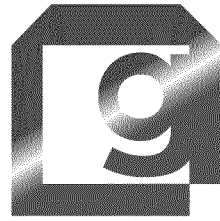


GENESIS TECH ELECTRONICS INC.

PRODUCT SPECIFICATION: 110-10013
GENESIS PN: 110-10013-01



genesis

connected solutions

SPECIFICATION FOR APPROVAL

CUSTOMER: _____

CUSTOMER PART NO: _____

PART NO: **110-10013-01**

REVISION: **X1**

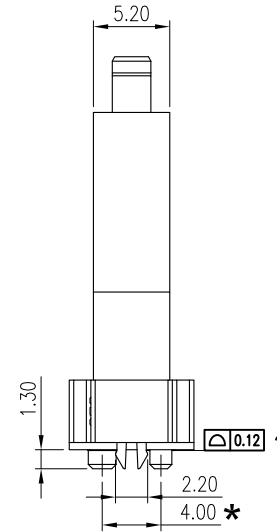
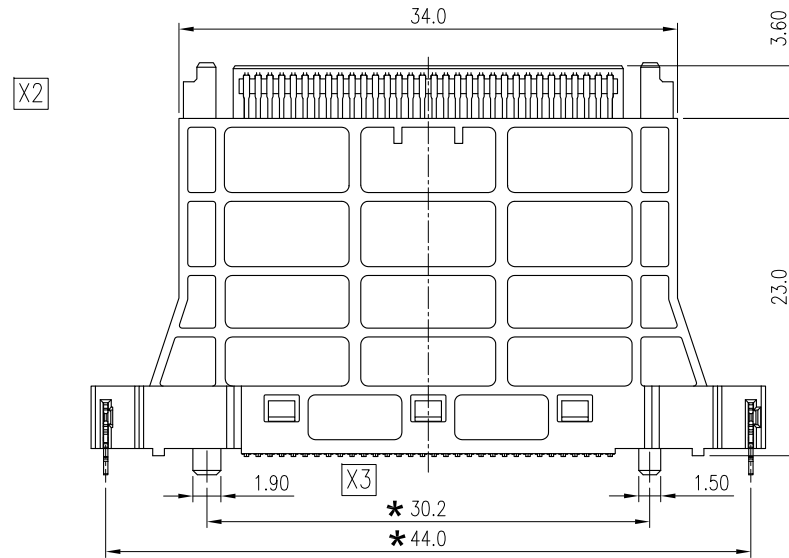
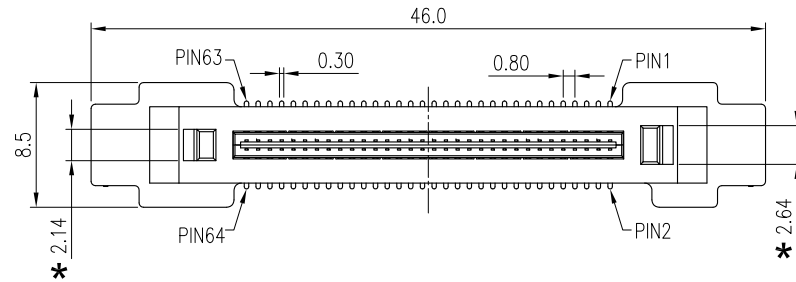
DESCRIPTION: **HIGH SPEED B TO B 5 Gbps MALE INTERFACE
MATING HEIGHT 28mm**

	MANUFACTURE SIGNATURE	CUSTOMER SIGNATURE
APPROVED BY:		
DATE:		

Genesis Technology USA, Inc.
1325 Capital Circle, Suite A
Lawrenceville, GA 30043, USA
TEL: +01-404-874-4474
FAX: +01-404-874-2765

