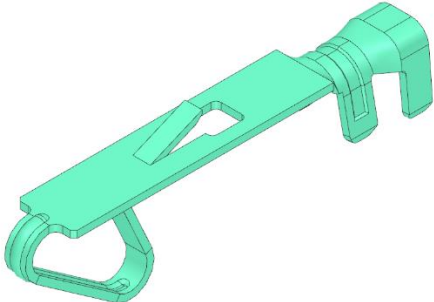
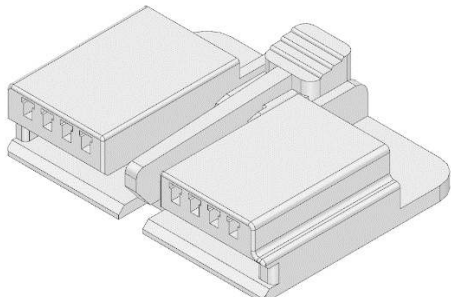
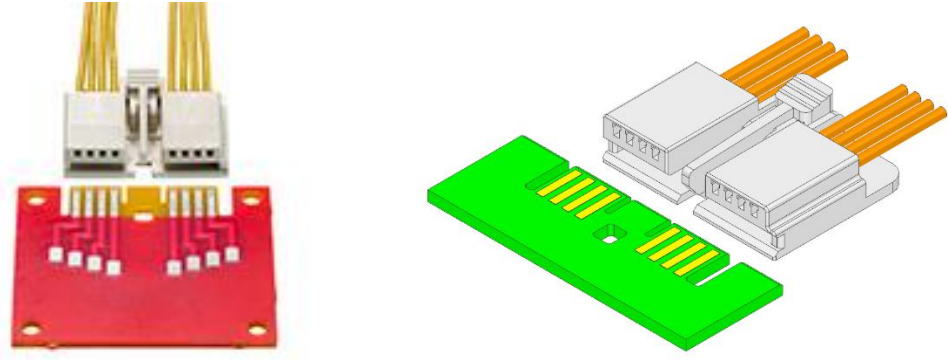


# EDGE LOCK CONNECTOR SYSTEM

<p><b>Edge Lock Crimp Terminal</b></p>	<p><b>Edge Lock WTE Housing</b></p>
	
<p>Series: <a href="#">200449</a></p>	<p>Series: <a href="#">200890</a></p>
	
<p>Assembly View</p>	

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## 1.0 SCOPE

This Product Specification covers the 2.0mm Edge Lock Connector series terminated with 22 to 24 AWG wire tin plating option.

## 2.0 PRODUCT DESCRIPTION

The connector is made in 2, 4, 6 & 8 single row circuit sizes which can accommodate 1.20mm and 1.60mm PCB Thickness. The housings accept wire ranges 22-24AWG UL 1061 style and 24 AWG UL1007/1569 style.

### 2.1 DESCRIPTION, SERIES NUMBER, AND LINKS

SL NO	DESCRIPTION	SERIES
1	EdgeLock Crimp Terminal	<a href="#">200449</a>
2	EdgeLock WTE housing	<a href="#">200890</a>

### 2.2 DIMENSIONS, MATERIALS, PLATINGS

Refer See Sales Drawing: Housing- 2008900001-SD, Terminal: 2004490001-SD

### 2.3 ENVIRONMENTAL CONFORMANCE

To find product compliance information:

- [Go to molex.com](http://molex.com)
- Enter the part number in the search field.
- At the bottom of the page go to "Environmental" to see compliance status.

### 2.4 SAFETY AGENCY LISTINGS

To be submitted for agency approval

## 3.0 APPLICABLE DOCUMENTS AND SPECIFICATION

### 3.1 MOLEX DOCUMENTS

Application Specification: 2008900001-AS  
 Packing Specification: 2004490001-PK, 208900001-PK  
 Application Tooling Specification for 24 AWG UL1007: ATS-639039900  
 Application Tooling Specification for 22-24 AWG UL1061 ATS-639039800  
 Application Tooling Specification for Extractor Tool- ATS-638135700

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## 4.0 ELECTRICAL PERFORMANCE RATINGS

### 4.1 VOLTAGE

125 Volts AC (RMS) or DC.

\* This connector voltage meets the connector level provided by the safety agency. For application voltage requirements per UL-60950 or other standards, the creepage & clearance also needs to be determined based upon pads/traces on the PCB.

### 4.2 RATED CURRENT (MAX) AND APPLICABLE WIRES

Current is dependent on connector size, ambient temperature, PCB Track width and related factors. Actual current rating dependent and should be evaluated for each use.

