PRODUCT SPECIFICATION

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PRODUCT SPECIFICATION

1.0 SCOPE

This specification covers the .8mm centerline VHDCI Plug and Receptacle assemblies.

2.0 PRODUCT DESCRIPTION

2.1 PRODUCT NAME AND PART NUMBER

Product Name	Part Number
VHDCI PLUG KIT	71425 Series
RIGHT ANGLE RECEPTACLE ASSEMBLY	71430 Series
SMT RECEPTACLE ASSEMBLY	73776 Series
STACKED RECEPTACLE ASSEMBLY	74337 Series

2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

See the appropriate Sales Drawings for information on dimensions, materials, plating and markings, recommended panel mounting procedures, and specifications.

3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

SD- 71430-003	Right Angle Receptacle Sales Drawing
PK-70873-0823	Right Angle Receptacle Packaging Specification
SD-73776-002	Vertical SMT Receptacle Sales Drawing
PK-70873-0824	Vertical SMT Receptacle Packaging Specification
MS-71425-0002	Plug Assembly Kit
PK-70873-0851	Plug packaging specification
EIA SP-3652, REV. O	Industry Standard for .8mm VHDCI Connector (Dated 31/07/97)
TS-71425-9999	Test Summary for VHDCI Plug assembly
SD-74337-003, -011, -003	Stacked Receptacle Sales Drawing
AS-71425-001	Wire Termination Specification – VHDCI Plug
PK-74337-001	Stacked Receptacle Packaging Drawing

14.0 RATINGS

4.1 VOLTAGE: **30** Volts AC (RMS)/DC
4.2 CURRENT: **.5** Amps @ 50% Energized
4.3 TEMPERATURE:
Operating: - **55** °C to + **85** °C
4.4 UL/CSA CERTIFICATION:
1. 71425, 71430, 73776 Series: UL file: E29179
2. 71425, 71430, 73776 Series: CSA file: LR19980-520
3. 74337 Series: UL file: 01NK13745
4. 74337 Series: CSA file: 1194993

5.0 PERFORMANCE

5.1 ELECTRICAL PERFORMANCE:

Item	Test Condition	Requirement
5.1.1 Contact Resistance (Low Level) per EIA SP-3652, Rev.0	Mated Connectors with a maximum voltage of 20mV and a current of 100 mA.	50 milliohm Maximum Initial
5.1.2 Insulation Resistance per EIA 364, Test #21	Mated Connectors with a voltage of 100 VDC between adjacent terminals and between terminals and mounting panel.	500 Mega Ohms Minimum
5.1.3 Dielectric Withstanding Voltage per EIA 364, Test #20	Mated Connectors with a voltage of 250 VAC for 1 min. between adjacent terminals.	1 mA max leakage and no breakdown or flashover
5.1.4 Temperature Rise per EIA 364, Test #70	1.5 A max with 1 contact energized, 0.5 A max with 50% of the contacts energized, and 0.3 A max with 100% of the contacts energized.	Maximum Temperature Rise: 30°C, 10 milliohm change maximum
5.1.5 Shell Interface Resistance per EIA 364, Test #23	Mated connector shells with a maximum voltage of 20mV and a current of 100mA, between the ground leg of the receptacle shield and the solder tab of the plug shell.	50 milliohm Maximum Initial

5.2 MECHANICAL PERFORMANCE:

Item	Test Condition	Requirement
5.2.1 Mating force per EIA 364, Test #13	Measure force to mate at a rate of 13mm per minute max.	Maximum force: 0.54 N (55 grams) per contact
5.2.2 Durability per EIA 364, Test # 09	Mate connectors up to 500 cycles at a maximum rate of 500 cycles per hour. When required Pre-conditioning to be done for 10 cycles at a rate of 500 cycles per hour.	Contact Resistance : 10 milliohms Maximum Increase from Initial; No physical damage allowed
5.2.3 Mechanical Shock per EIA 364, Test # 27	30 g's peak acceleration half sine; 11 ms, 3 shocks applied along 3 mutually perpendicular planes, total 18 shocks.	Contact Resistance: 10 milliohms Maximum Increase from Initial; Discontinuity: not greater than one microsecond
5.2.4 Vibration per EIA 364, Test # 28	Amplitude: 4.44 g's RMS. Sweep: 20-500 Hz random Duration: 20 minutes	Contact Resistance: 10 milliohms Maximum Increase from Initial; Discontinuity: not greater than one microsecond
5.2.5 Unmating force per EIA 364, Test # 13	Measure force to unmate at a rate of 13mm per minute max.	.15N (15 g) minimum per contact
5.2.6 Solderability per EIA 364, Test # 52	Category 1, no steam age; RMA class 1 flux immerse in molten solder at a temperature of 245 ^{o}C at a rate of 25.4 mm per sec. Hold in solder for 5 +/-.5 sec.	Solderable area shall have a minimum of 95% solder coverage
5.2.7 Receptacle terminal retention	Measure force to extract terminal from plastic	0.5 Kg min. extraction force