PROPRIETARY INFORMATION
COMPANY CONFIDENTIAL

REV.	ECN. NO.	DESCRIPTION	ENG	DATE
X1		INITIAL	AXL	7/6/2016
X2		REVISE DWG	TERRY	7/7/2016
X3		REVISE DWG	JANE	8/6/2016
X4		ADD SPEC	YIN	9/18/2018
X5		REVISE PCB DIMENSION	YIN	5/17/2019
X6		ADD KEY DIMENSION NUMBERS	TERRY	8/14/2019



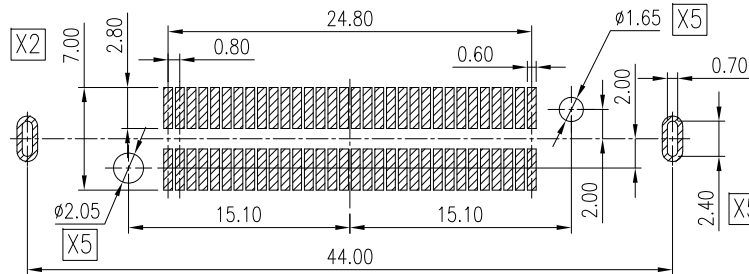
NOTES :

- MATERIAL
HOUSING: LCP, UL94V-0, BLACK
TERMINAL: BRASS
BOARDLOCK: BRASS
- PLATING:
TERMINAL:
CONTACT AREA: GOLD PLATING
SOLDER TAIL: 80u" TIN PLATING
UNDER PLATING: 30u" NICKEL OVERALL
BOARDLOCK: 80u" TIN PLATING; UNDER PLATING: 30u" NICKEL OVERALL.
- CURRENT RATING: 0.5A
- DIELECTRIC WITHSTANDING VOLTAGE: 500VAC FOR 1 MINUTE.
- INSULATION RESISTANCE: 100Mohms min.
- 5Gbps min. COMPLIANT.
- DESIGN TO MATE WITH 110-10008.
- TRAY PACKAGING.
- MARK * IS KEY DIMENSION