22-24 AWG	3.0 A	Outside Insulation Diameter 1.10mm to 1.40mm (Nominal)
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### 4.3 TEMPERATURE

Operating Temperature Range\* (includes T-Rise from applied current): - 40°C to + 105°C

Note: Temperature life test duration is based on the assumption that the contact spends its entire life at the rated field maximum temperature (based on EIA-364-1000, table 8)

## 5.0 QUALIFICATION

Laboratory condition, sample selection and test sequences are in accordance with EIA-364-1000.

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## 6.0 PERFORMANCE

### 6.1 ELECTRICAL PERFORMANCE

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
6.1.1	Contact Resistance (Low Level)	Mate the connectors with PCB: apply a maximum voltage of <b>20 mV</b> and a current of <b>100 mA</b> . EIA-364-23C	<b>15 milliohms</b> MAXIMUM
6.1.2	Insulation Resistance	Mated the connectors with PCB: apply a voltage of <b>500 VDC</b> between adjacent terminals and between terminals to ground. EIA-364-21D	<b>1000 Megohms</b> MINIMUM
6.1.3	Dielectric withstand voltage	Mate the connector with PCB: apply a voltage of <b>{two times the rated voltage plus 1000 volts}</b> VAC for <b>1</b> minute between adjacent terminals and between terminals to ground. EIA-364-20D	No breakdown; current leakage < <b>5 mA</b>
6.1.4	Temperature Rise	Mate connectors with PCB: measure the temperature rise at the rated current EIA-364-70 Method 2	Temperature rise: <b>+30°C</b> MAXIMUM Above ambient
6.1.5	Temperature rise versus current (18-day stability test)	PCB Per EIA-364-55 Mate connectors: measure the temperature rise at the rated current after: 1) 96 hours (steady state) 2) 240 hours (45 minutes ON and 15 minutes OFF per hour) 3) 96 hours (steady state)	+30°C above ambient

**Note:** Current rating is greatly depends on the PCB parameters such as pad width, pad thickness and track length. Hence Molex recommends to test the product at system level to ensure the current rating.

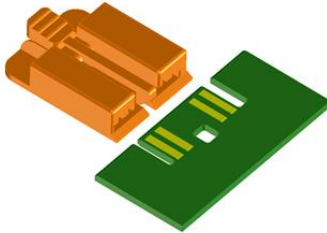
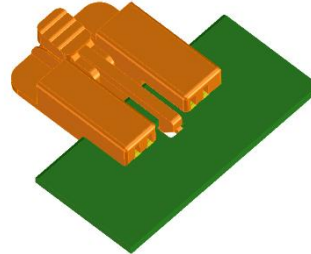
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## 6.2 MECHANICAL PERFORMANCE

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
6.2.1	Terminal Insertion Force	Insert the crimped terminal into the housing at a speed rate of <b>25 +/-6mm</b> per minute	<b>9.80 N (Max)</b>
6.2.2	Terminal Retention Force	Apply axial pull out force at a speed rate of <b>25 +/- 6mm</b> per minute on the terminal assembled in the housing.	<b>9.80 N (Min)</b>
6.2.3	Connector Insertion/ Withdrawal Forces with PCB	Insert connector into the PCB at a rate of <b>25 ± 6 mm</b> per minute with latch deactivated condition  	<b>5.0N Max. /Circuit.</b> (Connector Insertion Force)  <b>2.0N Min. /Circuit</b> (Connector Withdrawal Force)
6.2.4	Housing Latch Retention Force*	Pull the housing without disengaging the latch at a rate of <b>25 ± 6 mm</b> per minute  	<b>29.4 N</b> MINIMUM retention force
6.2.5	Durability EIA-364-1000 Test Group-7	Insert and withdraw connectors <b>30 times</b> at a maximum rate of 10 cycles per minute prior to environmental tests	Contact Resistance <b>10 milliohms MAXIMUM</b> (change from initial)  Dielectric Withstanding Voltage: No breakdown; current leakage < 5 mA & Visual: No Damage

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## 6.2 MECHANICAL PERFORMANCE CONTINUED

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
6.2.6	Vibration (Random) EIA-364-1000 Test Group 3	Mate connectors and vibrate per EIA 364 28F, test condition VII. Test condition letter D. (Acceleration 3.1 g).	Contact Resistance <b>10 milliohms MAXIMUM</b> (change from initial) & Discontinuity < 1 microsecond
6.2.7	Shock (Mechanical) EIA-364-1000 Test Group 3	Mate connectors and shock at 50 g's with ½ sine wave (11 milliseconds) shocks in the ±X, ±Y, ±Z axes (18 shocks total). EIA-364-27C Test Condition A Table 1.	Contact Resistance <b>10 milliohms MAXIMUM</b> (change from initial) & Discontinuity < 1 microsecond
6.2.8	Wire Pullout Force (Axial)	Apply an axial pullout force on the wire at a rate of <b>25 ± 6 mm (1 ± ¼ inch)</b> . As per UL1977 Edition 2.	For 22 AWG and 24 AWG: <b>23.1 N Min</b>

Note: Housing Latch Retention force is greatly dependent upon the quality of the printed circuit board.

