

1. Scope :

1.1 Contents

This specification covers the requirements for product performance, test methods and quality assurance provisions of 025 IDC Connectors .

Applicable product description and part numbers are as shown in Appendix 1.

2. Applicable Documents :

The following documents form a part of this specification to the extent specified herein. In the event of conflict between the requirements of this specification and the product drawing, the product drawing shall take precedence. In the event of conflict between the requirements of this specification and the referenced documents, this specification shall take precedence.

2.1 AMP Specifications :

| | | |
|----|----------|---|
| A. | 109-5000 | Test Specification, General Requirements for Test Methods |
| B. | 114-5276 | Application Specification : 025 IDC Connectors |
| C. | 501-5375 | Qualification Test Report |
| | 501-5438 | Qualification Test Report (Wire to Wire) |

2.2 Commercial Standards and Specifications:

| | | |
|----|-------------|--|
| A. | JASO D605 | Multi-pole Connector for Automobiles |
| B. | JASO D7101 | Test Methods for Plastic Molded Parts |
| C. | JIS C3406 | Low Voltage Wires and Cables for Automobiles |
| D. | JIS D0203 | Method of Moisture, Rain and Spray Test for Automobile Parts |
| E. | JIS D0204 | Method of High and Low Temperature Test for Automobile Parts |
| F. | JIS D1601 | Vibration Testing Method for Automobile Parts |
| G. | JIS R5210 | Portland Cement |
| H. | MIL-STD-202 | Testing Method 208 : Method of Soldering |

3. Requirements :**3.1 Design and Construction :**

Product shall be of the design, construction and physical dimensions specified on the applicable product drawing.

3.2 Materials :**A. Contact :**

| Description | Material | Finish |
|--------------------|-----------------------|-------------|
| Tab(Male) | Copper Alloy or Brass | Tin-Plating |
| Receptacle(Female) | Copper Alloy | Tin-Plating |

Fig.1**B. Housing : PBT****3.3 Ratings :**

- A. Voltage Rating : 12 V DC
- B. Temperature Rating : -30~80°C

3.4 Performance Requirements and Test Descriptions :

The product shall be designed to meet the electrical, mechanical and environmental performance requirements specified in Fig.2 and Fig.3 All tests shall be performed in the room temperature, unless otherwise specified.

3.5 Test Requirements and Procedures Summary :

| Para. | Test Items | Requirements | Procedures |
|--------------------------------|--|--|--|
| 3.5.1 | Confirmation of Product | Meets requirements of product drawing and AMP Specification 114-5276. | Visually ,dimensionally and functionally inspected per applicable quality inspection plan |
| Electrical Requirements | | | |
| 3.5.2 | Termination Resistance (Low Level) | 8 mΩ Max. (Initial) 16 mΩ Max. (Final) | Subject mated contacts assembled in housing to 20 mV Max. open circuit at 10 mA. Fig. 4 AMP Spec. 109-5311-1 |
| 3.5.3 | Termination Resistance (Specified Current) | 8 mV/A Max. (Initial) 16 mV/A Max. (Final) | Subject mated contacts assembled in housing to 12 V Max. open circuit at 1A. Fig.4 AMP Spec. 109-5311-2 |
| 3.5.4 | Dielectric Withstanding Voltage | No creeping discharge nor flashover shall occur. | Impressed voltage 1kVAC for 1 min. Mated connector. Fig.5 AMP Spec. 109-5301 |
| 3.5.5 | Insulation Resistance | 100 MΩ Min. (Initial) 100 MΩ Min. (Final) | Impressed voltage 500VDC Mated connector. Fig.5 AMP Spec. 109-5302 |
| 3.5.6 | Current Leakage | 3mA Max. | Impressed voltage 14VDC Fig.6 AMP Spec. 109-5312 |
| 3.5.7 | Temperature Rise | 60°C Max. | Measure temperature rising at wire crimped by applied current to all positions. Fig.7 AMP Spec. 109-5310 |
| 3.5.8 | Over Current Loading | No ignition is allowed during the test. | Apply the current to only one position. Applied Current : Fig. 8 |
| Physical Requirements | | | |
| 3.5.9 | Vibration (High Frequency) | No electrical discontinuity greater than 1 μ sec. shall occur. Satisfy requirements of test item on the "3.6 sequence". | Vibration Frequency : 20→200→20Hz/3min. Acceleration : 44.1 m / s ² Vibration Direction : X, Y, Z Duration: 3hours each Mounting: Fig. 9 |

