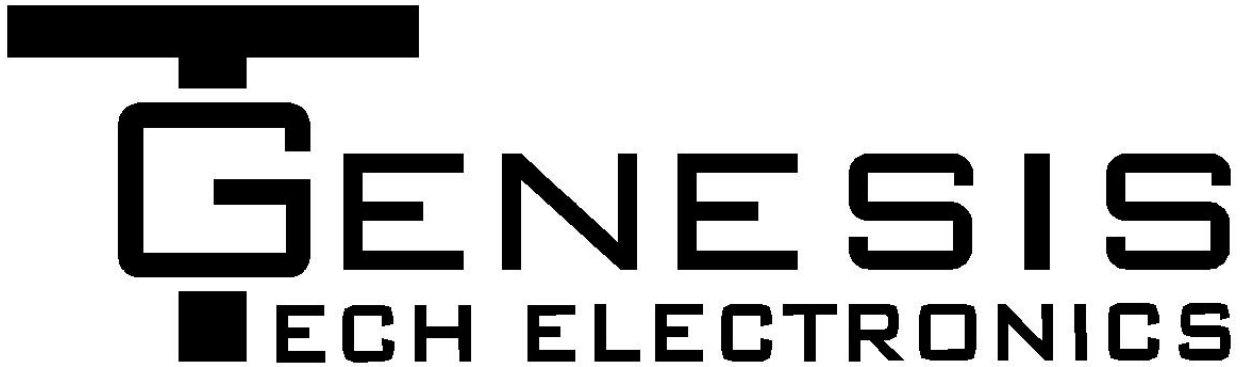


GENESIS TECH ELECTRONICS INC.

PRODUCT SPECIFICATION: GTi10-30003

GENESIS PN: GTi10-30003-03



SPECIFICATION FOR APPROVAL

CUSTOMER _____.

PART NAME: _____.

PART NO: _____ GTi10-30003-03 _____ REVISION: A4.

DESCRIPTION: _____ DC POWER JACK WITH LED _____.

	MANUFACTURE SIGNATURE	CUSTOMER SIGNATURE
APPROVED BY:		
DATE:		

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1 SCOPE

This specification covers the performance requirements of the DC power jack with LED Connector.

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 94V-0

3 REQUIREMENTS

3.1 DESIGN AND CONSTRUCTION

Product shall be of the design, construction and physical dimensions specified on the applicable product drawing GTi10-30003.

3.2 MATERIAL

- A. Housing: PA9T with Glass Fiber Filler , UL94V-0
- B. Terminal #2: Phosphor bronze, Tin or Silver plated, Nickel underplated all over.
- C. Terminal #3: Brass, Tin or Silver plated, Nickel underplated all over
- D. Terminal #4: Phosphor bronze, Tin plated, Nickel underplated all over.
- E. Contact foot: Brass, Tin plated, Nickel underplated all over
- F. Front shielding cover: SUS, Nickel Plated
- G: Terminal #5: SUS, No Plating.

3.3 RATINGS

- A. Current rating : 5 Amps
- B. Voltage rating : 24 VDC
- C. Operating temperature : -25°C to 90°C.
- D. Humidity : 50% - 70%

