PRODUCT SPECIFICATION

1.0 SCOPE

This product specification covers the 2.54 mm (0.100 inch) centerline (pitch) dual row H-DAC 64 unsealed wire to wire connection system terminated with 22 to 18 AWG wire using crimp technology.

2.0 PRODUCT DESCRIPTION

2.1 PRODUCT NAME AND SERIES NUMBERS

Product Name	Series
20 Way Female Harness Assembly	30700
18 Way Female Harness Assembly	30700
16 Way Female Harness Assembly	30700
14 Way Female Harness Assembly	30700
12 Way Female Harness Assembly	30700
10 Way Female Harness Assembly	30700
8 Way Female Harness Assembly	30700
6 Way Female Harness Assembly	30700
20 Way Male Harness Assembly	30968
18 Way Male Harness Assembly	30968
16 Way Male Harness Assembly	30968
14 Way Male Harness Assembly	30968
12 Way Male Harness Assembly	30968
10 Way Male Harness Assembly	30968
8 Way Male Harness Assembly	30968
6 Way Male Harness Assembly	30968

2.2 ASSOCIATED TERMINALS

Product Description	Vendor Part Number
Tyco 'GET' Female Receptacle Terminal (18/20ga)	1393366-1
Tyco 'GET' Female Receptacle Terminal (22ga)	1393367-1
Tyco 'GET' Male Terminal (18/20ga)	2-1419158-5
Tyco 'GET' Male Terminal (22ga)	1-1419158-6

2.3 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

Harness Housings: 30% glass filled SPS or SPS/Nylon blend
TPAs: 15% glass filled polyester

2.4 SAFETY AGENCY APPROVALS

UL File Number	Not Applicable
CSA File Number	Not Applicable
TUV License number	Not Applicable

3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

Description	Document Number
6-20 way right angle sales drawing (charted)	SD-30700-520
6-20 way vertical sales drawing (charted)	SD-30700-420
6-20 way harness sales drawing (charted)	SD-30700-120
6-20 way Sleeve Assembly Wire Connector Male inline (charted)	SD-30968-120
Female 'GET' Terminal Ford Sales Drawing (charted)	3F2T-14474-RA
Male 'GET' Terminal Ford Sales Drawing (charted)	IL2T-14421-AA
Tray packaging specification	PK-30907-260
Tube packaging specification	PK-30907-227
Bulk packaging specification	PK-30907-417
Bulk packaging specification	PK-30907-760
Partition packaging specification	PK-31302-105
Application specification	AS-30700-000

4.0 RATINGS

4.1 VOLTAGE

MAXIMUM OPERATING VOLTAGE: 14 VDC*
MAXIMUM WITHSTAND VOLTAGE (>100MΩ): 500 VDC

*Listed maximum operating voltage is used to establish maximum current. Higher operating voltages can be used but must be reevaluated to establish maximum allowable current

4.2 CURRENT AND APPLICABLE WIRES

Current is dependent on connector size, ambient temperature, blade size and related factors. Actual maximum current rating is application dependent and should be evaluated for each use.

AWG	Amperes	Wire range Insulation Diameter
18	TBD	1.91 - 2.06 mm (0.075 - 0.081 inch)
20	11	1.70 - 1.85 mm (0.067 - 0.073 inch)
22	9	1.50 - 1.65 mm (0.059 - 0.065 inch)

4.3 TEMPERATURE

Operating: - 40 Cº to + 100 Cº
Non-operating: - 40 Cº to + 100 Cº

5.0 PERFORMANCE

5.1 ELECTRICAL PERFORMANCE

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
1	**Contact Resistance (Low Level)**	Mate connectors: limiting the open circuit voltage of **20** mV and a maximum current of **100** mA.	**20** milliohms MAXIMUM
2	**Contact Resistance @ Rated Current (Voltage Drop)**	Mate connectors: apply a **5** ampere/ **1.0** mm^2 current	**20** milliohms MAXIMUM
3	**Isolation Resistance**	Apply a voltage of **500** VDC between adjacent terminals and between terminals to ground.	**20** Meg ohms MINIMUM
4	**Temperature Rise (via Current Cycling)**	Mate terminals: measure the temperature rise at the rated current after: **1008** hours of bench top testing (**45** minutes ON and **15** minutes OFF per hour).	Temperature rise over Ambient: **+55** Cº MAXIMUM

