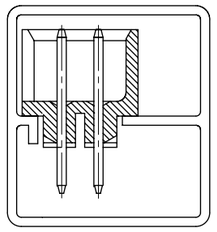
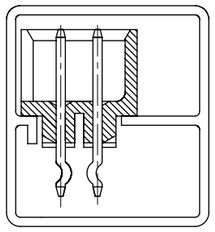
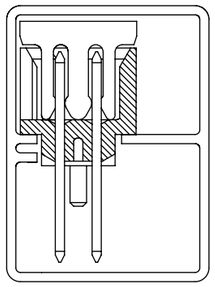
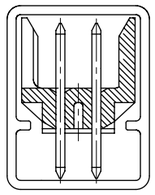
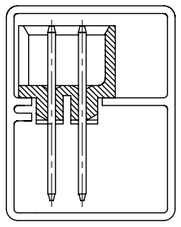
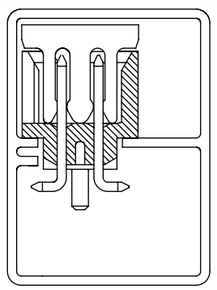
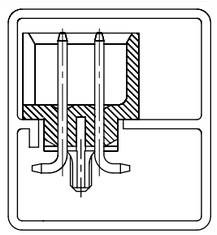
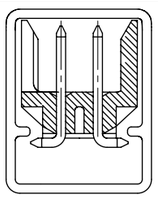
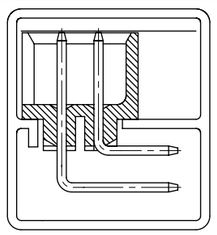
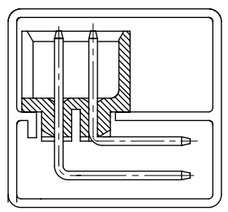
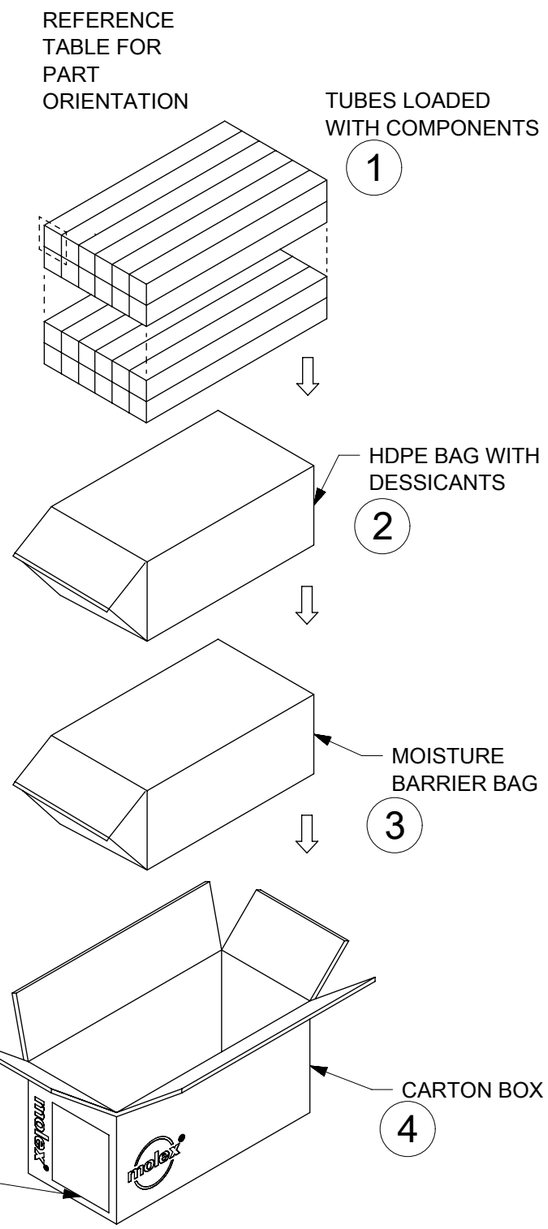
Molex 87831-0420 PDF

