040 WIRE TO WIRE CONNENTOR(14P,20P,22P,24P)

1. SCOPE

This specification covers the 040 Wire-to Wire Connector Series for automobiles.

2. PRODUCT DESCRIPTION

2.1 PRODUCT NAME AND PART NUMBERS

NO.	PART NAME	PART NO.	REMARK
1	.040 F/HSG ASS'Y 14P	35898-1410	NATURAL
2	.040 M/HSG ASS'Y 14P	35899-1410	"
3	.040/090 F/HSG AS.S'Y 20P	35896-2010	"
4	.040/090 M/HSG AS.S'Y 20P	35897-201*	NATURAL,GRAY
5	.040/090 F/HSG AS.S'Y 22P	35896-221*	"
6	.040/090 M/HSG AS.S'Y 22P	35897-221*	"
7	.040/090 F/HSG AS.S'Y 24P	35896-241*	NATURAL,GRAY,BLACK
8	.040/090 M/HSG AS.S'Y 24P	35897-241*	"
9	.040 F/TER'L	50654-1001	PRE-TIN
10	.040 M/TER'L	50660-9001	"
11	.090 F/TER'L	35421-6*02	"
12	.090 M/TER'L	57919-6*02	"

2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

{See the appropriate Sales Drawings for information on dimensions, materials, platings, and markings.}

3. RATINGS

3-1 CURRENT RATING

I : Rated current

$I = Im \times Kd$ Im : Max. current

Kd : Reducing cofficient

Connector Ckts	Kd
14P,20P,22P,24P	0.5

TER'L	CURRENT
.040	3 A
.090	9 A

Wire Size	Im
0.3 ㎟	6 A
0.5 ㎟	8 A
0.85 ㎟	10 A
1.25 ㎟	14 A
2.0 ㎟	18 A

3-2 TEMPERATURE
-40℃ ~ +80℃

4. PERFORMANCE

4-1 ELECTRICAL PERFORMANCE

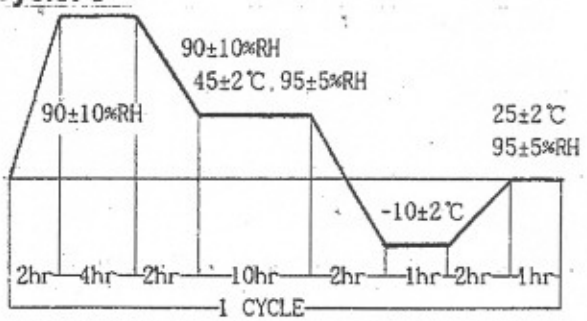
ITEM	TEST CONDITION	REQUIREMENT
Insulation Resistance	Apply voltage of DC500V between terminals and between housing and terminals with the housing whose terminal are connected at all CKTS.,properly mated,and measure insulation resistance within 30 seconds.	100 MΩ MIN.
Withstanding Voltage	Apply AC1000V for one minute between terminals and between housing and terminals with the housing whose terminal are connected at all CKTS. properly mated,	No deformation, welding,damage at housing and terminals
Voltage Drop	Crimp the applicable wire on to the terminal, measure by dry circuit. 12V MAX. ,1A	.040 : 6 mV/A .090 : 3m V/A

4.2 MECHANICAL PERFORMANCE

ITEM	TEST CONDITION	REQUIREMENT
Connector Mate & Unmate Force	Mate and unmate connector at a rate of 20~200mm per minute.	13~22p: 14 Kgf 23p~ : 18 kgf
Connector Lock strength	Mate connectors without terminals and fix the one side of the housing and then pull the other housing at a rate of 20~200mm per minute. To measure the load when release of the locking mechanism or destruction of it.	10.0Kgf MIN.

Terminal Retention Force	Axial pullout force on the terminal in the housing(with TPA) at a rate of 20~200mm per minute.	.040 : 8 Kgf MIN. .090 : 10 Kgf MIN.
Terminal Crimp Force	Fix the terminal with the wire crimped,Pull the wire toward the axial direction at a testing speed of 100 mm/min.,and measure the force	0.3㎟: 6 Kgf MIN. 0.5㎟: 9Kgf MIN. 0.85㎟: 13Kgf MIN. 1.25㎟: 17Kgf MIN. 2.0㎟: 20Kgf MIN.

4.3 ENVIRONMENTAL PERFORMANCE

Temperature Rise	Mate connectors: measure the temperature rise at the rated current after 96 hours.	50℃ MAX.
Temperature, Hummity cycle	Temperature: 25±5℃ Hummity: 65±20% Duration : 25 hours Cycle: 5 	Voltage Drop: 10m V/A MAX. Appearence: No Damage Leakage of current: 100 ㎂ MAX.
Thermal Aging	Mate connectors: expose to a temperature of 120±2℃ for 120 hours	Voltage Drop: 10m V/A MAX. Appearence: No Damage

ITEM	TEST CONDITION	REQUIREMENT
Thermal Shock	Mate connectors: expose 100 cycle of Temperature ℃ Duration(Minutes) -40 +0/-3 60 +25±10 5 MAX. +80+3/-0 60 +25±10 5 MAX.	Voltage Drop: 10 mV/A MAX. Appearance: No Damage
Rush Current	Mate connectors: expose for 1000 cycles at 60℃ temperature and below test condition. Condition ① - Current: twice as many rated current - 1 cycle: 1 minute ON and 9 minute OFF Condition ② - Current: Five times as many rated current - 1 cycle: 10 seconds ON and 590 seconds OFF	Voltage Drop: 10 mV/A MAX. Appearance: No Damage
Cold Resistance	Mate connectors: Duration: 120 hours Temperature:-40+0/-10℃	Voltage Drop: 10 mV/A MAX. Appearance: No Damage
Oil & Fluid Resistance	Mate connectors and sock into the below condition. 1) Engine oil at 50±2℃for 2 hours. 2) Gasoline at the room temperature for 10 minutes. 3) Break fluid at the room temperature for 1 hours. 4) Cold water,nonfreezing solution(5%) at the room temperature for 1 hours. 5) Cold water,nonfreezing solution(50%) at the room temperature for 1 hours. 6) Washer fluid at the room temperature for 1 hours.	Voltage Drop: 10 mV/A MAX.

Ozone Resistance	**Mate connectors:** **Duration: 8 hours exposure** **Atmosphere: 50±5 parts per hundard million(pphm) ozone.** **Temperature: 40±2 ℃,**	**Voltage Drop: 10 mV/A MAX.**
Combined Environment	**Mate connectors and perform test according to the following conditions.** **Temperature : 80±3 ℃,-30±3 ℃ with 80~95 RH humitty.** **vibration : 4.5 G,20~200Hz(sweep 3 minutes)** **Duration : 360 hours,Current : rated current.**