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## 6.3 ENVIRONMENTAL PERFORMANCE

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT										
6.3.1	Shock (Thermal) EIA-364-1000 Test Group 2	Mate connectors; expose to <b>5</b> cycles of:  <table border="1"> <thead> <tr> <th>Temperature °C</th> <th>Duration (Minutes)</th> </tr> </thead> <tbody> <tr> <td>-55 +0/-3</td> <td>30</td> </tr> <tr> <td>+25 ±10°</td> <td>5 MAXIMUM</td> </tr> <tr> <td>+105 +3/-0</td> <td>30</td> </tr> <tr> <td>+25 ±10°</td> <td>5 MAXIMUM</td> </tr> </tbody> </table> As per EIA-364-32G Test condition II, Method A.	Temperature °C	Duration (Minutes)	-55 +0/-3	30	+25 ±10°	5 MAXIMUM	+105 +3/-0	30	+25 ±10°	5 MAXIMUM	Contact Resistance <b>10</b> milliohms MAXIMUM (change from initial) & Visual: No Damage
Temperature °C	Duration (Minutes)												
-55 +0/-3	30												
+25 ±10°	5 MAXIMUM												
+105 +3/-0	30												
+25 ±10°	5 MAXIMUM												
6.3.2	Temperature Life EIA-364-1000 Test Group 1	Mate connectors; expose to: 505 hours at 105 ±2 °C	Contact Resistance <b>10</b> milliohms MAXIMUM (change from initial]) & Visual: No Damage										
6.3.3	Cold Resistance EIA-364-1000 Test Group 1A	Mate connectors: Duration: 96 hours; Temperature: -40 ± 3°C.	Contact Resistance <b>10</b> milliohms MAXIMUM & Visual: No Damage										
6.3.4	Thermal Cycling EIA-364-1000 Test Group 5	Cycle the connector between 15 °C ± 3 °C and 85 °C ± 3 °C. Humidity is not controlled.	Contact Resistance <b>10</b> milliohms MAXIMUM (change from initial]) & Visual: No Damage										
6.3.5	Temperature and Humidity Cyclic EIA-364-1000 Test Group 2	Mate connectors: cycle per EIA-364-31: 24 cycles at temperature <b>25 ± 3°C</b> at <b>80 ± 5%</b> relative humidity and <b>65 ± 3°C</b> at <b>50 ± 5%</b> relative humidity; dwell time of 1.0 hour; ramp time of 0.5 hours.	Contact Resistance <b>10</b> milliohms MAXIMUM (change from initial) Visual: No Damage										