深圳创唯电子有限公司 http://www.molex-connect.com

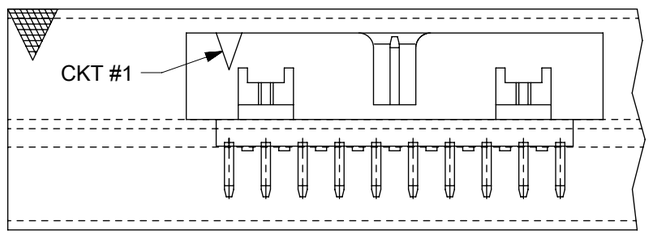
ORIENTATION OF PARTS IN TUBE

87831/ 78246 THROUGH HOLE	89990-0007 	89990-0007 	89990-3005 	89990-3023 	89990-3004 
87832 SMT	89990-3005 	89990-0007 	89990-0020 		
87833/ 78046 RIGHT ANGLE	89990-0007 	89990-0089 			

PACKAGING PROCEDURE



RED MARKING



NOTES :
1. ARRANGE AND STACK NUMBER OF TUBES NEATLY INTO THE HDPE BAG AS SHOWN.
2. VACUUM PACKED THE BAG WITH DESSICANTS.
3. PLACE THE HDPE BAG WITH PARTS INTO A MOISTURE BARRIER BAG.
4. PLACED THE SEALED BAG WITH TUBES INTO A CARTON AS SHOWN.
5. PARTIAL PACKAGING SHOULD BE AVOIDED.

RELEASE STATUS	P1	RELEASE DATE	10.08.2017 16:20:49

QUALITY SYMBOLS: EA = 0; EC = 0; EP = 0; ▼ = 0; C = 0; ☒ = 0; ■ = 0; V = 0

RE-MASTERED IN ECTR
EC NO: 119993 2017/06/27
DRWN: RMV02 2017/08/10
CHK'D: GMENARLY 2017/08/10
APPR: KHLIM

GENERAL TOLERANCES (UNLESS SPECIFIED)

	MM	INCH
4 PLACES	±	±
3 PLACES	±	±
2 PLACES	±	±
1 PLACES	±	±
0 PLACES	±	±
ANGULAR TOL	±	

DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

REV: B3

DIMENSION UNITS	MM
SCALE	NTS
DRWN BY	SKANG
DATE	2013/03/21
CHK'D BY	ATSEE
DATE	2013/04/03
APPR BY	MLONG
DATE	2013/04/04
DRAWING SIZE	A3
THIRD ANGLE PROJECTION	

molex®

TUBE PACKAGING SPEC
FOR MILLIGRID 87831 87832/87833/78046/78246

PACKAGING DESIGN DRAWING

SERIES	MATERIAL NUMBER	CUSTOMER
87831	SEE TABLE	GENERAL MARKET

DOCUMENT NUMBER	DOC TYPE	DOC PART	SHEET NUMBER
PK-87831-001	PDD	001	1 OF 4

FORMAT: Met-lega-master-lb-prod-A3
REVISION: C
DATE: 2017/02/06

87831 WITH CAP
TUBE: 89990-3005

CKT SIZE	CARTON P/NO	MBB P/N	QTY/ TUBE	TUBE/ CARTON
04	96707-0006	89990-0201	80	30
10	96707-0004		42	80
12			36	80
14	96707-0004	89990-0202	32	80
26	89990-1023		18	100
30			16	100

