4pos MQS Connector with CPA, unsealed

Table of contents

1 ***Scope***
1.1 *Content*
1.2 *Qualification*

2 ***Applicable Documents***
2.1 *TE Documents*
2.2 *Other Documents*

3 ***Requirements***
3.1 *Design and Construction*
3.2 *Performance*
3.3 *Performance and Test Description*
3.4 *Qualification- and Requalification Testing*

4 ***Quality Assurance Provisions***
4.1 *Requalification Testing*
4.2 *Acceptance*
4.3 *Quality Conformance Inspection*

5 ***Appendix***

| Indicates Change

1 *Scope*

1.1 *Content*

This specification covers the performance, tests and quality requirements for the 4 pos.MQS receptacle housing.
This 4 pos. MQS receptacle housing was customer-specific developed for the usage in the automotive industry.
This specification covers the performance, test and quality requirements for the 4 pos. MQS receptacle housing (unsealed version).

The secondary lock of the contacts is fulfilled by a flap on the housing.

The 4 pos. MQS receptacle housing is loaded with Micro Quadlock System Contacts.

The preferred wire size range goes for MQS from 0.13mm² to 0.75mm².

1.2 *Qualification*

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

2 *Applicable Documents*

The following documents are part of this specification. In case of conflict between the requirements of this specification and the product drawing or of conflict between the requirements of this specification and the referenced documents, this specification takes precedence.

2.1 *TE Documents*

A. *Customer drawings*

PN 2294399	4 pos *MQS Receptacle Housing with CPA, unsealed*

The customer drawing numbers of the contacts can be taken from the corresponding housing drawings.

B. *TE Product Specification*

108-18030-0	*Product Specification for Micro Quadlock System*.

C. TE Application Specification

114-18021	*Application Specification for MQS.Contact System*
114-94259	*Application Specification for 4 pos. MQS receptacle housing with CPA*

2.2 ***Other documents***

A.	GMW3191(06/2012)	*Connector test and validation specification*
B.	CG3796 (11/2013)	*Connector and Terminal Design Requirements*
C.	GMW 3059	*Restricted and reportable substances for parts*
D.	GMW 3116	*Recycling design guide*

3 Requirements

3.1 *Design and Construction*

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

3.2 *Performance*

A.	*Nominal voltage:*	*14V DC*
B.	*Current capacity:*	*See derating,*
C.	*Temperature range:*	T 2 (105°C ambient temperature)
D.	*Vibration class:*	V 1 (On body or chassis)
E.	*Sealing class:*	S 1 (unsealed)
F.	*Mating force class:*	M 1

3.3 *Performance and Test Description*

The product is designed to meet the electrical, mechanical and environmental performance requirements specified in chapter 3.4.

3.4 *Qualification- and Requalification Testing*

Performance according GMW3191(06/2012)*, except approved deviations*

Connector System – Terminal Mechanical Tests ***Table 26***		
Test Sequence	***Test Reports***	***Remarks*** *(Note 1)*
Seq. 26 A **Section 4.2.1**	**-**	*NA*
Seq 26 B **Section 4.2.2**	**-**	*NA*
Seq 26 C **Section 4.2.3**	**-**	*NA*
Seq 26 D **Section 4.2.6**	**-**	*NA*
Seq 26 E **Section 4.2.7**	**-**	*NA*
Seq 26 F **Section 4.5.2**	**-**	*NA*

Note 1: NA — Test not applicable/not processed. OK — test passed. NOK — test not passed.

Connector System – Terminal Electrical Tests ***Table 27***		
Test Sequence	***Test Reports***	***Remarks*** *(Note 1)*
Seq. 27 A **Section 4.2.1**	**-**	*NA*
Seq 27 B **Section 4.2.2**	**-**	*NA*
Seq 27 C **Section 4.2.3**	**-**	*NA*
Seq 27 D **Section 4.2.6**	**-**	*NA*

Note 1: NA — Test not applicable/not processed. OK — test passed. NOK — test not passed.