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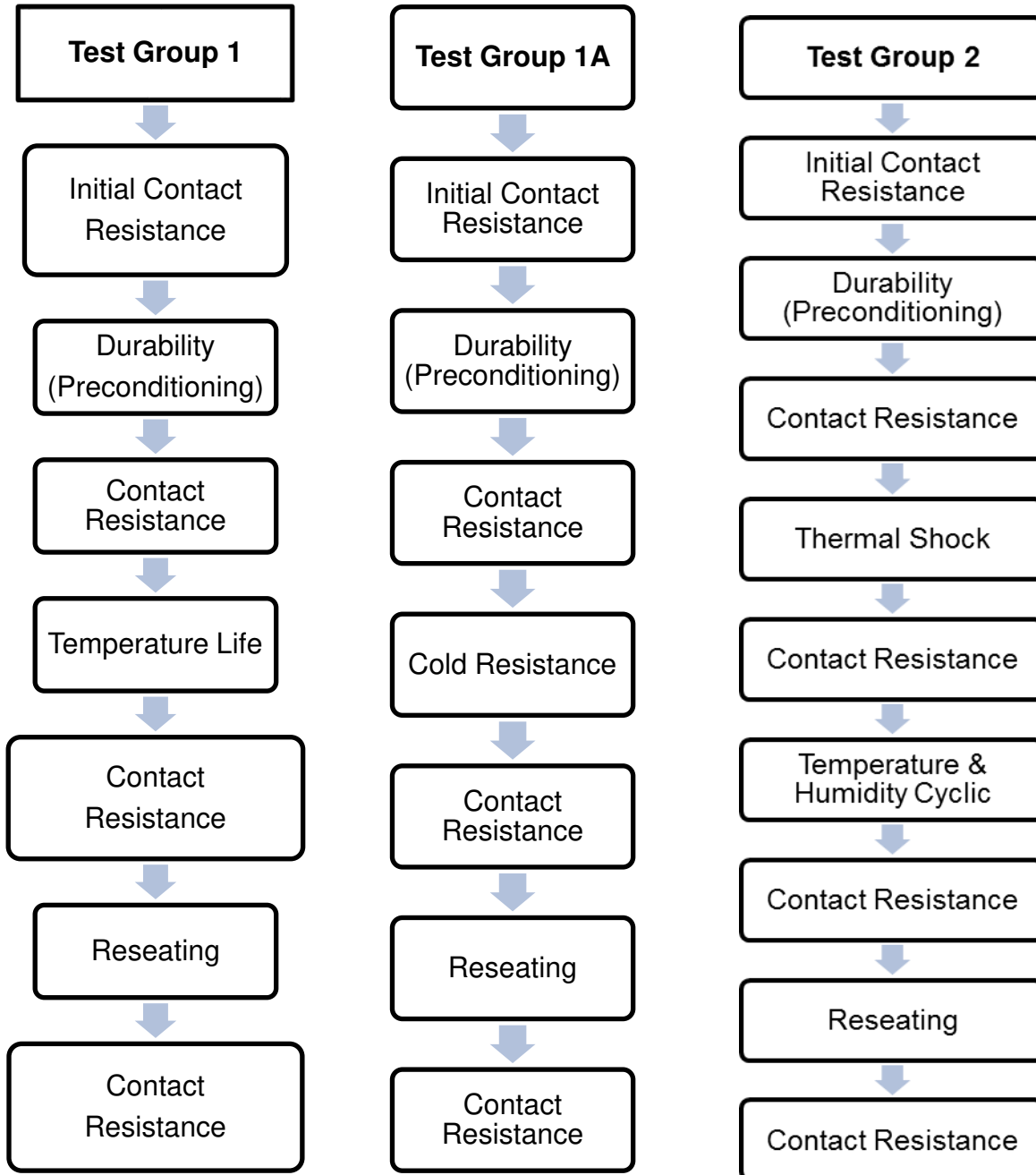
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**7.0 TEST SEQUENCE**

