

LIF Spring Connector & Dual LIF cable

1. SCOPE

1.1. Contents

This specification covers the requirements for product performance, test methods and quality assurance provisions of LIF Spring Connector & Dual LIF cable.

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. TE connectivity Documents

501-160525 Test Report

2.2. Commercial Standard and Specification

- A. EIA 364 Electrical Connector/Socket Test Procedures Including Environmental Classifications
- B. IEC-60512
- C. IEC-512
- D. IEC-68

3. REQUIREMENTS

3.1. Design and Construction

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

3.2. Materials

- A. Contact: Copper Alloy
- B. Housing: High temperature resin, UL 94-V0
- C. Lock plate – stainless steel
- D. Rivet - stainless steel or copper alloy
- E. Washer - stainless steel

3.3. Ratings

- A. Voltage Rating: 50VAC rms under.
- B. Current Rating: 1 A
- C. Temperature Rating: -55 °C to +125 °C (Including temperature rising).

3.4. Performance and Test Description

The product shall be designed to meet the electrical, mechanical and environmental performance requirements specified in Para 3.5. All tests shall be performed in the room temperature, unless otherwise specified.

3.5. Test Requirements and Procedures Summary

Para.	Test Items	Requirements	Procedures
3.5.1	Examination of Product	Meets requirements of product drawing	Visual inspection No physical damage
Electrical Requirements			
3.5.2	Termination Resistance (Low Level)	80 m Ω Max. (Initial,don't include raw cable) $\Delta R=30$ m Ω Max. (Final)	Subject mated contacts assembled in housing to closed circuit current of 10 mA Max. at open circuit voltage of 20mV Max. obtain resistance value by subtract the PCB trace line and cable. Fig. 3 Spec. EIA 364-23
3.5.3	Dielectric withstanding Voltage	No creeping discharge nor flashover shall occur. Current leakage : 5mA Max.	250VAC for 1 minute. Test between adjacent circuits of unmated connectors. Spec. EIA 364-20
3.5.4	Insulation Resistance	1000M Ω Min.(Initial)	Impressed voltage 500 V DC. Test between adjacent circuits of mated connectors. Spec. EIA 364-21
3.5.5	Temperature Rising	30°C Max.Under loaded rating current.	Measure temperature rising by energized Current. Spec. EIA 364-70
Mechanical Requirements			
3.5.6	Vibration (Low Frequency)	No electrical discontinuity greater than 1 μ sec. shall occur.	Subject mated connectors to 10-55-10 Hz traversed in 1 minute at 1.52 mm amplitude 2 hours each of 3 mutually perpendicular planes. 100 mA applied. Spec. EIA 364-28
3.5.7	Physical Shock	No electrical discontinuity greater than 1 μ sec. Shall occur.	Accelerated Velocity : 490 m/s ² (50 G) Waveform : Half sine Duration : 11 m sec. Velocity change: 3.4m/s Number of Drops: 3 drops each to normal and reversed directions of X, Y and Z axes, totally 18 drops. Spec. EIA 364-27
3.5.8	Durability (Repeated Mate/Unmating)	$\Delta R=30$ m Ω Max. (Final)	Operating Speed: 25mm/min, No of cycles : REC ASSY 10000 cycles CAP COAX ASSY 25000 cycles
3.5.9	Connector Mating Force	256Pos :45N Max.	Operation Speed :25mm/min Mesure the force required to mate connectors. Spec. EIA 364-13

3.5.10	Connector unmating Force	256Pos :8N Min.	Operation Speed :25mm/min Measure the force required to unmate connectors. Spec. EIA 364-13
Environmental Requirements			
3.5.11	Thermal Shock	$\Delta R=30 \text{ m}\Omega$ Max.	Mated connector -55°C/30 min., 105°C/30min. Making this a cycle, repeat 5 cycles. Spec. EIA 364-32
3.5.12	Humidity-Temperature Cycling	Insulation resistance 1000 M Ω Min. (Final) $\Delta R=30 \text{ m}\Omega$ Max. (Final)	Mated connector, 25~65°C, 90~95 % R. H. 5 cycles Cold shock -10°C performed Spec. EIA 364-31
3.5.13	Industrial Gas (SO ₂)	$\Delta R=30 \text{ m}\Omega$ Max. (Final)	Mated connector SO ₂ Gas : 25 ppm, 70 % R. H. 25°C, 96 hours
3.5.14	Temperature Life (Heat Aging)	$\Delta R=30 \text{ m}\Omega$ Max. (Final)	Mated connector 105°C, Duration :96hours Spec. EIA 364-17

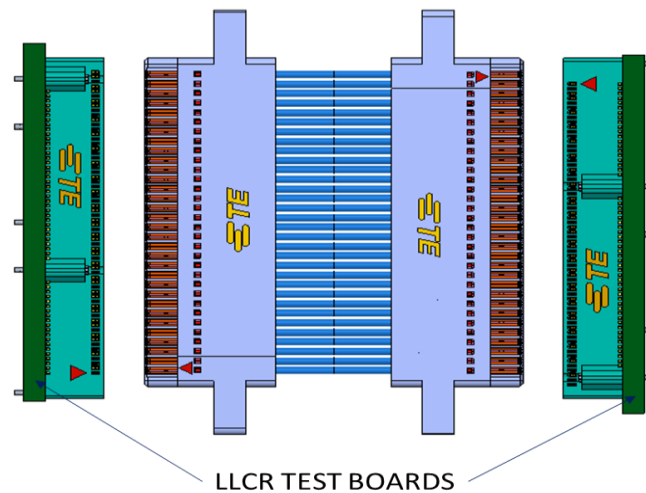


Fig. 1
(LLCR don't include raw cable)

3.6. Product Qualification Test Sequence

Test Examination	Test Group				
	1(b)	2	3	4	5
Test Items	Test Sequence (a)				
Examination of Product	1,7	1,11	1,10	1	1,9
Termination Resistance (Low Level)	2,6	2,8	2,9	2	2,8
Dielectric withstanding Voltage		3,9			
Insulation Resistance		4,10			
Temperature Rising				4	
Vibration (Low Frequency)	4				
Physical Shock	5				
Durability (Repeated Mating /Un-mating)	3(c)	5(c)	5	3(c)	
Connector Mating Force			3,6		3,6
Connector Un-mating Force			4,7		4,7
Thermal shock		6			
Humidity-Temperature Cycling		7			
Industrial SO ₂ Gas			8		
Temperature Life (Heat Aging)					5

Notes:

- (a) Numbers indicate sequence in which the tests are performed.
- (b) Discontinuous conduction shall not occur in this test group during the test.
- (c) Durability of the test group were 1000 cycles.

The applicable product descriptions and part numbers are as shown in Appendix. 1.

Product Part No.	Description
2386423-1	SPRING REC ASSEMBLY, 0.80 PITCH 256P
1981248-1	WASHER
2386427-1	LIF PLUG HOUSING ,128POS
2386429-1	LIF PLUG POWER INSERMOLD CONTACT
2396678-1	LOCK PLATE

Appendix 1