HA metal IP65 Hood and Housing series

1. INTRODUCTION

1.1 Purpose

This document provides the qualification summery of TE Connectivity Hood & Housing of HDC connector.

1.2 Scope

This specification covers the electrical, mechanical, and environmental performance of HA metal Hood & Housings. 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 108-137010.

1.4 Product Description

Name	Remarks
H10A-AGS	
H10A-TG-M25	
H16A-AGS	
H16A-TGH-M25	

1.5 Qualification Test Sequence

Test and Examination	**Test Group**					
	A	B	C	D	E	F
	Test Sequence 1)					
Visual and dimensional examination	1,3	1,3	1,7	1,7	1,4	1,3
Mechanical strength impact	2					
Mechanical Operation (Durability)		2				
Vibration, Random					2	
Shock					3	
Cold			3	3		
Dry Heat			4	4		
Rapid Change of temperature (Temperature Cycle)			5	5		
Salt Mist Cyclic Test						2
Degree of protection IP6X			2,6			
Degree of protection IPX5				2,6		

*** Notes:**

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

2. TEST PROCEDURE

General			
No.	**Description**	**Test procedure according**	**Requirements**
2.1	Visual and dimension examination	Visual and dimensional examination IEC 60512-1-1/-2, Test 1a and 1b	Meets requirements of product drawing

Mechanical			
2.2	Mechanical strength impact	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	No damage likely to impair function
2.3	Mechanical Operation (Durability)	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	1) 100 operation cycles 2) No damage likely to impair normal use
2.4	Vibration, Random	Frequency:5~150Hz Per EN 61373, Category 1, Class B (IEC60068-2-6 Test Fc)	No damage likely to impair function No discontinuities greater than t>1μs (together with inserts)
2.5	Shock	Acceleration:50m/s2 Duration:30ms Total 18 shocks(three positive and three negative in each of the three orthogonal axes) Per EN 61373	No damage likely to impair function No discontinuities greater than t>1μs (together with inserts)

Environmental			
2.6	Cold	Subject mated specimen to -40℃ Duration time:16h, Test Ab Per IEC 60512-11-10 Test 11j (IEC 60068-2-1)	No damage likely to impair function
2.7	Dry Heat	Subject mated specimen to +125℃ Duration time:168h Test Bb Per IEC 60512-11-9 Test 11i (IEC 60068-2-2)	No damage likely to impair function
2.8	Rapid Change of temperature (Temperature Cycle)	Subject mated specimen to T_a=-40±2℃ to T_b=+125±2℃, duration: t_a=1h, t_b=1h,, 100 cycles IEC 60512-11-4 Test 11d (IEC 60068-2-14 Test Na)	No damage likely to impair function
2.9	Salt Mist Cyclic Test	Mated connector and expose to the following salt mist condition. Atmosphere: salt spray from a 5±1% concentration solution; PH value: 6.5~7.2 Per IEC60068-2-52, Severity 1, 1 Cycle	No damage likely to impair function

Protection			
2.10	Degree of protection IP6X	Test IP 6X according to IEC 60529	IP 6X, No ingress of dust
2.11	Degree of protection IPX5	Test IP X5（water jetting）according to IEC 60529	IP X5, No ingress of water

3. SUMMARY OF TEST RESULTS:

Examination of product – all test group

Test Group	Test Item	Test Result	Requirement	Judgment
Group A	Visual and dimensional examination	No physical damage	Meets requirements of product drawing	passed
	Mechanical strength impact	No physical damage	No damage likely to impair function	passed
	Visual and dimensional examination	No physical damage	Meets requirements of product drawing	passed
Group B	Visual and dimensional examination	No physical damage	Meets requirements of product drawing	passed
	Mechanical Operation (Durability)	No physical damage	After 100 operation cycles, No damage likely to impair normal use	passed
	Visual and dimensional examination	No physical damage	Meets requirements of product drawing	passed
Group C	Visual and dimensional examination	No physical damage	Meets requirements of product drawing	passed
	Degree of protection IP6X	No ingress of dust	No ingress of dust	passed
	Cold	No physical damage	No damage likely to impair function	passed
	Dry Heat	No physical damage	No damage likely to impair function	passed
	Rapid Change of temperature (Temperature Cycle)	No physical damage	No damage likely to impair function	passed
	Degree of protection IP6X	No ingress of dust	No ingress of dust	passed
	Visual and dimensional examination	No physical damage	Meets requirements of product drawing	passed
Group D	Visual and dimensional examination	No physical damage	Meets requirements of product drawing	passed
	Degree of protection IPX5	No ingress of water	No ingress of water	passed
	Cold	No physical damage	No damage likely to impair function	passed
	Dry Heat	No physical damage	No damage likely to impair function	passed
	Rapid Change of temperature (Temperature Cycle)	No physical damage	No damage likely to impair function	passed
	Degree of protection IPX5	No ingress of water	No ingress of water	passed
	Visual and dimensional examination	No physical damage	Meets requirements of product drawing	passed

Group E	Visual and dimensional examination	No physical damage	Meets requirements of product drawing	passed
	Vibration, Random	No breakdown or flashover	No damage likely to impair function No discontinuities greater than t>1µs	passed
	Shock	No breakdown or flashover	No damage likely to impair function No discontinuities greater than t>1µs	passed
	Visual and dimensional examination	No physical damage	Meets requirements of product drawing	passed
Group F	Visual and dimensional examination	No physical damage	Meets requirements of product drawing	passed
	Salt Mist Cyclic Test	No physical damage	No damage likely to impair function	passed
	Visual and dimensional examination	No physical damage	Meets requirements of product drawing	passed