

Product Specification

108-5477

COMMERCIAL MATE-N-LOK PIN CONTACT HIGH PRESSURE TYPE

NUMBER: 108-5477

SECURITY CLASSIFICATION:

Customer Release

- 1. Scope :
- 1.1 Contents

This specification covers the requirements for product performance, test methods and quality assurance provisions of high pressure type pin contact for COMMERCIAL MATE-N-LOK CONNECTOR. Mating performance is only specified with applicable socket contact. Applicable product description and part numbers are as shown in Appendix 1.

- 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 AMP Specifications :

- A. 109-5000 Test Specification, General Requirements for Test Methods
- B. 114-5214 Application Specification
- C. 501-5158 Test Report :

- 2.2 Commercial Standards and Specifications :

- A. MIL-STD-202 Test methods for electronic and electrical component parts.

						DR. 26 Jul '95	SHEET 1 OF 6	AMP AMP (Japan), Ltd. Kawasaki, Japan			
						I. HASEGAWA		LOC J	LOC A	NO. 108-5477	REV. A
						CHK. 26 Jul '95					
						<i>I. Hasegawa</i>					
						APP. 26 JUL '95	NAME COMMERCIAL MATE-N-LOK PIN CONTACT HIGH PRESSURE TYPE				
PRINT	DSTL	A	FJ00-2833-95	I.H	S.M	95/6	<i>S. MAWABE</i>				
		LTR	REVISION RECORD	DR	CHK	DATE					

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 : Pre-Tin Brass

3.3 Ratings :

A. Voltage Rating : 250 V (AC, DC)

B. Current Rating :

Wire Size	mm ²	0.5	0.75	1.25	2.0
	AWG	#20	#18	#16	#14
Current Rating (A)		5	6	8	10

C. Temperature Rating : - 55 °C to 105 °C
(Upper limit of temperature include temperature rising by current.)

3.4 Performance Requirements and Test Descriptions :

The product shall be designed to meet the electrical, mechanical and environmental performance requirements specified in Fig. 2. All tests shall be performed in the room temperature, unless otherwise specified.

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3.5 Test Requirements and Procedures Summary :

Para.	Test Items	Requirements		Procedures	
3.5.1	Confirmation of Product	Product shall be conforming to the requirements of applicable product drawing and Application Specification.		Visually, dimensionally and functionally inspected per applicable quality inspection plan.	
Electrical Requirements					
3.5.2	Termination Resistance (Low Level)	5 mΩ Max. (Initial) 10 mΩ Max. (Final)		Measuring method is specified in 4.1.	
3.5.3	Crimp Tensile Strength	Wire Size		Apply an axial pull-off load to crimped wire of contact secured on the tester, (wire length 150 mm) Operation Speed : 100 mm / min. Measure force at wire broken or come out from contact.	
		mm ²	(AWG)		Crimp Tensil (min.) N (kgf)
		0.5	#20		88.2 (9)
		0.75	#18		127.4 (13)
		1.25	#16		127.4 (13)
2.0	#14	147 (15)			
3.5.4	Contact Mating Force	49 N (5 kgf) Max.		Operation Speed : 100 mm / min. Measure the force required to mate connectors.	
3.5.5	Contact Unmating Force	4.9 N (0.5 kgf) Min.		Operation Speed : 100 mm / min. Measure the force required to unmate connectors.	
3.5.6	Durability (Repeated Mate/Unmating)	Be satisfied 3.5.2, 3.5.4, 3.5.5		Operation Speed : 100 mm / min. No. of Cycles : 50 cycles.	
Environmental Requirements					
3.5.7	Thermal Shock	Be satisfied 3.5.2, 3.5.4, 3.5.5		Mated contact - 55 °C / 30 min., 85 °C / 30 min. Making this a cycle, repeat 25 cycles. MIL-STD-202, Method 107D-A1	
3.5.8	Humidity-Temperature Cycling	Be satisfied 3.5.2, 3.5.4, 3.5.5		Mated contact, 25~65 °C 90~95 % R.H. 10 cycles Cold-shock - 10 °C performed MIL-STD-202, Method 106D	
3.5.9	Temperature Life	Be satisfied 3.5.2, 3.5.4, 3.5.5		Mated contact 85 °C, 250 Hrs MIL-STD-202, Method 10	
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3.6 Product Qualification test Sequence

Test of Examination	Test Group				
	1	2	3	4	5
	Test Sequence (a)				
Confirmation of Product	1	1	1	1	1
Termination Resistance (Low Level)	2, 6		2, 4	2, 4	2, 4
Contact Mating Force	3		5	5	5
Contact Unmating Force	4		6	6	6
Crimp Tensile Strength		2			
Durability (Repeated Mate/Unmating)	5				
Thermal Shock			3		
Humidity-Temperature Cycling				3	
Temperature Life (Heat Aging)					3

(a) Numbers indicate sequence in which tests are performed.

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

The applicable product

Product Part No.	Description
0-917636-1	COMMERCIAL MATE-N-LOK PIN CONTACT HIGH PRESSURE TYPE (REEL)

Applicable Socket Contact

Product Part No.	Description
0-170120-□	COMMERCIAL MATE-N-LOK SOCKET CONTACT (REEL)
0-170121-□	COMMERCIAL MATE-N-LOK SOCKET CONTACT (PIECE)
0-60949-□	AUTOMOTIVE MATE-N-LOK SOCKET CONTACT (REEL)

Appendix 1

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4. Appendix Figure

4.1 Measuring method for termination resistance (Low Level)

Subject mated pin and socket contact crimped on applicable wire to 20 mV Max. open circuit at 10 mA Max. closed circuit.

To reduce 150 mm of wire resistance from measuring resistance value as shown Fig. 2.

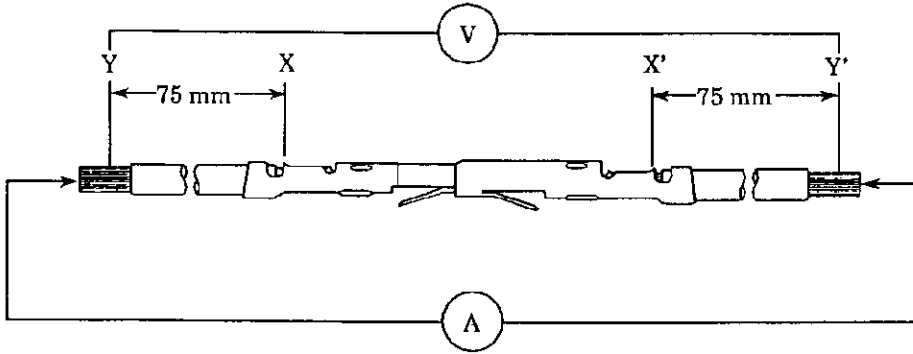


Fig. 2

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