Fig.2 (To be continued)

| Para. | Test Items | Requirements | Procedures | | |
|--------|---|--|---|--|----------|
| 3.5.10 | Shock | No electrical discontinuity greater than 1 μ sec. shall occur. | Acceleration : 980m/s ² Waveform : Half sine wave Duration : 6msec.Velocity Number of Drops: 3 drops each directions of X,-X, Y,-Y,Z and -Z axes, totally 18 drops Mounting : Fig. 9 AMP Spec. 109-5208 | | |
| 3.5.11 | Connector Mating Force | 70N Max. | Operation Speed : 100mm/min. Measure the force required to mate connectors. AMP Spec. 109-5206 | | |
| 3.5.12 | Connector Unmating Force | 70N Max. | Operation Speed : 100mm / min. Measure the force required to unmate connectors. (without housing lock) AMP Spec. 109-5206 | | |
| 3.5.13 | Connector Locking Strength | 100N Min. | Apply an axial pull-off load to one of the mated housing, measure locking strength. Operation Speed : 100mm/min. AMP Spec. 109-5210 | | |
| 3.5.14 | Tensile Strength of Wire Termination | Wire Size(mm ²) | | Apply a pull-off load to terminated wire of contact secured on the tester. Operation Speed : 100mm/min. | |
| | | 0.08 0.22 | | | |
| | | Initial | 10N Min. | | 30N Min. |
| | | Final | 7N Min. | | 20N Min. |
| | | Wire Size(mm ²) | | | |
| | | 0.3 0.5 | | | |
| | | Initial | 55N Min. | 80N Min. | |
| | | Final | 40N Min. | 60N Min. | |
| 3.5.15 | Contact Retention Force(Secondary Lock) | 90N Min. | Measure contact retention force with secondary lock set it effect. Operation Speed : 100mm/min. AMP Spec. 109-5212 | | |
| 3.5.16 | Resistance to "Kojiri" | Satisfy requirements of test item on the "3.6 sequence". | Repeated mating-unmating by hand in up-down and right-left directions for 10 cycles. AMP Specification, 109-5215 | | |
| 3.5.17 | Handling Ergonomics | No abnormalities allowed in manual mating/unmating handling. | Manually operated. | | |

Fig.2(To be continued)

| Para. | Test Items | Requirements | Procedures |
|-----------------------------------|-----------------------------------|--|--|
| Environmental Requirements | | | |
| 3.5.18 | Thermal Shock | Satisfy requirements of test item on the "3.6 sequence". | -30°C/30min., 80°C/30min. Making this a cycle, repeat 1000 cycles. Monitor resistance-variation at closed circuit current of 10mA during the test. AMP Spec. 109-5103 |
| 3.5.19 | Humidity (Steady State) | Satisfy requirements of test item on the "3.6 sequence". Current Leakage : 3mA Max. | 90~95%R. H. , 60°C , 96hours Monitor current leakage during the test. AMP Spec. 109-5105 |
| 3.5.20 | Industrial Gas (SO ₂) | Satisfy requirements of test item on the "3.6 sequence". | Unmated connector SO ₂ Gas : 25ppm, 75% R. H. 25°C, 96 hours AMP Spec. 109-5107 |
| 3.5.21 | Temperature Life (Heat Aging) | Satisfy requirements of test item on the "3.6 sequence". | 100°C, 120hours AMP Spec. 109-5104 |
| 3.5.22 | Resistance to Cold | Satisfy requirements of test item on the "3.6 sequence". | -30°C, 120hours AMP Spec. 109-5108 |
| 3.5.23 | Humidity-Temperature Cycling | Satisfy requirements of test item on the "3.6 sequence". | Condition : Fig. 10 Making this condition a cycle, repeat 10 cycles. Monitor resistance-variation at closed circuit current of 10mA during the test. |
| 3.5.24 | Dust Bombardment | Satisfy requirements of test item on the "3.6 sequence". | Subject JIS R 5210 cement blow of 14.7N per 10 seconds in 15 minutes intervals for 8 cycles, with mating/unmating per 2 cycles. AMP Spec. 109-5110 |