X4 PART. NUMBER

110-10013-XX

- 01: GOLD FLASH PLATING
- 02: 30u" Au PLATING

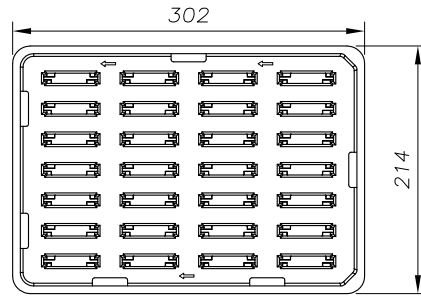


RECOMMENDED PCB LAYOUT
TOLERANCE: ±0.05mm

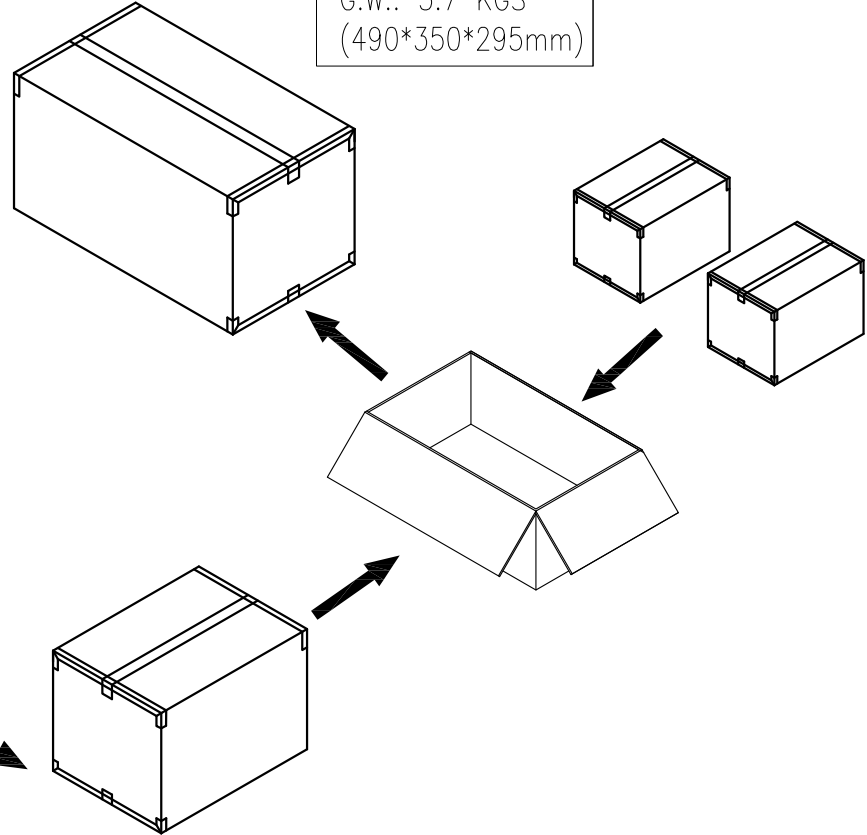
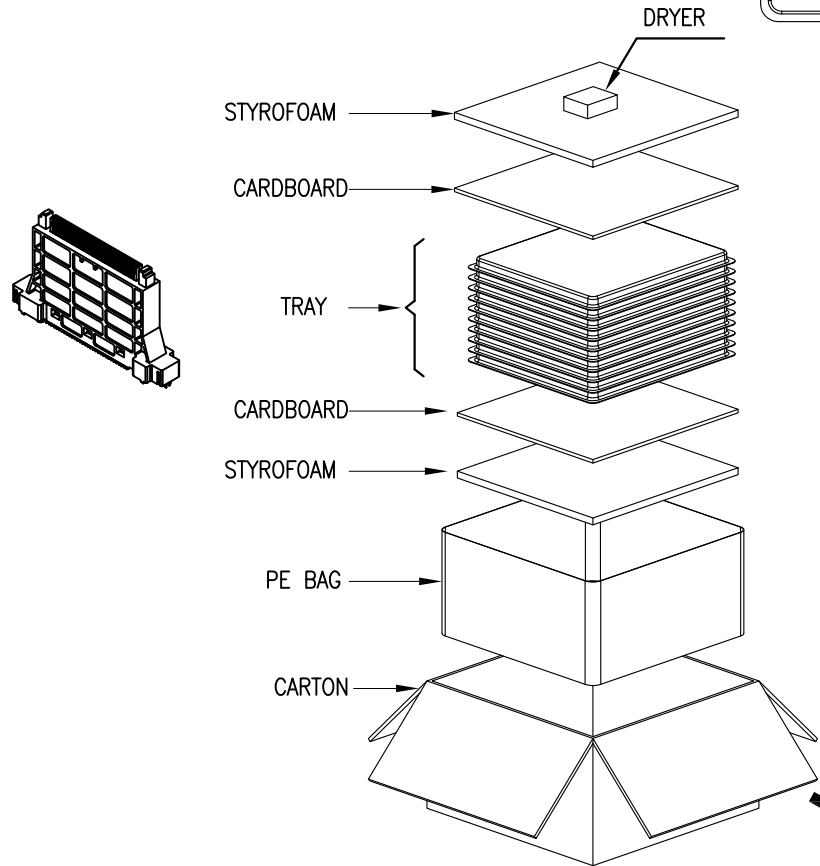
GENERAL TOLERANCE X.± 0.50 .X± 0.40 .XX± 0.30 .XXX± 0.20	ANGLE TOLERANCE X°± 5.0° .X°± 3.0° .XX°± 2.0° .XXX°± 1.0°	DRAWN JANE	DATE 8/6/16'	
MATERIAL SEE BOM		CHECKED	DATE	
FINISH SEE NOTES		APPROVED	DATE	PART NUMBER: 110-10013-XX
SCALE N/A	UNIT mm	SHEET 1 OF 1		DRAWING NO. 110-10013
				SIZE A4 REV. X6