3.4 STORAGE CONDITIONS

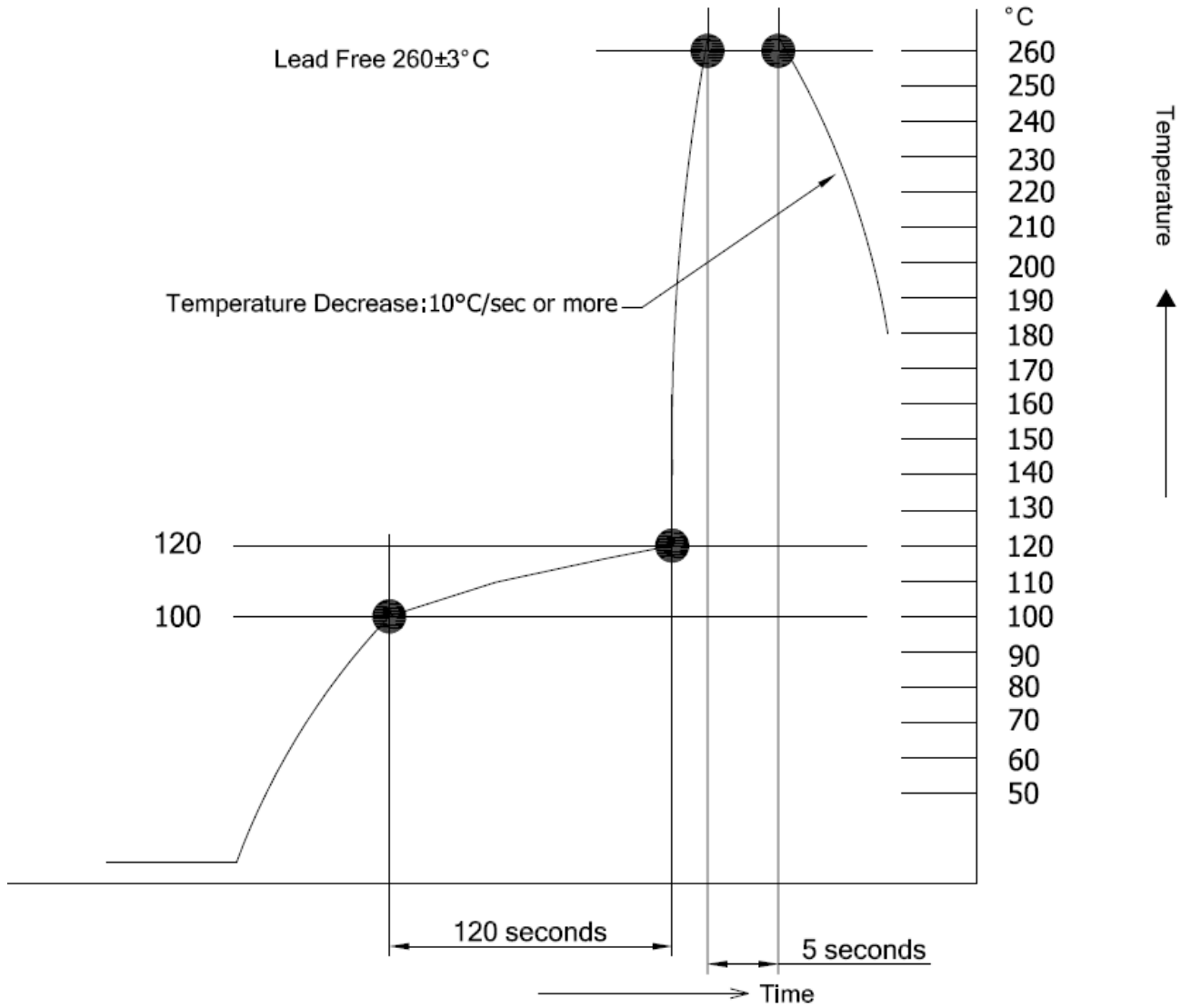
Temperature : 25±5°C;
Storage time : Should not exceed 90 days.

3.5 SOLDER PROCESS

Wave Solder Process : 260°C ± 3°C, 5sec (pre-heat=120±10°C, 120 sec)
Manual Solder Process: 350±10°C, 3±1°C

Reflow temperature profile

(Note)The measuring point for the specified temperature shall be on the soldered part of the leads



3.6 TEST CONDITIONS

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

3.7 ELECTRICAL PERFORMANCE

Parameter	Procedure	Requirement
Insulation resistance	Measurements shall be made following application of DC 500V potential across terminals and across terminals and frame for 1 minute per EIA-364-21C	100MΩ minimum
Dielectric withstanding voltage	500V AC/RMS (50Hz or 60Hz) shall be applied across terminals for 1 minute per EIA-364-20B.	There shall be no breakdown
Contact resistance- Positive contact-LLCR	Measure mated pair contact resistance per EIA-364-23C.	Contact resistance: 30 mΩ max initial.
Contact resistance for Switch Contact-LLCR	Measure Closed contact resistance per EIA-364-23C.	Contact resistance: 100 mΩ max initial.

