

molex[®] PRODUCT SPECIFICATION

.070 WTW CONNECTOR SERIES

1. SCOPE(적용범위)

THIS PRODUCT SPECIFICATION COVERS THE .070 W/W CONNECTOR SERIES.
(이 SPEC.은 .070 W/W CONNECTOR SERIES에 대하여 규정한다.)

2 PRODUCT DESCRIPTION(제품구성)

2.1 PRODUCT NAME AND PART NUMBER(제품명 & 제품 번호)

PRODUCT NAME	PART NO.	REMARK	
.070 W/W REC' HSG-1P	35150-010*/011*	*:HOUSING COLOR(MATERIAL) 0:NATURAL(PBT) 4:BLUE(PBT) 9:NATURAL(PP)	
.070 W/W PLUG HSG-1P	35151-011*		
6.2 PITCH W/W MALE HSG-2P	35150-02**		
6.2 PITCH W/W FEMALE HSG-2P	35151-02**		
7.3 PITCH W/W MALE HSG-3P	35150-030*/031*		
7.3 PITCH W/W FEMALE HSG-3P	35151-031*		
6.2 PITCH W/W MALE HSG-4P	35150-040*/041*		
6.2 PITCH W/W FEMALE HSG-4P	35151-041*		
7.3 PITCH W/W MALE HSG-6P	35150-060*/061*		
7.3 PITCH W/W FEMALE HSG-6P	35151-061*		
.070 W/W T.P.A-1P	35182-019*		*:T.P.A COLOR 0:NATURAL 2:RED 3:YELLOW 4:BLUE
6.2 PITCH W/W T.P.A-2P	35150-029*		
7.3 PITCH W/W T.P.A-3P	35150-039*		
.070 MALE TERMINAL - A	35745-0*10	*:BARREL SIZE 1:SMALL 2:MEDIUM 3:LARGE 4:EXTRA SMALL #: Contact Dimple 0: No Existing 1: Existing	
.070 FEMALE TERMINAL - A	35746-0*1#		
.070 MALE TERMINAL - B	35747-0*10		
.070 FEMALE TERMINAL - B	35748-0*1#		

2.2 MATERIALS, PLATING & DIMENSION(원재료,도금사양&치수)

SEE THE APPROPRIATE DRAWINGS FOR INFORMATION ON MATERIALS, PLATINGS AND DIMENSIONS.

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3. RATINGS(정격)

Item(구분)	Standard(규격)		
Rated Voltage(MAX.) (최대 허용 전압)	300V AC(RMS)/DC [300V AC(실효치 rms)/ DC]		
Rated Current(MAX) and Applicable wires (최대허용전류 적용전선)	AWG	CURRENT	INSULATION DIA
	# 14	15 A	ø3.8 MAX.
	# 16	10 A	ø3.4 MAX.
	# 18	7 A	ø3.0 MAX.
	# 20	5 A	ø2.7 MAX.
	# 22	4 A	ø2.5 MAX.
	# 24	2.5 A	ø2.35 MAX.
AMBIENT TEMPERATURE RANGE (PBT MATERIAL) (사용 온도 조건)			-40 °C~+120 °C
AMBIENT TEMPERATURE RANGE (PET/PC MATERIAL) (사용 온도 조건)			-40 °C~+110 °C

4. APPLICABLE PRODUCT (적용 제품)

PART NUMBER	APPLICABLE TERMINAL			TERMINAL WIRE SIZE
	MALE TM'L	FEMALE TM'L	APPLICABLE CIRCUIT No.	
35150-0100	35745	---	1	※ BARREL SIZE 1. SMALL : AWG #22 - #20 2. MEDIUM : AWG #18 - #14 3: LARGE : AWG #18 + #18 4: EXTRA SMALL : AWG #26 - #24
35151-0110	---	35746	1	
35150-020* -021*(MALE HSG)	35745	---	1, 2	
35151-021*(FEMALE HSG)	---	35746	1, 2	
35150-030* -031*(MALE HSG)	35745	---	1	
	---	35746	2	
	35747	---	3	
35151-031*(FEMALE HSG)	35745	---	2	
	---	35746	1	
	---	35748	3	

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4. APPLICABLE PRODUCT(Continued)

PART NUMBER & NAME	APPLICABLE TERMINAL			
	MALE TM'L	FEMALE TM'L	APPLICABLE CIRCUIT No.	
35150-040* -041*(MALE HSG)	35745	---	1	※ BARREL SIZE 1. SMALL : AWG #22 - #20 2. MEDIUM : AWG #18 - #14 3: LARGE : AWG #18 + #18 4: EXTRA SMALL : AWG #26 - #24
	---	35746	3	
	35747	---	2	
	---	35748	4	
35151-041*(FEMALE HSG)	35745	---	3	
	---	35746	1	
	35747	---	4	
35150-060* -061*(MALE HSG)	35745	---	3, 4	
	---	35746	2, 5	
	35747	---	1, 6	
35151-061*(FEMALE HSG)	35745	---	2, 5	
	---	35746	3, 4	
	---	35748	1, 6	