PROPRIETARY INFORMATION
COMPANY CONFIDENTIAL

REV.	ECN. NO.	DESCRIPTION	ENG	DATE
X1		INITIAL	Mike	11/03/16
X2		TRAY CHANGE	Keen	07/01/19



Q'TY.: 392 PCS
N.W.: 2.51 KGS
G.W.: 5.7 KGS
(490*350*295mm)



28 PCS/TRAY
7 TRAY/CARTON

GENERAL TOLERANCE X.± .X± .XX± .XXX±	ANGLE TOLERANCE X°± .X°± .XX°± .XXX°±	DRAWN Keen	DATE 07/01/19	 TITLE: MINI PCI EXPRESS COMPATIBLE PACKING PART NUMBER: 110-10013 PACKING
MATL. SEE BOM	FINISH SEE NOTES	CHECKED	DATE	
SCALE N/A	UNIT mm	APPROVED	DATE	SIZE A4 REV. X2
SHEET 1 OF 1				

GENESIS TECH ELECTRONICS INC.

PRODUCT SPECIFICATION: 110-10013
GENESIS PN: 110-10013-01

1 SCOPE

This specification covers the performance requirements of the High Speed 5Gbps Male Interface Mating Height 28mm.

2 APPLICATION DOCUMENT

This following documents form a part of this specification to this extent specified herein. In the event of conflict between the requirements of the 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.

- EIA-364
- UL-94

3 REQUIREMENTS

3.1 DESIGN AND CONSTRUCTION

Product shall be of the design, construction and physical dimensions specified on the applicable product drawing 110-10013-01 and Mates with 110-10008-01.

3.2 MATERIAL

- A. Housing : LCP+Glass Filled, UL94V-0,Black.
- B. Terminal : Brass, gold plated on contact area, Tin plated on solder tails, nickel Underplated over all
- C. Board lock : Brass, Tin plated on solder tails, nickel Underplated over all

3.3 RATINGS

- A. Current rating : 0.5 Amperes
- B. Voltage rating : 30V DC Max.
- C. Operating temperature : -30°C to 85°C .
- D. Humidity : 20% - 80%

3.4 STORAGE CONDITIONS

Temperature : $25 \pm 5^{\circ}\text{C}$; Humidity : 50% - 70%
Storage time : Should not exceed 90 days.

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3.5 CONDITION OF WAVE SOLDERING AND BY HAND

Hand solder: 350±10°C, 3±1 sec.
 Reflow: Max 260°C 5 sec, 230°C 60 sec (pre-heat at 130~180°C,60~120 sec)
 Tested to profile shown below. Recommended to use fixture for soldering stability.