3.7.1 LED SPECIFICATIONS

Emitting Color	Forward Voltage(V)			Recommend Forward Current(mA)			Reverse Current(μA) VR=5V	Dominant Wavelength(nm)			Luminous Intensity(mcd)			50%Power Angle(Deg)		
	Min.	Typ.	Max.	Min.	Typ.	Max.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.
Yellow Green	1.8	2.2	2.7	10	15	20	10	565	570	575	10	/	30	/	140	/

◆ Notes:
 1.Tolerance of luminous intensity : ±15%.
 2.Tolerance of dominant wavelength : ±1nm.
 3.Tolerance of forward voltage : ±0.05V.

3.8 MECHANICAL PERFORMANCE

Parameter	Procedure	Requirement
Insertion and extraction force	Insert plug gauge into the specimen and extract for test, and then measure the insertion and extraction force per EIA-364-13D.	Insertion force: 3kg Max Extraction force :0.3kg Min
Durability	5,000 cycles of operation at a rate of 10~20 cycles per minute with unloading. This test to be performed on positive contact and switch contact. Test per EIA-364-09C.	(1) Contact resistance: Change from initial value 15mΩ Max., except for switch contact. Switch contact change 50 mΩ from initial value. (2) Insertion force: 3kg Max (3) Extraction force : 0.3kg Min (4) Dielectric withstanding voltage AC 500V(50Hz or 60Hz) shall be no breakdown.

3.9 ENVIRONMENTAL PERFORMANCE

Parameter	Procedure	Requirement
Thermal Shock	Subject mated connectors to 10 cycles between -55°C and +85°C per EIA-364-32C.	Contact Resistance: Change from initial value 15 mΩ max. for positive contact, and 50 mΩ for switch contact.
Humidity-Temperature Cycling	Subject mated connectors to 96 hours at 40°C with 90% RH to 95% RH. Test after keeping in normal condition for 30 minutes per EIA-364-31B.	Contact Resistance: Change from initial value 15 mΩ max. for positive contact, and 50 mΩ for switch contact.
Temperature life	Subject mated connectors to temperature life at +85°C for 96 hours per EIA-364-17B.	Contact Resistance: Change from initial value 15 mΩ max. for positive contact, and 50 mΩ for switch contact.
Temperature Rise vs. Current	Subject mated connectors to 7 Amps, per EIA-364-70B.	The temperature rise above ambient shall not exceed 30°C at any point in the connector when contact positions are powered.
Salt spray	Subject connector to salt solution concentration shall be 5% and air supply 35°C for 4 hours per EIA-364-26B.	Contact Resistance: Change from initial value 15 mΩ max. for positive contact, and 50 mΩ for switch contact.
Solderability	The tip of the terminals shall be dipped 2mm in the solder bath at temperature of 255±5°C For 3 ±0.5 seconds per EIA-364-52.	More than 95% of solderable area shall be covered
Resistance to wave solder heat	Solder temperature 260°C for 5±0.5 seconds per EIA-364-56.	Without deformation of case or excessive loosening of terminals an no change in electrical performance

4.0 PRODUCT QUALIFICATION AND TEST SEQUENCE

Test or Examination	Test Group (a)								
	1	2	3	4	5	6	7	8	9
	Test Sequence (b)								
Examination of Product	1	1,9	1,5	1,5	1,5	1,5	1,3	1,3	1,3
Contact Resistance		2,8	2,4	2,4	2,4	2,4			
Insulation Resistance	2,5								
Dielectric Withstanding Voltage	3,6								
Temperature Life					3				
Temperature Rise vs. Current									2
Humidity-Temperature Cycling	4			3					
Thermal Shock			3						
Solderability								2	
Resistance to Wave Solder Heat							2		
Durability		5							
Mating Force		3,6							
Unmating Force		4,7							
Salt Spray						3			

Figure 2

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 2.

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

GENESIS TECH ELECTRONICS INC.

PRODUCT SPECIFICATION: GTi10-30003

GENESIS PN: GTi10-30003-03

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.