5.2 MECHANICAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
1	**Connector Mate/ Unmate Forces**	Mate and unmate connector (male to female) at a rate of **50 ± 6** mm (**2 ± ¼** inch) per minute.	Mate Force - See Chart in **Section 8.0**
			Unmate Force - See Chart in **Section 8.0**
			Unmate w/latch **110** Newtons MINIMUM
2	**Terminal Retention Force (in Housing)**	Axial pullout force on the terminal in the housing at a rate of **50 ± 6** mm (**2 ± ¼** inch) per minute.	w/o TPA **30** Newtons MINIMUM
			w/ TPA **75** Newtons MINIMUM
3	**Terminal Insertion Force (into Housing)**	Apply an axial insertion force on the terminal at a rate of **50 ± 6** mm (**2 ± ¼** inch) per minute.	**30** Newtons MAXIMUM
4	**Connector Audible Feedback**	The connector lock must provide audible feedback during connector mating at a rate of **50 ± 6** mm (**2 ± ¼** inch) per minute.	**7**dB over Ambient (C scale)
5	**Polarization Feature Effectiveness**	Connector must be polarized to prevent mating with similar connectors or incorrect orientation	**220** Newtons MINIMUM
6	**Terminal Position Assurance (TPA) Insertion Force (into housing)**	The force to insert the TPA from the preload (as shipped) position to the final position at a rate of **50 ± 6** mm (**2 ± ¼** inch) per minute.	**60** Newtons MAXIMUM
7	**Terminal Position Assurance (TPA) Extraction Force (in housing)**	The force to extract the TPA from the final position to the preload position (as shipped) at a rate of **50 ± 6** mm (**2 ± ¼** inch) per minute.	**60** Newtons MAXIMUM
8	**Locator Clip Insertion Force (in housing)**	The force to insert the locator clip to the final (as shipped) position at a rate of **50 ± 6** mm (**2 ± ¼** inch) per minute.	**30** Newtons MAXIMUM
9	**Locator Clip Extraction Force (in housing)**	The force to extract the locator clip from the final (as shipped) position to out at a rate of **50 ± 6** mm (**2 ± ¼** inch) per minute.	**110** Newtons MINIMUM

5.3 ENVIROMENTAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT

1	**Durability**	Mate connectors up to **10** cycles prior to environmental tests.	**20** milliohms MAXIMUM & Discontinuity < **1** microsecond
2	**Thermal Shock (Electrical)**	Mate connectors per durability; expose to **100** cycles of: Temperature Cº — Duration (Minutes) **-40 +0/-3** — **30** **+100 +3/-0** — **30**	**20** milliohms MAXIMUM & Discontinuity < **1** microsecond
3	**Vibration/ Mechanical Shock (Electrical)**	Mate connectors per durability. Connector assembly shall be vibrated for (**8** hours / axes @ **1.81** Grms, **10** shocks @ **35** Gs / axes) Not coupled to engine.	**20** milliohms MAXIMUM & Discontinuity < **1** microsecond
4	**Temperature/ Humidity Cycling (Electrical)**	Mate connectors per durability. Subject connector system to **40** cycles of: **1** hour @ -**40** C°; **4** hours @ **85** C°, **90**% RH **2** hours @ **100** C°	**20** milliohms MAXIMUM
5	**High Temperature Exposure (Electrical)**	Mate connectors per durability. Subject connector system to **100** Cº for **1008** hours.	**20** milliohms MAXIMUM

6.0 PACKAGING

Parts shall be packaged to protect against damage during handling, transit and storage.
TPAs may become seated during transit, please refer to PS-34646-001 for more information.

7.0 GAGES AND FIXTURES

All applicable gages and fixtures are referenced in the appropriate control plans.

8.0 OTHER INFORMATION

Products conform to USCAR-2 class II environment.

8.1 MATE & UNMATE FORCES – FULLY LOADED:

Circuit Size	Maximum Mate Force	Maximum Unmate Force w/o Latch
20	82.6	104.5
18	TBD	TBD
16	68.9	88.9
14	65.6	86.3
12	54.9	73.0
10	49.6	59.1
8	40.6	46.8
6	31.7	37.7