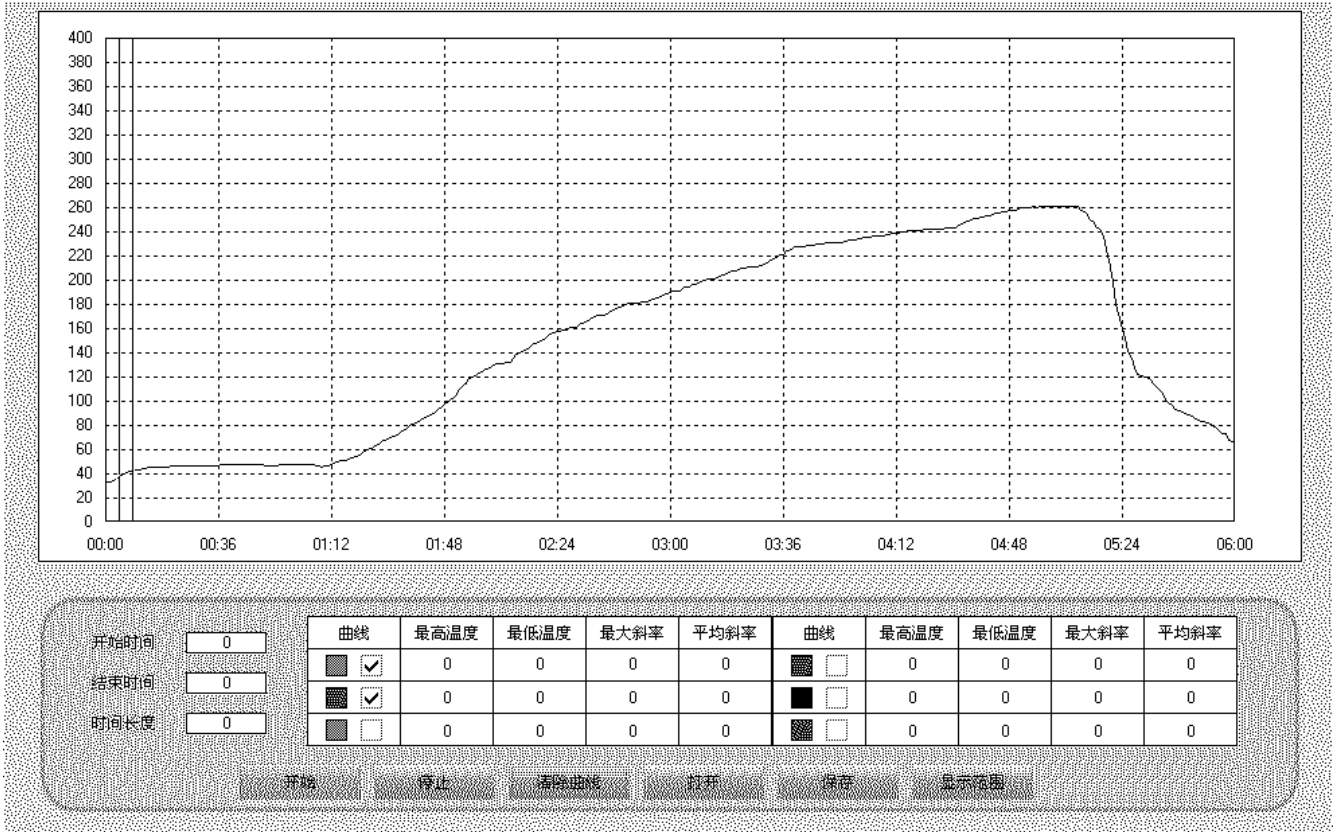


Figure 1 – Solder Reflow Profile Tested

3.6 TEST CONDITIONS

The product is designed to meet the electrical, mechanical and environmental performance requirements specified in Figure 2.

3.7 ELECTRICAL PERFORMANCE

Parameter	Procedure	Requirement
Insulation resistance	EIA 364-21 Test between adjacent contacts of mated and unmated connector assemblies.	100 MΩ minimum

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Dielectric withstanding voltage	EIA 364-20 Test between adjacent contacts of mated and unmated connector assemblies.500 VAC for 1 minute.	The dielectric shall withstand 500VAC for 1 minute at sea level.
Low level contact resistance(LLCR)	EIA 364-23 Subject mated contacts assembled in housing to 20mV Max. open circuit at 100mA Max. Test setup per Genesis Spec. – GTI-Q-SOP0019	Initial: 50m Ω maximum Resistance increase to 65m Ω maximum after stress

3.8 MECHANICAL PERFORMANCE

Parameter	Procedure	Requirement
Insertion Force	EIA 364-13 Measure force necessary to mate connector assemblies at Max. rate of 12.5mm/min.	45N max
Removal Force	EIA 364-13 Measure force necessary to unmate connector assemblies at Max. rate of 12.5mm/min.	4N min
Durability	EIA 364-09 Mate and unmate connector assemblies for 50 cycles at Max. rate of 200 cycles per hour.	No physical damage. Meet requirements of additional tests as specified in the test sequence

3.9 ENVIRONMENTAL PERFORMANCE

Parameter	Procedure	Requirement
Physical shock	EIA 364-27 Subject mated connectors to 30 g's half-sine shock pulses of 11 msec duration. Three shocks in each direction applied along three mutually perpendicular planes for a total of 18 shocks.	No discontinuities of 1 μ s or longer duration. No physical damage.
Random vibration	EIA 364-28 Condition V Test letter A Subject mated connectors to 5.35 g's RMS. 30 minutes in each of three mutually perpendicular planes. (See NOTE 2) Test setup per Genesis Spec. – GTI-Q-SOP0020	No discontinuities of 1 μ s longer duration.