5.2 MECHANICAL PERFORMANCE (Cont'd)

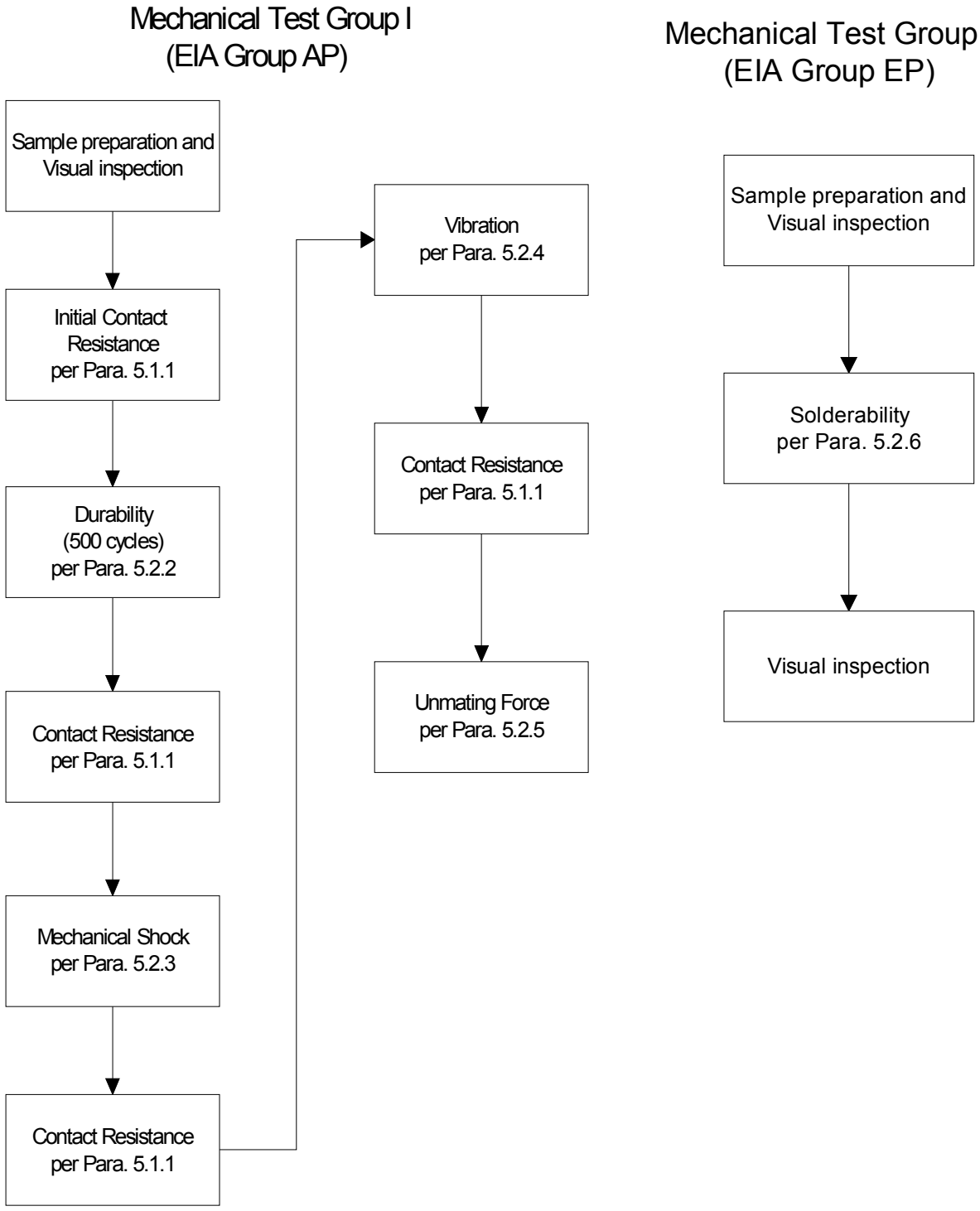
Item	Test Condition	Requirement
5.2.8 Threaded insert push-out	Apply force at a rate of 13mm/min. max. until insert moves 0.50mm	3.0 Kg min. pushout force
5.2.9 Threaded insert Torque-out	Apply maximum recommended tightening torque to screwlocks the have been started into the threaded inserts	.34 Nm with no damage to inserts or housing
5.2.10 Boardlock Insertion force	Apply force to connector at a rate of 13mm/min. max. rate. Measure force to insert boardlock pc board. Hole diameter = 1.20±.08mm	5.1 Kg max/connector
5.2.11 Boardlock Withdrawal force	Measure force required to remove boardlock pc board. Hole diameter = 1.20± .08 mm Pull at a rate of 13mm/min. max. rate.	.50 Kg min. max/connector
5.2.12 Boardlock Retention to housing (73776 Housing)	Apply force at a rate of 13mm/min. max. rate. Measure force to extract boardlock from housing.	2.0 Kg min.