87831 WITHOUT CAP
TUBE: 89990-3004

CKT SIZE	CARTON P/NO	MBB P/N	QTY/ TUBE	TUBE/ CARTON
08	96707-0006	89990-0201	50	80

87831 WITHOUT CAP
TUBE: 89990-0007

CKT SIZE	CARTON P/NO	MBB P/N	QTY/ TUBE	TUBE/ CARTON
04	96707-0004	89990-0201	80	30
06			62	30
08			50	80
10			42	80
12			36	80
14	89990-1023	89990-0202	32	100
16			28	100
18			26	100
20			23	100
22			21	100
24			20	100
26			18	100
28			17	100
30			16	100
32			15	100
34			14	100
36			13	100
38			13	100
40			12	100
42			12	100
44			11	100
46			11	100
48			10	100
50			10	100

87831 WITH OPEN END WALLS
TUBE: 89990-3023

CKT SIZE	CARTON P/NO	MBB P/N	QTY/ TUBE	TUBE/ CARTON
10	96707-0004	89990-0201	42	80
12			36	80
14	89990-1023	89990-0202	32	100
16			28	100
20			23	100
22			21	100
26			18	100
44			11	100
50			10	100

QUALITY SYMBOLS
EA = 0
EC = 0
ED = 0
▼ = 0
C = 0
☒ = 0
■ = 0
V = 0

RE-MASTERED IN ECTR 2017/06/27
EC NO: 119993 2017/08/10
DRWN: RMV02 2017/08/10
CHK'D: GMENARLY
APPR: KHLIM

B3 REV

GENERAL TOLERANCES (UNLESS SPECIFIED)

	MM	INCH
4 PLACES	±	±
3 PLACES	±	±
2 PLACES	±	±
1 PLACES	±	±
0 PLACES	±	±

ANGULAR TOL ±

DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

DIMENSION UNITS: MM
SCALE: NTS
DRWN BY: SKANG DATE: 2013/03/21
CHK'D BY: ATSEE DATE: 2013/04/03
APPR BY: MLONG DATE: 2013/04/04
DRAWING SIZE: A3
THIRD ANGLE PROJECTION

molex®

TUBE PACKAGING SPEC
FOR MILLIGRID 87831 87832/87833/78046/78246

PACKAGING DESIGN DRAWING

SERIES	MATERIAL NUMBER	CUSTOMER
87831	SEE TABLE	GENERAL MARKET

DOCUMENT NUMBER	DOC TYPE	DOC PART	SHEET NUMBER
PK-87831-001	PDD	001	2 OF 4

RELEASE STATUS | P1 | RELEASE DATE | 10.08.2017 16:20:49

FORMAT: Met-lega-master-tb-prod-A3
REVISION: C
DATE: 2017/02/06

87832 WITH CAP
TUBE: 89990-3005

CKT SIZE	CARTON P/NO	MBB P/N	QTY/ TUBE	TUBE/ CARTON
04	96707-0004	89990-0201	60	80
06			62	60
08			50	60
10			42	60
12			36	60
14	89990-1023	89990-0202	32	100
16			28	100
18			26	100
20			23	100
22			21	100
24			20	100
26			18	100
28			17	100
30			16	100
32			15	100
34			14	100
36			13	100
38			13	100
40			12	100
42			12	100
44			11	100
46			11	100
48			10	100
50			10	100

87832 WITHOUT CAP
TUBE: 89990-0007

CKT SIZE	CARTON P/NO	MBB P/N	QTY/ TUBE	TUBE/ CARTON
04	96707-0004	89990-0201	80	80
06			62	80
08			50	80
10			42	80
12			36	80
14	89990-1023	89990-0202	32	100
16			28	100
18			26	100
20			23	100
22			21	100
24			20	100
26			18	100
28			17	100
30			16	100
32			15	100
34			14	100
36			13	100
38			13	100
40			12	100
42			12	100
44			11	100
46			11	100
48			10	100
50			10	100