Fig.2 (To be continued)

| Para. | Test Items | Requirements | Procedures |
|--------|---------------------------------|--|--|
| 3.5.25 | Compound Environment Resistance | Satisfy requirements of test item on the "3.6 sequence". No electrical discontinuity greater than 1 μ sec. shall occur. | Temperature : 80°C Vibration Frequency : 20→200→20Hz/3Min. (Log) Acceleration : 44.1m/s ² Vibration Direction : X, Y, Z Duration : 300hours Test Current : Fig. 11 Mounting : Fig. 9 Monitor resistance-variation, and after this test check if instant cutoff occurs for an hour on "3.5.9 vibration". |
| 3.5.26 | Dew Formation Tset | Satisfy requirements of test item on the "3.6 sequence". | 0°C/10min., 80°C/90° 95%/30min. Making this a cycle, repeat 48 cycles. Monitor current leakage during the test. |

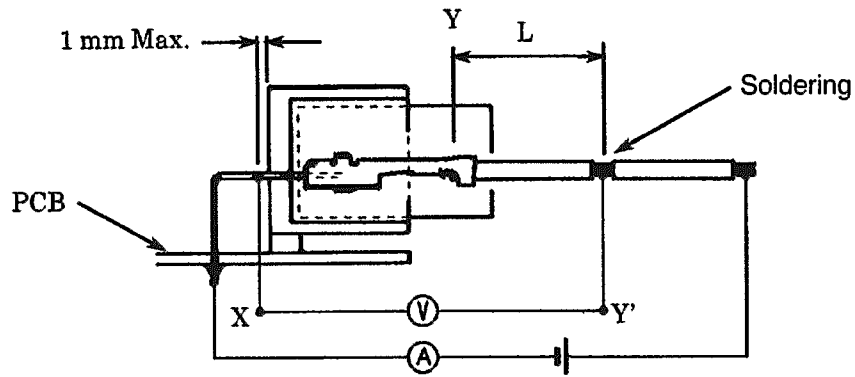
Fig. 2 (End)

