max.)	Withdrawal Force(Max.)
		3.5 kg.f	0.8 kg.f
Terminal Retention Force	Axia pullout force on the terminal in the housing at a rate of 25±6mm per minute.	4.0 kg.f Min.	
Durability	Mate connectors up to 30 cycles at a maximum rate Of 10 cycles per minute.	* Contact Resistance : 20mΩ Max. (change from initial)	
Terminal Insertion Force	Insert the crimped terminal into the housing.	3.0 kg.f Min.	

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Vibration	Amplitude : 1.5mm peak to peak Sweep : 10-55-10 Hz/minute Duration : 2 hours in each X-Y-Z axis.	* Appearance : No Damage * Contact Resistance : 20mΩ Max. (change from initial) * Discontinuity : 1 μS Max.	
TPA Retention Force	Axia pullout force on the TPA in the housing at a rate of 25±6mm per minute.	2.0 kg.f Min.	
Mechanical Shock	50G's with three shock in each X-Y-Z axis.	* Appearance : No Damage * Contact Resistance : 20mΩ Max. (change from initial) * Discontinuity : 1 μS Max.	
Wire Pullout Force	Apply an axial pullout force aon a wire at a rate of 25±6mm per minute.	AWG	Pullout Force
		#14	15 kg.f Min.
		#16	13 kg.f Min.
		#18	10 kg.f Min.
		#20	6 kg.f Min.
		#22	4 kg.f Min.

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5.3 ENVIRONMENTAL PERFORMANCE

ITEM	TEST CONDITION		REQUIREMENT
Thermal Shock	Mate connectors exposed for 5 cycles of :		* Appearance : No Damage * Contact Resistance : 20mΩ Max. (change from initial)
	Temperature	Duration	
	-55 +0/-3℃ +25 ±10℃ +120 +3/-0℃ +25 ±10℃	30 minutes 5 minutes Max. 30 minutes 5 Minutes Max.	
Heat Resistance	Mate connectors exposed for 96 hours at 120±2℃.		* Appearance : No Damage * Contact Resistance : 20mΩ Max. (change from initial)
Humidity Steady State	Mate connectors and exposed to a temperature of 80±2℃ with a relative humidity of 90 to 95% for 96 hours.		* Appearance : No Damage * Contact Resistance : 20mΩ Max. (change from initial) * Dielectric Strength : No Breakdown * Insulation Resistance : 100MΩ Min.
Temperature Rise	Mate connectors and measure the contact temperature at the rated current load.		Max. temperature of the terminal over ambient of 30℃

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ITEM	TEST CONDITION	REQUIREMENT
Salt Spray	Put the connectors into the chamber at $35\pm 2^{\circ}\text{C}$ and spray 5% solution of NaCl for 48 hours.	* Appearance : No Damage * Contact Resistance : 20m Ω Max. (change from initial)
SO ₂ Gas	24 hours exposure to 50 PPM SO ₂ Gas at 40 $^{\circ}\text{C}$	* Appearance : No Damage * Contact Resistance : 20m Ω Max. (change from initial)
NH ₃ Gas	40 minutes exposure to NH ₃ Gas evaporating from 28% ammonia solution.	* Appearance : No Damage * Contact Resistance : 20m Ω Max. (change from initial)

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