87832 WITH OPEN SIDE WALLS
TUBE: 89990-0020

CKT SIZE	CARTON P/NO	MBB P/N	QTY/ TUBE	TUBE/ CARTON
10	89990-1023	89990-0201	42	100
32		89990-0202	15	100
50			10	100

QUALITY SYMBOLS	
EA	= 0
EC	= 0
EP	= 0
▼	= 0
C	= 0
☒	= 0
■	= 0
D	= 0

RE-MASTERED IN ECTR 2017/06/27
EC NO: 119993 2017/08/10
DRWN: RMV02 CHK'D: GMENARLY 2017/08/10
APPR: KHLIM

REV: B3

GENERAL TOLERANCES (UNLESS SPECIFIED)

	MM	INCH
4 PLACES	±	±
3 PLACES	±	±
2 PLACES	±	±
1 PLACES	±	±
0 PLACES	±	±

ANGULAR TOL ±

DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

DIMENSION UNITS: MM
SCALE: NTS
DRWN BY: SKANG DATE: 2013/03/21
CHK'D BY: ATSEE DATE: 2013/04/03
APPR BY: MLONG DATE: 2013/04/04
DRAWING SIZE: A3
THIRD ANGLE PROJECTION

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TUBE PACKAGING SPEC
FOR MILLIGRID 87831 87832/87833/78046/78246

PACKAGING DESIGN DRAWING

SERIES	MATERIAL NUMBER	CUSTOMER
87831	SEE TABLE	GENERAL MARKET

DOCUMENT NUMBER	DOC TYPE	DOC PART	SHEET NUMBER
PK-87831-001	PDD	001	3 OF 4

RELEASE STATUS	P1	RELEASE DATE	10.08.2017 16:20:49

FORMAT: Met-lega-master-lib-prod-A3
REVISION: C
DATE: 2017/02/06

87833 TUBE: 89990-0007				
CKT SIZE	CARTON P/NO	MBB P/N	QTY/ TUBE	TUBE/ CARTON
04	96707-0004	89990-0201	80	30
06			62	30
08			50	80
10			42	80
12			36	80
14	89990-1023	89990-0202	32	100
16			28	100
18			26	100
20			23	100
22			21	100
24			20	100
26			18	100
28			17	100
30			16	100
32			15	100
34			14	100
36			13	100
38			13	100
40			12	100
42			12	100
44			11	100
46			11	100
48			10	100
50			10	100

87833 WITH SOLDERTAIL = 3.50mm TUBE: 89990-0089				
CKT SIZE	CARTON P/NO	MBB P/N	QTY/ TUBE	TUBE/ CARTON
12	96707-0004	89990-0201	36	60
14	89990-1023	89990-0202	32	100
16			28	100
20			23	100
24			20	100
26			18	100
30			16	100
34			14	100

78246 TUBE: 89990-0007				
CKT SIZE	CARTON P/NO	MBB P/N	QTY/ TUBE	TUBE/ CARTON
10	96707-0004	89990-0201	42	80

78046 TUBE: 89990-0007				
CKT SIZE	CARTON P/NO	MBB P/N	QTY/ TUBE	TUBE/ CARTON
10	96707-0004	89990-0201	42	80

QUALITY SYMBOLS

EA = 0
EC = 0
EP = 0
▼ = 0
C = 0
☒ = 0
■ = 0
V = 0

RE-MASTERED IN ECTR
EC NO: 119993 2017/06/27
DRWN: RMV02 2017/08/10
CHK'D: GMENARLY 2017/08/10
APPR: KHLIM

REV: B3

GENERAL TOLERANCES (UNLESS SPECIFIED)

