



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 Female Harness Assembly w/ Bridge	31389
18 Way Female Harness Assembly w/ Bridge	31389
16 Way Female Harness Assembly w/ Bridge	31389
14 Way Female Harness Assembly w/ Bridge	31389
12 Way Female Harness Assembly w/ Bridge	31389
10 Way Female Harness Assembly w/ Bridge	31389
8 Way Female Harness Assembly w/ Bridge	31389
6 Way Female Harness Assembly w/ Bridge	31389
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

REVISION: B	ECR/ECN INFORMATION: EC No: UAU2011-0006 DATE: 2010 / 07 / 02	TITLE: H-DAC 64 DUAL ROW UNSEALED INTERCONNECT SYSTEM	SHEET No. 1 of 6
DOCUMENT NUMBER: PS-30968-0001	CREATED / REVISED BY: JEREMY DUNAJ	CHECKED BY: BRAD DICK	APPROVED BY: SCOTT MARCEAU



PRODUCT SPECIFICATION

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

REVISION: B	ECR/ECN INFORMATION: EC No: UAU2011-0006 DATE: 2010 / 07 / 02	TITLE: H-DAC 64 DUAL ROW UNSEALED INTERCONNECT SYSTEM	SHEET No. 2 of 6
DOCUMENT NUMBER: PS-30968-0001	CREATED / REVISED BY: JEREMY DUNAJ	CHECKED BY: BRAD DICK	APPROVED BY: SCOTT MARCEAU



PRODUCT SPECIFICATION

4.0 RATINGS

4.1 VOLTAGE

500 VDC MAXIMUM

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 C° to + 100 C°

Non-operating: - 40 C° to + 100 C°

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 mm² 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 C° MAXIMUM

REVISION: B	ECR/ECN INFORMATION: EC No: UAU2011-0006 DATE: 2010 / 07 / 02	TITLE: H-DAC 64 DUAL ROW UNSEALED INTERCONNECT SYSTEM	SHEET No. 3 of 6
DOCUMENT NUMBER: PS-30968-0001	CREATED / REVISED BY: JEREMY DUNAJ	CHECKED BY: BRAD DICK	APPROVED BY: SCOTT MARCEAU



PRODUCT SPECIFICATION

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 ($2 \pm \frac{1}{4}$ 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 ($2 \pm \frac{1}{4}$ 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 ($2 \pm \frac{1}{4}$ 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 ($2 \pm \frac{1}{4}$ inch) per minute.	7dB 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 ($2 \pm \frac{1}{4}$ 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 ($2 \pm \frac{1}{4}$ 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 ($2 \pm \frac{1}{4}$ 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 ($2 \pm \frac{1}{4}$ inch) per minute.	110 Newtons MINIMUM

REVISION: B	ECR/ECN INFORMATION: EC No: UAU2011-0006 DATE: 2010 / 07 / 02	TITLE: H-DAC 64 DUAL ROW UNSEALED INTERCONNECT SYSTEM	SHEET No. 4 of 6
DOCUMENT NUMBER: PS-30968-0001	CREATED / REVISED BY: JEREMY DUNAJ	CHECKED BY: BRAD DICK	APPROVED BY: SCOTT MARCEAU



PRODUCT SPECIFICATION

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: <u>Temperature C°</u> <u>Duration (Minutes)</u> -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 C° 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.

REVISION: B	ECR/ECN INFORMATION: EC No: UAU2011-0006 DATE: 2010 / 07 / 02	TITLE: H-DAC 64 DUAL ROW UNSEALED INTERCONNECT SYSTEM	SHEET No. 5 of 6
DOCUMENT NUMBER: PS-30968-0001	CREATED / REVISED BY: JEREMY DUNAJ	CHECKED BY: BRAD DICK	APPROVED BY: SCOTT MARCEAU



PRODUCT SPECIFICATION

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

REVISION: B	ECR/ECN INFORMATION: EC No: UAU2011-0006 DATE: 2010 / 07 / 02	TITLE: H-DAC 64 DUAL ROW UNSEALED INTERCONNECT SYSTEM	SHEET No. 6 of 6
DOCUMENT NUMBER: PS-30968-0001	CREATED / REVISED BY: JEREMY DUNAJ	CHECKED BY: BRAD DICK	APPROVED BY: SCOTT MARCEAU