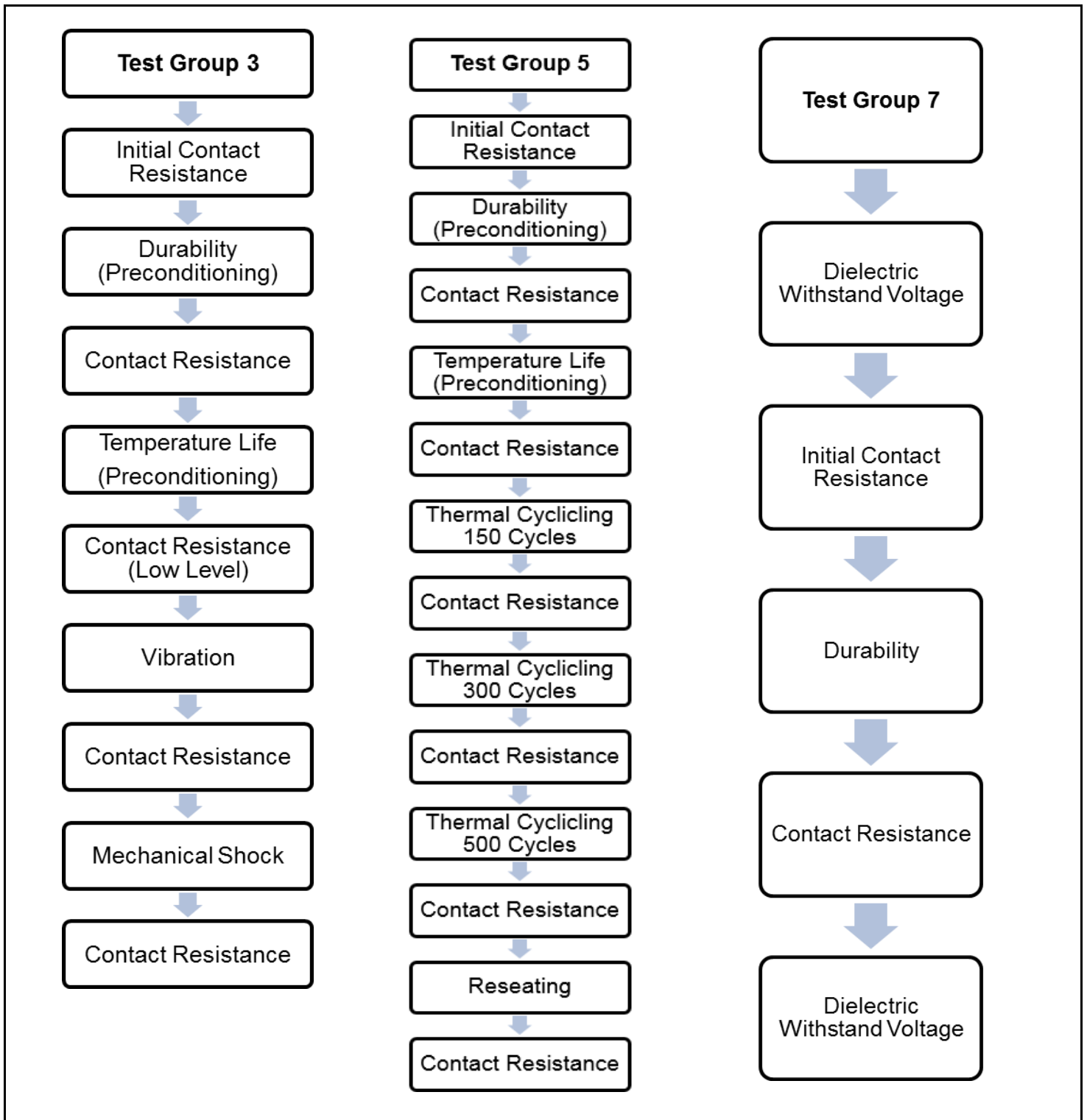


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Test Group →	A	B	C	D	E	F	G	H
Test or Examination ↓								
Examination of the connector(s)	1,5	1	1	1	1	1	1	1
Low Level Contact Resistance (LLCR)	2,4							
Insulation Resistance						2		
Dielectric Withstanding Voltage							2	
Current Rating (Temperature Rise)	3							
Connector Insertion/ Withdrawal Forces with PCB		2						
Terminal Insertion Force			2					
Terminal Retention force				2				
Housing Latch Retention Force					2			
Wire Pullout Force								2
<b>Note :</b> Durability -Pre-conditioning- 20 Cycles. Reseating- 3X Temperature Life –Preconditioning- 105°C-268 Hours.								

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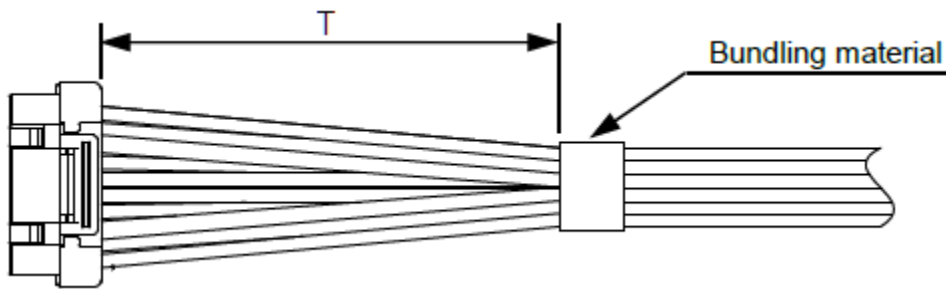
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## 8.0 PACKAGING

Parts shall be packaging to protect the parts from damage during standard shipping, storage, and handling. Refer Molex.com specific part number webpage to get the exact packaging document for that item.

## 9.0 CABLE TIE AND / OR TWIST TIE LOCATION

CKT Size	Dim T Min.
2-4 CKT	25mm
6-8 CKT	35mm



The “T” dimension defines a “free” length of wire, or a length of wire that is not subject to significant bias by external factors such as a wire tie, wire twisting, or other means of bending or deforming of the wires that repositions them from their natural relaxed state or location where they enter the housing. Wires are to be dressed in such a manner to allow the terminals to float freely in the pocket. This dimension is general recommendation and may need to be adjusted for different wire gauges and wire type and insulation thickness and insulation material.

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## 10.0 OTHER INFORMATION

Molex strongly recommends to plate mating areas with tin plating to meet the specified durability cycle and contact resistance.

Molex recommends that the entry zone and mating zone on the PCB should be smooth, flat and free from burr, sharp edges & the mating zone should be free from insulation coating and flux.

- i> To ensure safe entry.
- ii> To avoid terminal plating peel-off.
- iii> To ensure proper conductor contact

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