PRODUCT SPECIFICATION
108 – 61038
PIN HEADR ASS'Y, 3Pos/6Pos, MQS

1. Scope :

This specification covers the requirements for product performance, test methods
And quality assurance provisions of PIN HEADR ASS'Y, 3Pos, MQS

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 Drawings

2.1.1 AMP Drawings

A PIN HEADER ASS'Y PART

PIN HEADR ASS'Y, MQS : P/N 368312 (3Pos), P/N 936287 (6Pos)
PIN HEADER HOUSING : P/N 368313 (3Pos), P/N 936288 (6Pos)
0.63 SQ TAB : P/N 368314 (3Pos), P/N 936828 (6Pos)

B HARDNESS PART

MQS SOCKET HOUSING : P/N 965444(3Pos), P/N 936289(6Pos)
COVER FOR 3 POS, MQS SOCKET HOUSING : P/NO 965445
MQS RECEPTACLE : P/NO 928999

2.2 AMP Specification

2.2.1 General Requirements for test specification : 109 – 1

2.2.2 Application Specification for MQS Receptacle : 114-18025

3.1 Design and Construction:

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

3.2 Materials

3.2.1 Contacts

A 0.64 SQ TAB (PIN HEADER ASS'Y PART) : Phosphor Bronze
Finish : Post - Tin Lead Plating

B MQS RECEPTACLE (WIRING PART) :
Finish : PRE-Tinned (928999-1), Post-Gold (928999-5)

3.2.2 Housing

A PIN HEADER HOUSING, 3Pos (PIN HEADER ASS'Y part) : PA 66 + GF 15 (BLACK)
PIN HEADER HOUSING, 6Pos (PIN HEADER ASS'Y part) : PBT-GF20 (NATURAL)

B MQS SOCKET HOUSING, 3Pos/6Pos (WIRING PART) : PBT

C COVER FOR 3 POS, MQS SOCKET HOUSING (WIRING PART) : PBT–GF15

4. Performance Test Descriptions:

The product is designed to meet the electrical, mechanical and environmental performance Requirements specified in Fig.1 All tests are performed at ambient temperature of AMP Test SPEC Unless otherwise specified.

4.1 Test Requirements and Procedures Summary: (next page)

Test Items	Requirements	Procedures
The confirmation of Product	Product shall be conforming to the Requirement of applicable product Drawing	Visually, dimensionally and functionally Inspected per applicable quality inspection plan.
Electrical Test		
Voltage Drop	Before test – Max 10 mV/A After test – Max 20 mV/A	Measured the voltage drop to contact but wire Resistance after connector is initially loaded with Voltage and current.
Insulation Resistance	Min 100 MΩ	Measured the resistance to each contacts Or contact and housing surface with DC 500V
Current Leackage	Max 3 mA	Measured the current to each contact with DC 400V
Dielectric Strength	Connector shall show no abnormalities After applying given current and time	Measured the voltage to each contacts or Contact and housing with AC 1000V for 1 Min
Temperature Rising	Initial – Max 40℃ After duration – Max 60℃	Measurement must be done after temperature Rising of circuit becomes stabilized by using Thermo-couples.
Electrical discontinuity	No electrical discontinuity greater than 10 μs shall occur during test	Measured the electrical discontinuity when 3.5V is continuously porcessed for over 10 μs in tester with 5V, 1 mA
Mechanical Test		
Insertion & Extraction Force	Insertion: 3Pos(Max 5Kgf), 6Pos(Max 10Kgf) Extraction: 3Pos(1~5Kgf), 6Pos(Max 10Kgf)	Measured the force when connector is Inserted or extracted into/from each other with Velocity 20~200 mm/min
Locking force	3Pos: Min 3Kgf 6Pos: Min 4Kgf	Measured the force when housing locking Lance is pulled out or broken by tension force In which one is fixed and the other one is Pulled with velocity 20~200 mm/min
Contact Retention Forece	Min 2 Kgf	Measured the force when contact with wire Is pulled out of hosing in paraller direction With velocity 20~200 mm/min

Test Items	Requirements	Procedures
Environmental Test		
Low Temperature	Be satisfied with requirement Of appearance, waterproof	Putting connector Ass'y into chamber With –40℃ for 24hr and then pacticing Insertion/extraction 5 times
Thermal Shock	Be satisfied with requirement Of appearance, voltage dorp, waterproof	In connector Ass'y, practicing 100 cycle And then leave it to room temp for 2 hrs (1cycle: -40℃/2hr → room temp/5min high temp (A: engine = 120℃, B:the other = 80℃)/1hr → room temp/5min → 40℃/1hr)
High Temperature	Be satisfied with requirement Of appearance, voltage dorp,	In connector Ass'y, leave it to high temp (A:engine = 120℃, B:the other=80℃) for 300hr and then back to room temp
Heat & Humidity Cycle	Be satisfied with requirement Of appearance, voltage dorp, Current leakage	In room temp 25℃, relative humidity 65% For 25hr and then practicing 5 cycles (1cycle: heating up to 50 ± 2℃ & 90 ± 5% RH/2hr → continued for 4hr → cooling up to 45 ± 2℃ & 95 ± 5% RH / 2hr → continued for 10hr → cooling up to –10 ± 2℃ / 2hr → continued for 1hr → heating up to 25 ± 2℃ & 65 ± 10% RH → continued for 1hr)
Dust	Be satisfied with requirement Of voltage dorp, waterproof	In connector Ass'y in closed room, spraying 15Kg portland cement for 1hr at 10sec per 15 min interval and then practicing insertion/ extraction 3 times
Ozon	Be satisfied with requirement Of appearance, voltage dorp	In connector Ass'y, leaving it to 50 PPHM Room for 24hr
Multiple Environment	Vibration: Be satisfied with requirement of Appearance, Voltage drop, Temp rising, Electrical discontinuity	In conector Ass'y, practicing insertion/extraction 10time and then leave it to 120 ℃ For 48hr and vibration with below condition Surrounding temp: 80℃ Currency: 5V, 1 ㎃ continuance Vibration acceleration: 4.4G Vibration No: 20~200Hz Vibration direction: X.Y.Z/40hr each

4.2 Product Qualification Test Sequence

Test or Examination	Test Group													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
	Test Sequence(a)													
The confirmation of Product	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3	1,3
Voltage Drop								2,4	2,4	2,4	2,4	2,4	2,4	2,4
Insulation Resistance	2													
Current leakage											3			
Dielectric Strength		2												
Temperature Rising							2							
Electrical Discontinuity														3
Insertion & Extraction Force			2											
Locking Force				2										
Contact Retention Force					2									
Crimping Strength						2								
Low Temperature								3						
Thermal Shock									3					
High Temperature										3				
Heat & Humidity Cycle											3			
Dust												3		
Ozon													3	
Multiple Environment														3