3.6 Product Qualification Test Sequence

| No. | Test Examination | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|--------|--|------------------------------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
| | | Test Sequence ^(a) | | | | | | | | | | | | | | |
| 3.5.1 | Confirmation of Product | 1 | 1 | 1,5 | 1,6 | 1,4 | 1,5 | 1,5 | 1,5 | 1,5 | 1,5 | 1,3 | 1,5 | 1,6 | 1,6 | 1 |
| 3.5.2 | Termination Resistance (Low Level) | 3 | | 2,6 | 2,7 | | 2,6 | 2,6 | 2,6 | 2,6 | 2,6 | | 2,6 | 2,7 | 2,7 | |
| 3.5.3 | Termination Resistance (Rated Current) | 4 | | 3,7 | 3,8 | | 3,7 | 3,7 | 3,7 | 3,7 | 3,7 | | 3,7 | 3,8 | 3,8 | |
| 3.5.4 | Dielectric withstanding Voltage | 7 | | | | | | | 9 | | | | 9 | | | |
| 3.5.5 | Insulation Resistance | 6 | | | | | | | 8 | | | | 8 | | | 3 |
| 3.5.6 | Current Leakage | | | | | | | | 4 | | | | | | | 2 |
| 3.5.7 | Temperature Rise | 5 | | | | | | | | | 8 | | | | 9 | |
| 3.5.8 | Over Current Loading | | | 4 | | | | | | | | | | | | |
| 3.5.9 | Vibration (High Frequency) | | | | 5 | | | | | | | | | | 5 | |
| 3.5.10 | Shock | | | | | 3 | | | | | | | | | | |
| 3.5.11 | Connector Mating Force | 2 | | | | | | | | | | | | | | |
| 3.5.12 | Connector Unmating Force | 8 | | | | | | | | | | | | | | |
| 3.5.13 | Connector Locking Strength | | 3 | | | | | 11 | 11 | | 12 | | 11 | | | |
| 3.5.14 | Tensile Strength of Wire termination | | | | | | | 10 | | 8 | 11 | | | | | |
| 3.5.15 | Connector Retention Force | | 2 | | | | | 9 | 10 | | 10 | 5 | 10 | | | |
| 3.5.16 | Resistance to "Kojiri" | | | | | | 4 | | | | | | | | | |
| 3.5.17 | Handling Ergonomics | | | | | | | 8 | | | 9 | 4 | 12 | | | |
| 3.5.18 | Thermal Shock | | | | | | | 4 | | | | | | | | |
| 3.5.19 | Humidity (Steady State) | | | | | | | | 4 | | | | | | | |
| 3.5.20 | Industrial SO ₂ Gas | | | | | | | | | 4 | | | | | | |
| 3.5.21 | Temperature Life (Heat Aging) | | | | 4 | 2 | | | | | 4 | | | 4 | | |
| 3.5.22 | Resistance to Cold | | | | | | | | | | | 2 | | | | |
| 3.5.23 | Humidity-Temperature Cycling | | | | | | | | | | | | 4 | | | |
| 3.5.24 | Dust Bombardment | | | | | | | | | | | | | 5 | | |
| 3.5.25 | Compound Environment Resistance | | | | | | | | | | | | | | 4 | |
| 3.5.26 | Dew Formation Test | | | | | | | | | | | | | | | 2 |

(a) Numbers indicate sequence in which tests are performed.

Fig.3(End)



Deduct resistance of Y-Y' (wire "L") from X-Y'