	MM	INCH
4 PLACES	±	±
3 PLACES	±	±
2 PLACES	±	±
1 PLACES	±	±
0 PLACES	±	±
ANGULAR TOL ±		

DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

DIMENSION UNITS: MM
SCALE: NTS
DRWN BY: SKANG DATE: 2013/03/21
CHK'D BY: ATSEE DATE: 2013/04/03
APPR BY: MLONG DATE: 2013/04/04
DRAWING SIZE: A3
THIRD ANGLE PROJECTION

molex®

TUBE PACKAGING SPEC
FOR MILLIGRID 87831 87832/87833/78046/78246

PACKAGING DESIGN DRAWING

SERIES	MATERIAL NUMBER	CUSTOMER
87831	SEE TABLE	GENERAL MARKET

DOCUMENT NUMBER	DOC TYPE	DOC PART	SHEET NUMBER
PK-87831-001	PDD	001	4 OF 4

RELEASE STATUS	P1	RELEASE DATE	10.08.2017 16:20:49

FORMAT: Mel-lega-master-lb-prod-A3
REVISION: C
DATE: 2017/02/06

1.0 SCOPE

This specification covers the performance requirements for Milli-Grid 2mm Dual Row Shrouded Headers.

2.0 PRODUCT DESCRIPTION

2.1 Product covered by this specification are for series number

Product Name	Part Number
MGrid Headers (Vertical)	87831 Series
MGrid Headers (SMT)	87832 Series
MGrid Headers (R/A)	87833 Series

These series mate with Molex:

a. Milli-Grid 2mm Grid Wire to Board Connector,
Crimp Receptacle Housing, 51110 series and Crimp Terminal, 50394 series.
b. 2mm Milli-Grid Dual Row IDT, 87568 series.
c. Milli-Grid 2mm Grid Wire to Board Panel Mount Receptacle. (Up To 20 Circuit Only).
Crimp Receptacle Housing, 151014 series and Crimp Terminal, 50394 series.

2.2 For dimensions, materials & plating, refer to the appropriate product drawings.

2.3 Safety Agency Approvals:

UL File Number: E29179
CSA File Number: LR19980

CSA approval meets following standards/test procedures:

a) CSA std. C22.2 No. 182.3-M1987
b) UL-1977

* "C" and "US" mark adjacent to CSA signifies that the product has been evaluated to the applicable CSA and ANSI/UL standards, for use in Canada and US respectively.

Series 87831, 87832, 87833, rated 2.0A, 125V

3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

The following documents are part of this specification to the extent specified herewith. 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 reference documents, this specification shall take the precedence.

MIL-STD-202	Test Methods for Electrical and Electronic Component Parts.
MIL-STD-1344	Test Methods of Electrical Connector
EIA-364-1000	Industry Standard

Reference Product Specifications

PS-51110-001	Milli-Grid 2mm Grid Wire to Board Connector
PS-87568-004	2mm Milli-Grid Dual Row IDT Receptacle
PS-151014-0001	2mm Milli-Grid Panel Mount Receptacle

