TENTATIVE:
The product described in this document has not been fully tested to ensure conformance to the requirements outlined below. Therefore, TE Connectivity (TE) makes no representation or warranty, express or implied, that the product will comply with these requirements. Further, TE may change these requirements based on the results of additional testing and evaluation. Contact TE Engineering for further details.

Surface Mount Technology (SMT) Releasable Poke-In Connectors

1. SCOPE

1.1. Content

This specification covers performance, tests, and quality requirements for the TE Connectivity (TE) Surface Mount Technology (SMT) Releasable Poke-In Connectors used with the 18 to 22 AWG solid copper wire, 18 to 20 AWG pre-bond stranded wire, 18 to 22 AWG stranded wire, 0.75 to 0.4 mm^2 solid copper wire, 0.75 to 0.50 mm^2 pre-bond stranded wire, and 0.75 mm^2 to 0.40 mm^2 stranded wire in indoor/outdoor lighting.

1.2. Qualification

When tests are performed on the subject product line, procedures specified in Figure 1 shall be used. All inspections shall be performed using the applicable inspection plan and product drawing.

1.3. Qualification Test Results

Successful qualification testing on the subject product line has not been completed. The Qualification Test Report number will be issued upon successful qualification testing.

2. APPLICABLE DOCUMENTS

The following documents form a part of this specification to the extent specified herein. Unless otherwise specified, the latest edition of the document applies. 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 Documents

- 114-32113 Application Specification for Surface Mount Technology (SMT) Releasable Poke-In Connectors
- 501-TBD Qualification Test Report for Surface Mount Technology (SMT) Releasable Poke-In Connectors

2.2. Industry Documents

- EIA-364 Electrical Connector/Socket Test Procedures Including Environmental Classifications
- JEDC JESD22-B102 Solderability

2.3. Reference Document

- 109-197 Test Specification (TE Test Specification vs EIA and IEC Test Methods)

3. REQUIREMENTS

3.1. Design and Construction

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

| Indicates Change

3.2. Ratings

A. Voltage:

600 VDC/VAC for all position sizes

B. Current:

9 amperes maximum with 18 AWG wires
5 amperes maximum with 22 AWG wires

C. Temperature:

-40°C to 105°C

3.3. Test Requirements and Procedures Summary

Unless otherwise specified, all tests shall be performed at ambient environmental conditions.

TEST DESCRIPTION	REQUIREMENT	PROCEDURE
Initial examination of product.	Meets requirements of product drawing.	EIA-364-18. Visual and dimensional (C of C) inspection per product drawing.
Final examination of product.	Meets visual requirements.	EIA-364-18. Visual inspection.
ELECTRICAL		
Low Level Contact Resistance (LLCR).	18 milliohms maximum initial. ΔR 5 milliohms maximum.	EIA-364-23. Subject specimens to 100 milliamperes maximum and 20 millivolts maximum open circuit voltage.
Withstanding voltage.	One minute hold with no breakdown or flashover.	EIA-364-20, Condition I. a) 1, 2, & 3 position: 1800 VAC at sea level. b) Select load 3 position (center position void): 2200 VAC at sea level. Test between adjacent contacts.
T-rise verses current.	30°C maximum temperature rise. 1. 18 AWG & 0.75 mm^2 – 9.0 amperes 2. 20 AWG — 7.0 amperes 3. 22 AWG — 5.0 amperes	EIA-364-70, Method I Stabilize at a single current level until 3 readings at 5-minute intervals are within 1°C.
MECHANICAL		
Solderability, surface mount.	Solderable area shall have a minimum of 95% solder coverage.	JEDC JESD22-B102. Subject contacts to solderability.
Resistance to reflow soldering heat.	Housing shall be free of deformation and fusion. See Note.	TE Spec 109-201, Condition B.
Random vibration.	No discontinuities of 1 microsecond or longer duration. See Note.	EIA-364-28, Test Condition VII, Condition Letter D. Subject mated specimens to 3.10 G's rms between 20 to 500 Hz. Fifteen minutes in each of 3 mutually perpendicular planes. See Figure 3.