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Humidity	EIA 364-31 Method III Test Condition A. Subject mated connectors to 96 hours at 40°C with 90% RH to 95% RH.	See NOTE 1.
Temperature life	EIA 364-17 Test Condition III Method A. Subject mated connectors to temperature life at +85°C for 500 hours.	See NOTE 1.
Thermal shock	EIA 364-32 Test Condition 1. Subject mated connectors to 10 cycles between -55°C and +85°C	See NOTE 1.
Salt Spray	Subject connector to salt solution concentration shall be 5% and air supply 35°C for 4 hours per EIA-364-26B.	1. No obvious cosmetic difference. 2. Contact Resistance: 65 milliohms maximum.
	Subject connector to salt solution concentration shall be 5% and air supply 35°C for 48 hours per EIA-364-26B.	1. Probably obvious cosmetic difference. 2. Contact Resistance: 65 milliohms maximum.
Solder-ability	EIA 364-52 At a temperature of 245+5°C for 5+0.5 seconds. Dip tails into flux for 5 second, drain, and then dip into the solder pot and keep for 5 seconds.	More than 95% of the Solder-able area shall be covered with solder
Resistance to Solder reflow Heat	1). Reflow part Max 260°C ± 5°C for 10sec. 2). Pre-heat part 130~180°C, 60~120 sec Per EIA-364-56	Tested housing shall show no evidence of deformation and no physical damage.

Figure 2

NOTE -

1. Shall meet EIA 364-18 Visual Examination requirements, show no physical damage, and shall meet requirements of additional tests as specified in the test sequence.
2. Vibration test fixture is to be determined by each user with connector vendors.

GENESIS TECH ELECTRONICS INC.

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4.0 PRODUCT QUALIFICATION AND REQUALIFICATION TEST SEQUENCE

Test Group ⇨	A	B	C	D	E	F	
Test or examination ⇩							
Examination of product	1,9	1,9	1,5	1,8	1,3	1,5	
Insulation resistance				2,6			
Dielectric withstanding voltage				3,7			
Low level contact resistance(LLCR)	2,8	3,7	2,4			2,4	
Insertion Force	3,6	2					
Removal Force	4,7	8					
Durability	5	4					
Physical shock		6					
Random vibration		5					
Humidity				5			
Temperature life			3				
Thermal shock				4			
Salt Spray						3	
Solder-ability					2		

Figure 3

5.0 PRODUCT PACKAGE DRAWINGS

5.1 Product to be supplied in tray as shown in product drawing unless otherwise specified.

5.2 Test packaging according to standard ISTA shipping specifications.

6.0 QUALITY ASSURANCE PROVISIONS

6.1 Test Conditions:

A. Sample Selection

Connector housings and contact shall be prepared in accordance with applicable instruction sheets and shall be selected from current production. All test groups shall each consist of a minimum of 5 connectors.

B. Test Sequence

Qualification inspection shall be verified by testing samples as specified in Figure 3.

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6.2 Requalification Testing:

If changes significantly affecting form, fit or function are made to product or manufacturing process, product assurance shall coordinate qualification testing, consisting of all or original testing sequence as determined by development/product, quality and reliability engineering.

6.3 Acceptance:

Acceptance is based on verification that product meets requirements of Figure 1. Failures attributed to equipment, test setup or operator deficiencies shall not disqualify. When a product failure occurs, corrective action shall be taken and samples resubmitted for qualification. Testing to confirm corrective action is required before submittal.