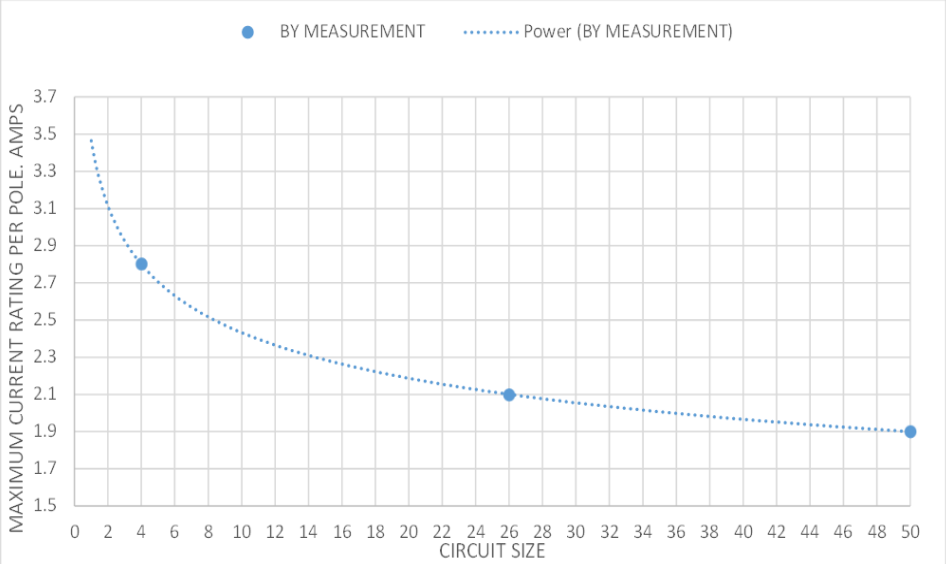
4.0 RATINGS

4.1 Voltage : 125V

4.2 Current

Current rating is application dependent and each application should be evaluated by the end user for compliance to specific safety agency requirements. The ratings listed in the chart below are per Molex test method based on a 30° C maximum temperature rise over ambient temperature and are provided as a guideline. Appropriate de-rating is required based on circuit size, ambient temperature, and copper trace size on the PCB, AWG WIRE, gross heating from adjacent modules/components and other factors that influence connector performance. Wire size, insulation thickness, and stranding, tin coated or bare copper, wire length & crimp quality are other factors that influence current rating.

Board to IDT (8783 & 87568 Series)*



4.3 Operating Temperature : -55°C to +105°C
Non-operating Temperature: -55°C to +105°C

5.0 PERFORMANCE

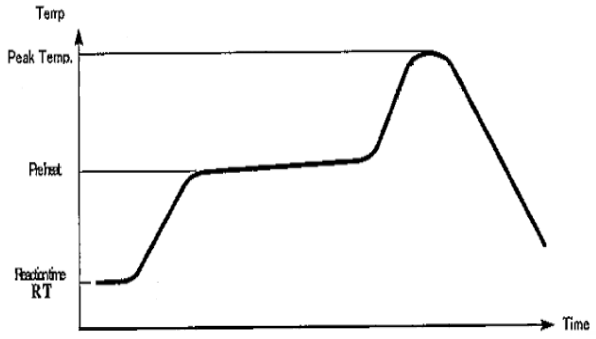
5.1 ELECTRICAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
1	**Insulation Resistance**	Apply 500 VDC for 1 minute per MIL-STD-1344A, METHOD 3003.1	**1000** Megohms Minimum
2	**Dielectric Strength**	1000 Vrms for 1 minute between Adjacent terminals.	No breakdown
3	**Contact Resistance (Low Level) For Series: 151014**	Mate connectors: apply a maximum voltage of 20 mV and a current of 100 mA Per EIA-364-23	40 milliohms Max.

5.2 MECHANICAL REQUIREMENTS

ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENT
4	**Pin/ Terminal Retention Force (in Housing)**	Apply an axial load on the terminal in the housing to dislodge the terminals from the connector at a rate of 0.50 inch per minute	Retention Force: 850 g Min per pin. (Before heat soldering)
5	**Mating and Unmating Force For Series: 151014**	Mating and Unmating connectors at a rate of 25+/-3 mm/min.	Mating force: **1.9** N / CKT MAX. Unmating force: **0.35** N / CKT Min.
6	**Durability For Series: 151014**	When Mate / unmate up to 50 cycles repeatedly at a rate of 10 cycles / min. Per EIA-364-09	Contact Resistance: 60 Milli ohms Max.
7	**Vibration For Series: 151014**	Mate connectors : Test Condition per EIA 364-28, test condition VII, test condition letter D (15 min. in each of 3 mutual perpendicular directions. Both mating halves should be rigidly fixed so as not to contribute to the relative motion of one contact against	**10** milliohms Max. (change from initial) & Discontinuity < **1** microsecond
8	**Mechanical Shock For Series: 151014**	Mate connectors and shock at **50** g's with ½ sine wave (11 milliseconds) shocks in the ± X, ± Y, ± Z axes (**18** shocks total).	**10** milliohms Max. (change from initial) & Discontinuity < **1** microsecond