5.3 ENVIRONMENTAL PERFORMANCE:

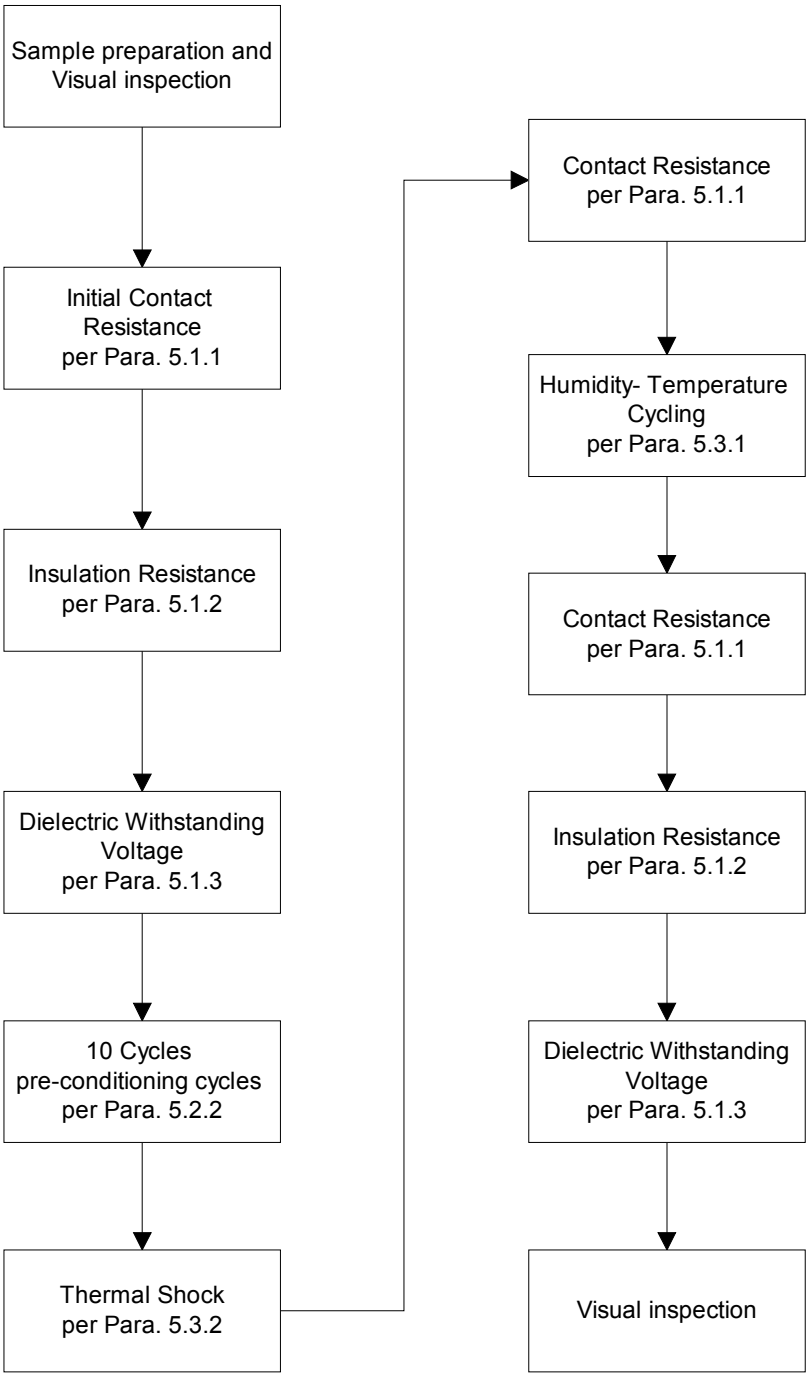
Item	Test Condition	Requirement
5.3.1 Humidity-Temp cycling per EIA 364, Test #31	Mated connectors exposed for 10 cycles (240 hours total) at 90-95% humidity and vary temperature from 25°C to 65°C. Remove surface moisture and air dry for 1 hour prior to measurements.	Appearance: No Damage Contact Resistance: 10 milliohms Maximum increase from initial; Insulation Resistance: 500 Megohms Minimum, Dielectric Withstanding: Voltage 250 VAC
5.3.2 Thermal Shock per EIA 34, Test #32	Mated connectors exposed to 25 cycles –55°C to +85°C, half hour dwell, at extemes. 10 mate/unmate precycles required (See 5.2.2)	No physical damage and pass subsequent tests. Contact resistance: 10 milliohms Maximum increase from initial.