Figure 1 (cont'd)

TEST DESCRIPTION	REQUIREMENT	PROCEDURE
Mechanical shock.	No discontinuities of 1 microsecond or longer duration. See Note.	EIA-364-27, Condition H. Subject mated specimens to 30 G's half-sine shock pulses of 11 milliseconds duration. Three shocks in each direction applied along 3 mutually perpendicular planes, 18 total shocks. See Figure 3.
Durability	See Note.	Subject connector assembly to 5 wire insertion and 4 wire extraction cycles. One full cycle consists of the following actions: 1. To insert wire, contact wire release button must be depressed. 2. Then, contact wire release button must be released to retain wire. 3. To release wire, contact release button must be depressed.
Wire insertion force.	15.6 N [3.5 lbf] maximum for solid wire. Note: Only 18 AWG and 0.75 mm^2 solid wire shall be subjected to wire insertion force testing.	EIA-364-13. Measure force necessary to insert wires at a maximum rate of 12.7 mm [.5 in.] per minute. Wire release button shall not be depressed as wire is inserted.
Wire retention force.	22.24 N [5.0 lbf] minimum	EIA-364-13. Measure force necessary to extract wire at a maximum rate of 12.7 mm [.5 in.] per minute.
Thermal shock.	See Note.	EIA-364-32, Test Condition VII. Subject specimens to 25 cycles between -40°C and 105°C.
Humidity/temperature cycling.	See Note.	EIA-364-31, Method III. Subject specimens to 10 cycles (10 days) between 25°C and 65°C at 80 to 100% RH.
Temperature life.	See Note.	EIA-364-17, Method A, Test Condition 4. Subject specimens to 105°C for 648 hrs.

Figure 1 (end)

NOTE
Shall meet visual requirements, show no physical damage, and meet requirements of additional tests as specified in the Product Qualification and Requalification Test Sequence shown in Figure 2.

3.4. Product Qualification and Requalification Test Sequence

TEST OR EXAMINATION	TEST GROUP (a)							
	1	2	3	4	5	6	7	8
	TEST SEQUENCE (b)							
Initial examination of product	1	1	1	1	1	1	1	1
Low Level Contact Resistance (LLCR)	2,5	2,4,6						
Withstanding voltage			2,5					
T-rise versus current						2		
Solderability, surface mount							2	
Resistance to reflow soldering heat								2
Random vibration	3							
Mechanical shock	4							
Durability				2				
Wire insertion force					2			
Wire retention force	6			3				
Thermal shock			3					
Humidity/temperature cycling		3	4					
Temperature life		5						
Final examination of product	7	7	6	4	3	3	3	3

Figure 2

NOTE
(a) See Figure 3 for specimen selection.
(b) Numbers indicate sequence in which tests are performed.

WIRE SIZE AND TYPE			NUMBER OF 2-POSITION CONNECTORS TO BE TESTED							
			TEST GROUP							
			1	2	3	4	5	6	7	8
18 AWG	UL 1007-18	Solid	15	15	N/A	5	5	3	N/A	N/A
18 AWG	UL 1007-18 (16)	Prebond	15	15	N/A	5	N/A	3	N/A	N/A
18 AWG	UL 1007-18 (16)	Stranded	15	15	15	5	N/A	3	N/A	N/A
20 AWG	UL 1007-20	Solid	N/A	15	N/A	5	N/A	3	N/A	N/A
20 AWG	UL 1007-20 (7)	Prebond	N/A	15	N/A	5	N/A	3	N/A	N/A
20 AWG	UL 1007-20 (7)	Stranded	N/A	15	N/A	5	N/A	3	N/A	N/A
22 AWG	UL 1007-22	Solid	15	15	N/A	5	N/A	3	N/A	N/A
22 AWG	UL 1007-22 (7)	Stranded	15	15	N/A	5	N/A	3	N/A	N/A
No Wire			N/A	N/A	N/A	N/A	N/A	N/A	5	5
0.75 mm^2	24 Strands of 0.21- mmØ	Stranded	15	15	15	5	N/A	3	N/A	N/A

Figure 3 (cont'd)

WIRE SIZE AND TYPE			NUMBER OF 3-POSITION CONNECTORS TO BE TESTED							
			TEST GROUP							
			1	2	3	4	5	6	7	8
18 AWG	UL 1007-18 (16)	Stranded	N/A	N/A	N/A	N/A	N/A	15	N/A	N/A
0.75 mm^2	24 Strands of 0.21 mmØ	Stranded	N/A	N/A	N/A	N/A	N/A	15	N/A	N/A

Figure 3 (end)

TBD

Vibration & Mechanical Shock mounting Fixture

Figure 4