* T.P.A

HOUSING PART NUMBER	T.P.A	QUANTITY
35150-0100 , 35151-0110	35182-019*	1 EA
35150-020*/021*, 35151-021*	35150-029*	1 EA
35150-030*/031*, 35151-031*	35150-039*	1 EA
35150-040*/041*, 35151-041*	35150-029*	2 EA
35150-060*/061*, 35151-061*	35150-039*	2 EA

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5. ELECTRICAL PERFORMANCE(전기적 특성)

ITEM(항목)		TEST CONDITION(시험조건)	REQUIREMENT(규격)
1	Insulation Resistance	Mate applicable connector and Apply a voltage of 500V DC between adjacent terminals and between terminals to ground	100 megaohms Minimum
	절연저항	Connector를 결합한 상태에서 연결하는 단자와 단자, 단자와 접지간에 DC 500V를 가하고 측정한다	
2	Dielectric Strength	Mate connectors, Apply a voltage of 1,500V AC(rms) for 1 minute between adjacent terminals and between terminals to ground.	No breakdown Current leakage<5mA
	내 전 압	Connector를 결합한 상태에서 연결하는 단자와 단자, 단자와 접지간 AC 1,500V를 1분간 가한다	
3	Contact Resistance	Mate connectors, measure by dry circuit apply a maximum voltage of 20mV and a current of 10mA	10 milliohms Maximum
	접촉저항	Connector를 결합한 상태에서 개방전압 20mV이하 단락전류 10mA에서 측정한다	
4	Temperature Rise	Mate connectors: measure the temperature rise at the rated current.	+30°C Maximum
	온도상승	커넥터를 결합하여, 정격 전류를 인가하여 온도 상승을 측정한다.	

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6. MECHANICAL PERFORMANCE(기계적 특성)

ITEM(항목)		TEST CONDITION(시험조건)	REQUIREMENT(규격)		
5	Connector Insertion And Withdrawal Force	Insert and withdrawal with connector At a rate of 25±6mm per minute.	Applicable Ckt No.	Insertion Force(MAX.)	Withdrawal Force(Min.)
			1	1.6 kgf	0.5 kgf
			2	2.4 kgf	0.8 kgf
	커넥터 삽발거력	매분 25 ± 3mm/min의 속도로 삽발거를 한다.	3	4.2 kgf	1.2 kgf
			4	5.0 kgf	1.5 kgf
			6	6.2 kgf	2.4 kgf
6	Terminla/Housin Retention Force	Apply axial pull out force at the speed rate of 25 ± 3mm/min. on terminal assembled in the housing	4.0 Kgf Minimum.		
	Terminal 유지력	하우징과 Terminla을 조립한 상태에서 매분 25 ± 3mm/min의 속도로 축 방향으로 잡아당겨 측정한다.			
7	Durability	Mate connectors up to 30 cycles at a maximum rate of 10 cycles per minute.	20 milliohms Maximum		
	내구성	커넥터를 최대 10회/1분의 속도로 삽,발거를 30회 실시한다.			
8	Terminal Insertion Force (into Housing)	Apply an axial insertion force on the terminal at a rate of 25 ± 6 mm	2.5 kgf Maximum		
	단자 삽입력	하우징에 압착된 단자를 25 ± 6 mm/분의 속도로 삽입한다.			
9	VIBRATION	Mate connectors and subject to the following * vibration conditions: Amplitude : 1.5mm P-P Sweep Time : 10-55-10 Hz in 1 minute Duration : 2 Hours in each X.Y.Z axes	Appearance: No Damage Contact Resistance 20 milliohms Maximum Discontinuity < 1 microsecond		
	내진동성	커넥터를 결합하여 아래 진동상태를 가한다. 진 폭 : 1.5mm P-P 진동수 : 10-55-10 Hz/분 진동시간 : X.Y.Z축 각 2시간	외관: 이상 없을 것 접촉저항: 20 milliohms Maximum 순간단락: < 1 microsecond		

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6. MECHANICAL PERFORMANCE(Continued)