Fig. 4

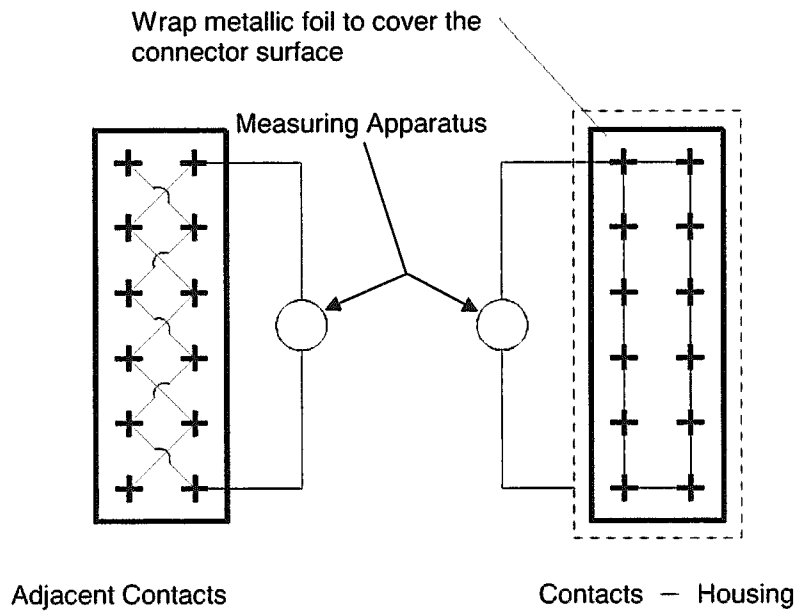


Fig. 5

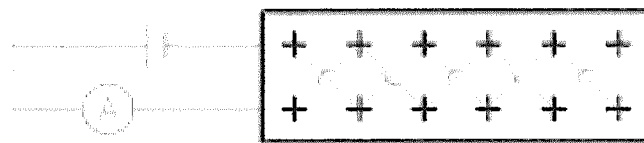


Fig.6

Test Current (A)

| Kind of Connectors | Wire Size(mm ²) | | | |
|--------------------|-----------------------------|------|------|------|
| | 0.08 | 0.22 | 0.3 | 0.5 |
| 4 | 0.9 | 3 | 4.2 | 6.6 |
| 8 | 0.825 | 2.75 | 3.85 | 6.05 |
| 12 | 0.75 | 2.5 | 3.5 | 5.5 |
| 16~20 | 0.6 | 2 | 2.8 | 4.4 |
| 24 | 0.45 | 1.5 | 2.1 | 3.3 |
| 32~40 | 0.3 | 1 | 1.4 | 2.2 |

Fig.7

| Wire Size (mm ²) | Current (A) | Duration | Wire Size (mm ²) | Current (A) | Duration |
|------------------------------|-------------|----------|------------------------------|-------------|----------|
| 0.22 | 8.2 | 60m | 0.5 | 16.5 | 60m |
| | 10.1 | 20s | | 20.2 | 200s |
| | 11.3 | 5s | | 22.5 | 5s |
| | 15 | 0.5s | | 30 | 1s |
| 0.3 | 11 | 60m | / | | |
| | 13.5 | 10s | | | |
| | 15 | 5s | | | |
| | 20 | 1s | | | |

