1 Scope

1.1 Content

This specification sheet covers the requirements for product performance, test method and quality assurance provision of sealed connector with secondary locking device which is called spacer in which the JPT Contact is used.

1.2 Qualification

When tests are performed, the following specified specification and standards shall be used. All inspection shall be performed using the applicable inspection plan and product drawing.

2 Applicable Documents

The following documents form 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 reference documents, the specification shall take precedence.

2.1 TE documents

A. 109-1 : Test specification, the general requirements for test method

B. 109 series : Specified test requirements for "Test Requirements and Test Measuring Method"

C. 114-18018 : Application specification for JPT Contact.

D. 108-18013 : Product specification for applicable contact.

2.2 Part numbers

A. Assembly

Part Number	Part Description
85168	JPT 4P ASS'Y FOR STANDARD
85196	JPT 3P ASS'Y FOR REVERSE
85202	JPT 2P ASS'Y FOR STANDARD
85205	JPT 3P ASS'Y FOR STANDARD
85208	JPT 5P ASS'Y FOR STANDARD

85211	JPT 7P ASS'Y FOR STANDARD
368000	JPT 3P ASS'Y FOR INJECTOR
368216	JPT 3P ASSY FOR KNOCK SENSOR

B. Cavity plug

Part Number	Part Description
828922	CAVITY PLUG DIA. 2,5mm SYSTEM DIA. 5.4mm
828906	CAVITY-PLUG (5mm Hole)

2.3 Reference documents

A. IEC S29

3 Requirements

3.1 Design and Construction

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

3.2 Material

A. Housing : PBT included Glass Fiber
B. Spacer : PBT
C. Seal : Silicon
D. Spring : stainless steel

3.3 Performance and Test Description

The product shall be designed to meet the electrical, mechanical and environmental performance requirements. Unless otherwise specified about test requirement, all tests must be performed at the test condition TE document 109-1.

3.4 Requirements and Test procedures Summary

Para	Test Item	Requirements	Procedures
3.4.1	Confirmation of Product	Product shall be conforming to the requirements of applicable product drawing and applicable specification 114-18018	Visually, dimensionally and functionally inspected per applicable qualify inspection
		Electrical Requirements	
3.4.2	Terminal Resistance	Product shall be conforming to the applicable specification 108-18013.	Product shall be conforming to the applicable specification 108-18013.
3.4.3	High Voltage Test	1000 VOLT MIN	Measure between neighboring terminals without terminals, and between housing surfaces of terminal with connector. TE Spec : 109-2-2
3.4.4	Insulation Resistance	100 MΩ MIN	Measure resistance between neighbor terminals with combined connector. TE Spec : 109-28-4
3.4.5	Current Cycling	60℃, Terminal resistance	Subject specimens to 500 cycle of 45 minutes on and 15 minutes off by applying 25A with combined contact TE Spec : 109-51
3.4.6	Current Temperature Rising	30℃ Maximum rise under 25 A	Measure temperature and current by energized current
		Mechanical Requirements	
3.4.7	Vibration	No electrical discontinuity greater than 1 μS and terminal resistance	10-500-20 HZ sinusoidal, 0.06 inch peak-to-peak, 120 cycles (2 hours) on each axis TE Spec : 109-21-1
3.4.8	Connector Engage Force	2 pos : 20 N MAX 3 pos : 35 N MAX 5 pos : 65 N MAX 7 pos : 90 N MAX	Measure the force required to combined connector with terminal by operating at a rate of 25 mm approximate a minute TE Spec : 109-45
3.4.9	Connector Disengage Force	20 N MAX	Measure the force required to combined connector with terminals using a proper counterpart by operating at a rate of 25mm approximate a minute TE Spec : 109-41

Para	Test Item	Requirements	Procedures
3.4.10	Contact Mating Force	10 N MAX for each terminal	Measure the force required to mate connector. TE Spec : 109-42
3.4.11	Contact Retention	No electrical discontinuity greater than 1 μS and terminal resistance	Apply the 60 N to axial direction by operating at a rate of 60 mm approximate a minute TE Spec : 109-30
3.4.12	Double Lock Plate Mating Force	60 N MAX	Measure the force required at combined double lock plate.
3.4.13	Housing Locking Mechanism Strength	100 N MIN	Measure the force required to combined connector by operating at a rate of 60 mm approximate a minute.
3.4.14	Temperature Humidity Test	Terminal resistance	Subject combined connector with terminal to 5 cycle between -30 ℃ and +125 ℃ at 98 RH.
3.4.15	Humidity Test	No physical damage by using sense of sight and touch	Subject specimens in normal condition by following IEC 529 IPX 2h.
3.4.16	Watertight Sealing	No air leakage	Blow the compressed air by 0.5 Kg/㎠ into mated connector through a small hole.
3.4.17	High Temperature	Terminal resistance	Subject combined connector at 120℃ for 200 hours.

3.5 Product Qualification and Requalification Testing

Test of examination	Sample Group								
	1	2	3	4	5	6	7	8	9
	Test sequence								
Confirmation of Product	1.5	1.5	1.5	1.4	1.3	1.8	1.3	1.5	1
Terminal Resistance	2.4	2.4	2.4	3				2.4	
High Voltage Test				2					
Insulation Resistance									
Current Cycling								3	
Current Temperature Rising					2				
Vibration	3								
Connector Mating Force						4			
Connector Unmating Force						5			
Contact Mating Force						2			
Contact Retention						6			
Double Lock Plate Mating Force						3			
Housing Locking Mechanism Strength						7			
Temperature Humidity Test			3				2		
Humidity Test									
Watertight Sealing									2
High Temperature		3							