ITEM(항목)		TEST CONDITION(시험조건)	REQUIREMENT(규격)	
10	Shock (Mechanical)	Mate connectors and shock at 50 g's with ½ sine wave (11 milliseconds) shocks in the ±X,±Y,±Z axes (18 shocks total).	Appearance: No Damage Contact Resistance 20 milliohms Maximum Discontinuity < 1 microsecond .	
	내충격성	커넥터를 결합하여 반정현파 50G (490ms ²)의 충격을 ±X,±Y,±Z축 방향으로 3회 가한다. (총 18회)	외관: 이상 없을 것 접촉저항: 20 milliohms Maximum 순간단락: < 1 microsecond	
11	Wire Pullout Force	Apply an axial pullout force on the wire at a rate of 25 ± 6 mm.	Applicable Wore(AWG)	Pullout Force
			#14	15kgf Min.
			#16	13kgf Min.
			#18	10kgf Min.
			#18+#18 (쌍선)	
	전선 압착강도	단자를 압착하여 전선을 25±6 mm/분의 속도로 축 방향으로 당긴다.	#20	6kgf Min.
			#20+#20 (쌍선)	
			#22	4kgf Min.
		#24	3kgf Min.	
		#26	2kgf Min.	

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7. ENVIRONMENTAL PERFORMANCE(환경적 특성)

ITEM(항목)		TEST CONDITION(시험조건)		REQUIREMENT(규격)
12	Shock(Thermal)	Mate connectors and then expose below condition. Cycles: 5 Times		Appearance: No Damage Contact Resistance 20 milliohms Maximum
		Temperature (°C)	Duration (Minutes)	
		-55+0/-3°C +25±10°C -120 +3/-0°C +25±10°C	30 Minutes 5 Minutes 30 Minutes 5 Minutes	
	열충격	커넥터를 결합하여 아래 조건과 같이 5회 노출 시킨다..		외관: 이상 없을 것 접촉저항: 20 milliohms Maximum
	온도 (°C)	시간 (분)		
		-55+0/-3°C +25±10°C -120 +3/-0°C +25±10°C	30분 5분 30분 5분	
13	Thermal Aging	Mate connectors; expose to: 96 hours at 105 ± 2°C		Appearance: No Damage Contact Resistance 20 milliohms Maximum
	내열성	커넥터를 결합하여 주위온도 105 ± 2°C 에서 96시간 방치 후 꺼내어 측정한다.		외관: 이상 없을 것 접촉저항: 20 milliohms Maximum

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7. ENVIRONMENTAL PERFORMANCE(Continued)

ITEM(항목)		TEST CONDITION(시험조건)	REQUIREMENT(규격)
14	Humidity (Steady State)	<p>Mate connectors: expose to a temperature of 60 ± 2°C with a relative humidity of 90-95% for 96 hours.</p> <p>Note: Remove surface moisture and air dry for 1 hour prior to measurements.</p>	<p>Appearance: No Damage</p> <p>Contact Resistance 20 milliohms Maximum</p> <p>Insulation Resistance: 100 Megohms Minimum</p> <p>Dielectric Withstanding: No breakdown at 1,500 VAC</p>
	내습성	<p>커넥터를 결합하여 상대습도 90-95% , 온도 80 ± 2°C 상태에서 96 시간 방치한다. 측정 전 수분을 제거하고 대기 에서 1시간 건조한다</p>	<p>외관: 이상 없을 것 접촉저항: 20 milliohms Maximum 절연저항: 100 Megohms Minimum 내전압: 절연파괴 없을것(@1,500VAC)</p>
15	Salt Spray	<p>Mate connectors: Duration: 48 hours exposure; Atmosphere: salt spray from a 5% solution; Temperature: 35 ± 2°C</p>	<p>Appearance: No Damage</p> <p>Contact Resistance 20 milliohms Maximum</p>
		<p>주위온도 : 35 ± 2°C 에서 5% 중량비의 염수를 48시간 분무하고 시험후 상온에서 물로 씻은 후 실온에서 건조시킨다.</p>	<p>외관: 이상 없을 것 접촉저항: 20 milliohms Maximum</p>
16	Sulfur Dioxide Gas (SO2)	<p>Duration: 24 hours exposure; Atmosphere: 50ppm SO2 gas; Temperature: 40 ± 2°C</p>	<p>Appearance: No Damage</p> <p>Contact Resistance 20 milliohms Maximum</p>
	내 아황산성	<p>주위온도 : 40 ± 2°C 환경 : 50ppm SO2 gas 시간 : 24시간 방치</p>	<p>외관: 이상 없을 것 접촉저항: 20 milliohms Maximum</p>
17	Ammonia Gas (NH3)	<p>Duration: 40 minutes exposure; Atmosphere: NH3 gas evaporating from a 28% Ammonia solution</p>	<p>Appearance: No Damage</p> <p>Contact Resistance 20 milliohms Maximum</p>
	내 암모니아성	<p>주위온도 : 40 ± 2°C 환경 : 28% NH3 gas 시간 : 40분 방치</p>	<p>외관: 이상 없을 것 접촉저항: 20 milliohms Maximum</p>

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