5.3 ENVIRONMENTAL PERFORMACE (Cont).

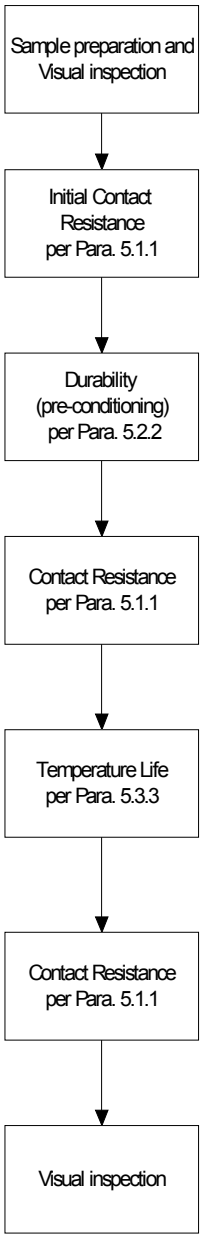
Item	Test Condition	Requirement
5.3.3 Temperature Life per EIA 364, Test #17	+85°C for 500 hours	No physical damage and pass subsequent tests. Contact Resistance: 10 milliohms Maximum Increase from Initial.
5.3.4 Flowing Mixed Gas (FMG) per EIA 364, Test #65	Mated connector exposed to Class III for 20 days	No physical damage and pass subsequent tests. Contact Resistance: 10 milliohms Maximum Increase from Initial
5.3.5 Resistance to soldering heat per EIA 364, Test #56	Surface mount at 235°C +10°C, -0°C; all other specimens at 260°C ±5°C	There shall be no defects that would impair normal operations.
5.3.6 Resistance to solvents per EIA 364, Test #11	Trichloroethylene	There shall be no defects that would impair normal operations.



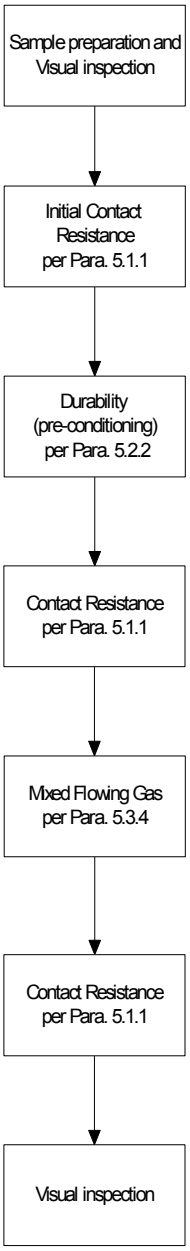
Enviromental Test Group I
(EIA Group DP)