5.3 ENVIROMENT REQUIREMENTS

9	**Solderability**	Solder Time: 5 +/-0.5 secs. Solder Temperature: 260 5°C	95% of the immersed area must show no voids, pin holes.
10	**Resistance to Soldering Heat (Through Hole)**	Solder tail to be dipped in flux as per MIL-STD-202F method 210 condition B. Solder Temperature: 260 +/- 5°C Solder Time: 10 +/- 1 secs	No damage in appearance of the connector.
11	**Resistance to IR reflow heat (SMT)**	Pass product through IR machine for 3 cycles of the following reflow profile: Average Ramp Rate 3°C/sec max. Preheat Temp. (Min.) 150°C Preheat Temp. (Max.) 200°C Preheat Time 60 – 180 sec Ramp to Peak 3°C/sec max. Time over liquids (217°C) 60 – 150 sec Peak Temperature 260 +0/-5°C Time within 5°C of peak 20 – 40 sec. Ramp – Cool Down 6°C/sec max. Time 25°C to Peak 8 mins max.	No damage in appearance of the connector
			

6.0 PACKAGING

Product shall be packed in either Tube or Tape & Reel and protected against damage During handling, transportation and storage.

7.0 SPECIAL INSTRUCTIONS FOR HIGH-TEMPERATURE REFLOW PROCESSING ONLY

Background

The products covered in this specification are molded with a high-temperature thermoplastic resin that can withstand the effects of elevated temperatures as seen in today's reflow soldering processes. This high temperature resin, like many used in the electronics industry, is hygroscopic in nature, meaning it can absorb/desorb moisture readily.

Depending on the degree of elevated ambient temperature and relative humidity, the connectors may absorb an increased percentage of moisture. This increase in percentage of absorption is also dependent on the exposure time once connectors are removed from the sealed moisture barrier bags. Higher levels of moisture absorption are typically non-detrimental in most situations but when combined with the elevated peak temperatures and dwell times seen in reflow solder processes trapped gasses and moisture can sometimes result in blistering of the plastic housing.

Floor Life

In view of the hygroscopic nature of the resin, proper handling and storage are required if connectors will be processed or exposed to the higher temperatures of reflow soldering. Storage exposure time begins once connectors have been removed from sealed moisture barrier bags. Greater exposure time, storage and processing temperatures, ambient humidity and part geometry are influencing factors. As such, if connectors are used in a reflow soldering environment, it is recommended that upon removal from the moisture barrier bag, they should be consumed within 48 hours with a temperature and humidity level of not more than 30°C and 60% RH respectively. For unused quantity, it is recommended to repack within 24 hours into the moisture barrier bag and vacuum sealed prior to storage for future use.

Precautions and Remedy

To minimize moisture absorption, connectors are supplied in sealed moisture barrier bags with desiccant pouches. It is recommended that the connectors remain sealed in moisture barrier bags until they are ready to be consumed, following the above storage guideline. However, in the event the connectors are removed from the moisture barrier bag and have been exposed to conditions beyond the storage guideline, it is recommended that the connectors to be baked to remove moisture. Exposed connectors may be baked at 125°C for 3 to 5 hours and thereafter, they should be good for reflow soldering.

9.0 TEST SEQUENCES

Test Group ⇨	A	B	C	D	E
Test or Examination ⇩					
Examination of the connector(s)	1	1	1	1	1
Contact Resistance (Low Level) (LLCR)	4,8		3,5,7,9		
Insulation Resistance		3			
Dielectric Withstanding Voltage		4			
Pin Retention Force (in housing) (Header)					2
Mate Force	3,7				
Unmate Force	5,9				
Durability	6		4		
Vibration			6		
Mechanical Shock			8		
Crimp Wire Pullout Force (Axial) (Receptacle)					
Resistance to Soldering Heat (Header)	2	2	2		
Solderability (Header)				2	