Fig.8

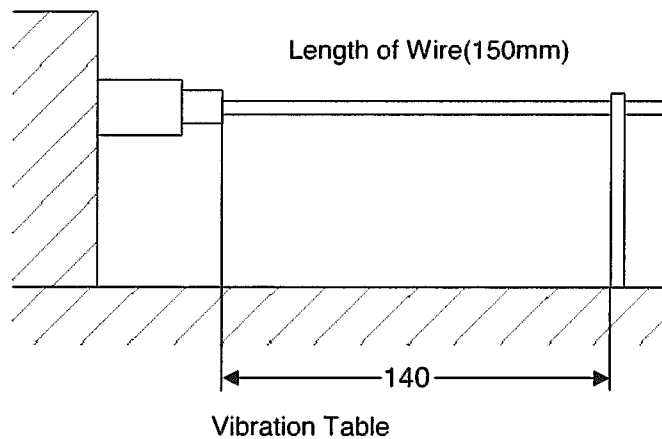


Fig. 9

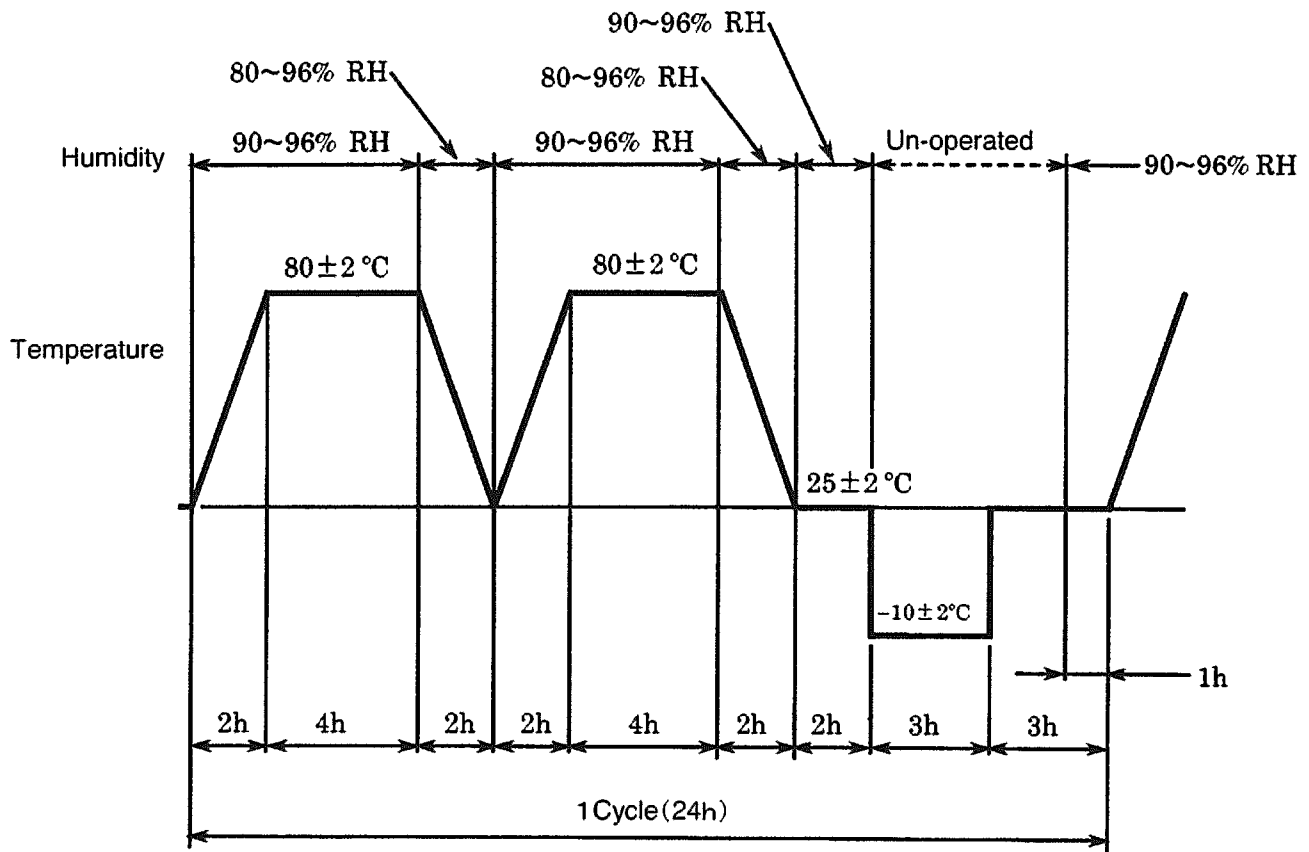


Fig.10

| Test Current Kind of Connectors | Wire Size (mm ²) | | | | Test Time |
|------------------------------------|------------------------------|------|-----|-----|------------------------------------|
| | 0.08 | 0.22 | 0.3 | 0.5 | |
| 4 | 0.6 | 1.8 | 2.4 | 3.6 | 45min.ON 15min.OFF 300cycles |
| 8 | 0.55 | 1.65 | 2.2 | 3.3 | |
| 12 | 0.5 | 1.5 | 2 | 3 | |
| 16~20 | 0.4 | 1.2 | 1.6 | 2.4 | |
| 24 | 0.3 | 0.9 | 1.2 | 1.8 | |
| 32~40 | 0.2 | 0.6 | 0.8 | 1.2 | |