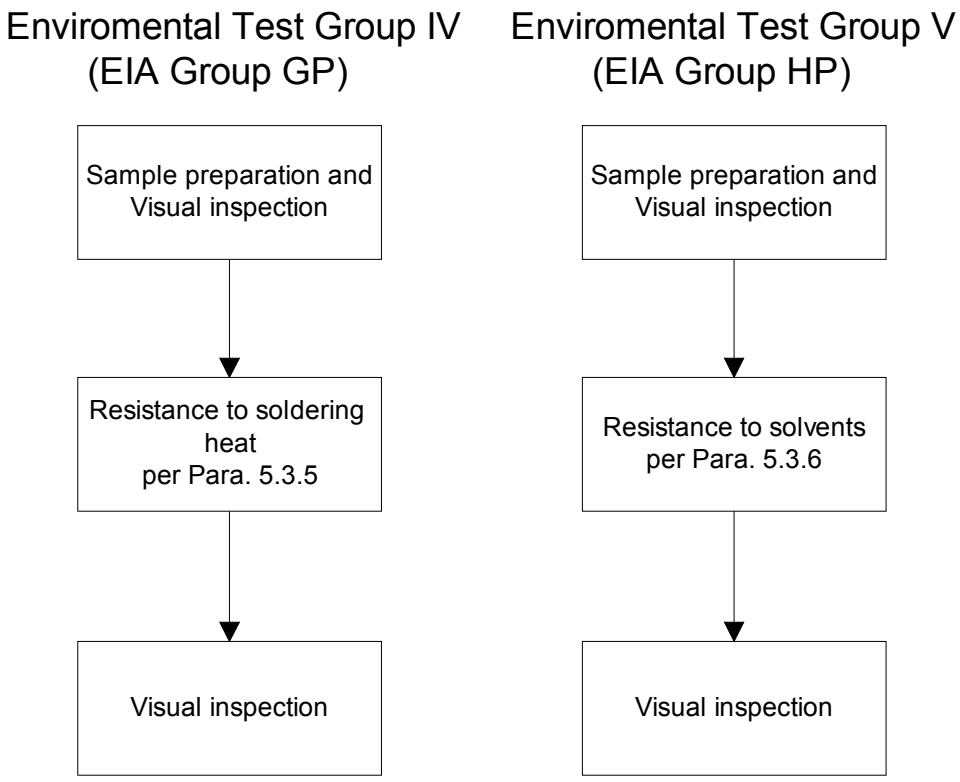
Enviromental Test Group II
(EIA Group BP)



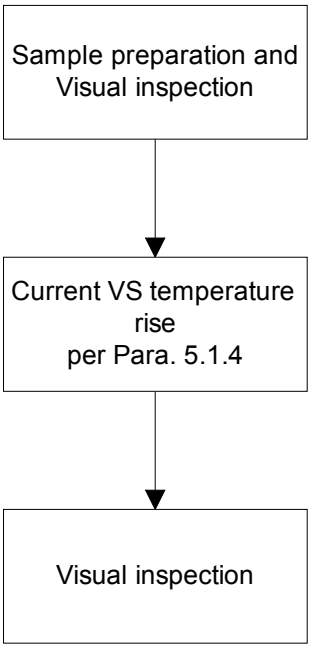
Enviromental Test Group III
(EIA Group CP)



6.0 TEST SEQUENCE AND QUALIFICATION



Electrical Test Group I
(EIA Group FP)



6.1 QUALIFICATION REQUIREMENT

6.1.1 Samples shall be taken from approved production processes.
6.1.2 The chart below specifies the number of samples required to be tested within each test group.
6.1.3 Acceptance criteria shall be as defined in the applicable test requirement in sections 5.1 - 5.3.

7.0 PACKAGING

7.1 METHOD

7.1.1 Product shall be tray and tube packaged per the packaging specification as called out on the applicable assembly print.

7.2 REQUIREMENTS

7.2.1 Packaging shall meet the requirements and be tested per Molex specification PK-70180-5001.

8.0 MISCELLANEOUS

8.1 Test groups

Test group	Minimum number of samples	Permitted # of defects
Mechanical Test Group I	5 Assemblies	0
Mechanical Test Group II	5 Assemblies	0
Environmental Test Group I	15 Assemblies	0
Environmental Test Group II	15 Assemblies	0
Environmental Test Group III	15 Assemblies	0
Environmental Test Group IV	5 Assemblies	0
Environmental Test Group V	5 Assemblies	0
Electrical Test Group I	5 Assemblies	0