



## H3A TIC-LOQ Housing Series

### 1. INTRODUCTION

#### 1.1 Purpose

This document provides the qualification summary of TE Connectivity H3A TIC-LOQ Housings of HDC connector.

#### 1.2 Scope

This specification covers the electrical, mechanical, and environmental performance of H3A TIC-LOQ Housing. Testing was performed at the Shanghai Electrical Components Test Laboratory.

#### 1.3 Conclusion

Based on the test results, all meet the requirements according to TE Connectivity Design Objectives 108-137605.

#### 1.4 Product Description

Part Number	Name
T1509034500-000	H3A-MAG-TL CROSS MATING
T1509034600-000	H3A-MAG-TL STANDARD VERSION

1.5 Qualification Test Sequence

Test or Examination	Test Group					
	A	B	C	D	E	F
	Test Sequence					
Visual and dimensional examination	1,3	1,3	1,6	1,6	1,4	1,3
Mechanical strength impact	2					
Mechanical Operation (Durability)		2				
Vibration, Random					2	
Shock					3	
Cold			3	3		
Dry Heat			4	4		
Salt Spray Test						2
Degree of protection IP6X			2,5			
Degree of protection IPX5				2,5		

**Notes:**

- 1) Numbers indicate the sequence in which the tests are performed.

2. TEST PROCEDURE

General			
No.	Test Items	Requirements	Condition according to
2.1	Visual and dimensional examination	Meets requirements of product drawing	Visual and dimensional examination IEC 60512-1-1/-2, Test 1a and 1b 6.2 of EN 61984

Mechanical			
2.2	Mechanical strength impact	Connector and internal insulation shall no damage to impair normal use. A reduction of clearance and creepage distance is not allowed. 6.18.1 & 6.18.3 of EN 61984	Dropping height: - 750mm for specimens of mass ≤ 250g - 500mm for specimens of mass > 250g Dropping cycles: 8 positions in 45° step, one cycles per position IEC 60512-7-2 Test 7b
2.3	Mechanical Operation (Durability)	1) 100 operation cycles 2) No damage likely to impair normal use	Shall operate to open /close the locking system by means of A) a device simulating normal use B) manual open/close 200 Max. cycle per hour
2.4	Vibration, Random	No damage likely to impair function No discontinuities greater than $t > 1\mu s$	Frequency: 5~150Hz Per EN 61373, Category 1, Class B (IEC60068-2-6 Test Fc)
2.5	Shocks	No damage likely to impair function No discontinuities greater than $t > 1\mu s$	Acceleration: 50m/s <sup>2</sup> Duration: 30ms Total 18 shocks (three positives and three negatives in each of the three orthogonal axes) Per EN 61373

Environmental			
2.6	Cold	No damage likely to impair function	Subject mated specimen to -40°C Duration time: 16h, Test Ab Per IEC 60512-11-10 Test 11j (IEC 60068-2-1)
2.7	Dry Heat	No damage likely to impair function	Subject mated specimen to +125°C Duration time: 168h Test Bb Per IEC 60512-11-9 Test 11i (IEC 60068-2-2)
2.8	Salt Spray Test	No damage likely to impair function	Follow: ASTM B117-11 Test Condition: 1). Mated connector 2). Salt spray: (5±1)% NaCl (w/w) concentration solution 3). Temperature (35±1)°C 4). Precipitation rate of salt spray (1.0-2.0) ml / (80cm <sup>2</sup> *h) 5). PH value: 6.5-7.2 6). Duration: 72H

3. SUMMARY OF TEST RESULTS:

Examination of product – all test group

Test Group	Test Item	Requirement	Test Result	Judgment
Group A	Visual and dimensional examination	Meets requirements of product drawing	No damage likely to impair function	passed
	Mechanical strength impact	Connector and internal insulation shall no damage to impair normal use. A reduction of clearance and creepage distance is not allowed.	No damage likely to impair function	passed
	Visual and dimensional examination	Meets requirements of product drawing	No damage likely to impair function	passed
Group B	Visual and dimensional examination	Meets requirements of product drawing	No damage likely to impair function	passed
	Mechanical Operation (Durability)	After 500 operations cycles. No damage likely to impair normal use	No physical damage	passed
	Visual and dimensional examination	Meets requirements of product drawing	No damage likely to impair function	passed
Group C	Visual and dimensional examination	Meets requirements of product drawing	No damage likely to impair function	passed
	Degree of protection IPX5	IPX5, No ingress of water	No ingress of water	passed
	Cold	No damage likely to impair function	No damage likely to impair function	passed
	Dry Heat	No damage likely to impair function	No damage likely to impair function	passed
	Degree of protection IPX5	IPX5, No ingress of water	No ingress of water	passed
	Visual and dimensional examination	Meets requirements of product drawing	No damage likely to impair function	passed
Group D	Visual and dimensional examination	Meets requirements of product drawing	No damage likely to impair function	passed
	Degree of protection IP6X	IP6X, No ingress of dust	No ingress of dust	passed
	Cold	No damage likely to impair function	No damage likely to impair function	passed
	Dry Heat	No damage likely to impair function	No damage likely to impair function	passed
	Degree of protection IP6X	IP6X, No ingress of dust	No ingress of dust	passed
	Visual and dimensional examination	Meets requirements of product drawing	No damage likely to impair function	passed
Group E	Visual and dimensional examination	Meets requirements of product drawing	No damage likely to impair function	passed
	Vibration, Simulated long life random Category 1, Class B	No damage likely to impair function No discontinuities greater than $t > 1\mu s$	No breakdown or flashover	passed

	Shocks Category 1, Class B	No damage likely to impair function No discontinuities greater than $t > 1\mu s$	No breakdown or flashover No discontinuities greater than $t > 1\mu s$	passed
	Visual and dimensional examination	Meets requirements of product drawing	No damage likely to impair function	passed
Group F	Visual and dimensional examination	Meets requirements of product drawing	No damage likely to impair function	passed
	Salt Spray Test	No damage likely to impair function	No corrosion was found after test.	passed
	Visual and dimensional examination	Meets requirements of product drawing	No damage likely to impair function	passed