Fig.11

Description and Product Part No

| | Description Product Part No.* | | |
|-------|---|--------------------------------------|--------------------------------|
| | FEMALE CONNECTOR | MALE CONNECTOR | |
| | | W to W | W to B |
| 4POS | IDC 4POS PLUG ASSEMBLY 1717248 (WITH A TERMINAL) | CRIMP&IDC CAP ASSEMBLY 1473790 | / |
| | IDC 4POS PLUG HOUSING 1473800 | | |
| | IDC 4POS LOCK HOUSING 1473801 | | |
| 8POS | IDC 4POS PLUG ASSEMBLY 1717248 (WITH A TERMINAL, 2PCS USAGE) | CRIMP&IDC CAP ASSEMBLY 1473793 | H-TYPE CAP ASSEMBLY 1376350 |
| | IDC 4POS PLUG HOUSING 1473800 (2PCS USAGE) | | |
| | IDC 8POS LOCK HOUSING 1473802 | | |
| 12POS | IDC 6POS PLUG ASSEMBLY 1717591 (WITH A TERMINAL, 2PCS USAGE) | CRIMP&IDC CAP ASSEMBLY 1565894 | H-TYPE CAP ASSEMBLY 1318772 |
| | IDC 6POS PLUG HOUSING 1473809 (2PCS USAGE) | | V-TYPE CAP ASSEMBLY 1473898 |
| | IDC 12POS LOCK HOUSING 1473810 | | |
| 16POS | IDC 8POS PLUG ASSEMBLY 1318690 (WITH A TERMINAL, 2PCS USAGE) | CRIMP&IDC CAP ASSEMBLY 1473796 | H-TYPE CAP ASSEMBLY 1318382 |
| | IDC 8POS PLUG HOUSING 1318692 (2PCS USAGE) | | V-TYPE CAP ASSEMBLY 1565476 |
| | IDC 16POS LOCK HOUSING 1318694 | | |
| 20POS | IDC 10POS PLUG ASSEMBLY 1717249 (WITH A TERMINAL, 2PCS USAGE) | CRIMP&IDC CAP ASSEMBLY 1473750 | / |
| | IDC 10POS PLUG HOUSING 1473807 (2PCS USAGE) | | |
| | IDC 20POS LOCK HOUSING 1473808 | | |
| 24POS | IDC 12POS PLUG ASSEMBLY 1746126 (WITH A TERMINAL, 2PCS USAGE) | / | H-TYPE CAP ASSEMBLY 1318853 |
| | IDC 12POS PLUG HOUSING 1473803 (2PCS USAGE) | | V-TYPE CAP ASSEMBLY 1376111 |
| | IDC 24POS LOCK HOUSING 1473804 | | |

Appendix.1 (To be continued)

| | | | |
|--------------------------|---|---|--------------------------------|
| 32POS | IDC 16POS PLUG ASSEMBLY 1717250 (WITH A TERMINAL, 2PCS USAGE) | CRIMP&IDC CAP ASSEMBLY 1473799 | H-TYPE CAP ASSEMBLY 1318745 |
| | IDC 16POS PLUG HOUSING 1473805 (2PCS USAGE) | | |
| | IDC 32POS LOCK HOUSING 1473806 | | |
| 40POS | IDC 20POS PLUG ASSEMBLY 1318691 (WITH A TERMINAL, 2PCS USAGE) | CRIMP&IDC CAP ASSEMBLY 1747689 | H-TYPE CAP ASSEMBLY 1318384 |
| | IDC 20POS PLUG HOUSING 1318693 (2PCS USAGE) | | V-TYPE CAP ASSEMBLY 1376113 |
| | IDC 40POS LOCK HOUSING 1318695 | | |
| CONTACT (Tin-Plating) | IDC S size(0.08Sq): 1565403 M size(0.22Sq): 1565404 L size(0.3" 0.5Sq): 1318688 | IDC S size: 1473818 M size: 1565406 CRIMP : 1376109 | |

Appendix.1 (End)

* Note : Part number is consisted from listed base number and 1 digit numeric prefix and suffix with dash. Refer to catalog or customer drawing for specific part numbers for each base number. When prefix is zero, zero and dash are omitted.

单击下面可查看定价，库存，交付和生命周期等信息

[>>TE Connectivity\(泰科\)](#)