Connector System – Mechanical Tests *Table 28*		
Test Sequence	***Test Reports***	***Remarks*** *(Note 1)*
Seq. 28 A **Section 4.2.4**	**-**	*NA* *See Product Spec 108-94559*
Seq 28 B **Section 4.2.5**	**-**	*NA* *See Product Spec 108-94559*
Seq 28 C **Section 4.2.8**	**-**	*NA* *See Product Spec 108-94559*
Seq 28 D **Section 4.2.9**	**-**	*NA* *See Product Spec 108-94559*
Seq 28 E **Section 4.2.10**	**-**	*NA*
Seq 28 F **Section 4.2.11**	**-**	*NA*
Seq 28 G **Section 4.2.12**	**-**	*NA*
Seq 28 H **Section 4.2.13**	**-**	*NA* *See Product Spec 108-94559*
Seq 28 J **Section 4.2.14**	**-**	*NA*
Seq 28 K **Section 4.2.15**	***17-AUT-IN-0820***	*OK — test passed* *Following deviations approved by GM Oct. 23, 2017* *CPA Closing Force Unmated Connector (4.2.15.4.2)* *55.5N to 58.3N* *CPA Extraction Force Unmated Connector (4.2.15.4.3)* *44.1N to 47.5N*
Seq 28 L **Section 4.2.16**	**-**	*NA*
Seq 28 M **Section 4.2.17**	**-**	*NA*

Seq 28 N **Section 4.2.18**	**-**	*NA* *See Product Spec 108-94559*
Seq 28 P **Section 4.2.19**	**-**	*NA* *See Product Spec 108-94559*
Seq 28 Q **Section 4.2.20**	**-**	*NA* *See Product Spec 108-94559*
Seq 28 R **Section 4.4.6**	**-**	*NA*
Seq 28 S **Section 4.3.2** **Section 4.5.1 (if applicable)** **Section 4.2.21** **Section 4.3.2** **Section 4.2.21** **Section 4.5.1 (if applicable)** **Section 4.4.8** **Section 4.3.2** **Section 4.5.1 (if applicable)** **Section 3.4**	**-**	*NA*

Note 1: NA — Test not applicable/not processed. OK — test passed. NOK — test not passed.

Connector System – Sealed Connector Environmental Tests ***Table 29***		
Test Sequence	***Test Reports***	***Remarks*** *(Note 1)*
Seq. 29 A **Section 4.4.12**	**-**	*NA*
Seq 29 B **Section 4.4.7**	**-**	*NA*
Seq 29 C **Section 4.4.1**	**-**	*NA*
Seq 29 D **Section 4.4.2**	**-**	*NA*
Seq 29 E **Section 4.4.3**	**-**	*NA*
Seq 29 F **Section 4.4.4**	**-**	*NA*
Seq 29 C thru F **Section 4.4.9**	**-**	*NA*
Seq 29 C thru F **Section 4.4.10**	**-**	*NA*
Seq 29 C thru F **Section 4.4.11**	**-**	*NA*

Note 1: NA — Test not applicable/not processed. OK — test passed. NOK — test not passed.

Connector System – Unsealed Connector Environmental Tests *Table 30*		
Test Sequence	***Test Reports***	***Remarks*** *(Note 1)*
Seq. 30 A **Section 4.4.1**	**-**	-
Seq 30 B **Section 4.4.2**	**-**	-
Seq 30 C **Section 4.4.3**	**-**	-
Seq 30 D **Section 4.4.4**	**-**	-
Seq 30 E **Section 4.4.7**	**-**	*NA*

Note 1: NA — Test not applicable/not processed. OK — test passed. NOK — test not passed.

4 *QUALITY ASSURANCE PROVISIONS*

4.1 *Requalification Testing*

If changes significantly affecting form, fit, or function are made to the product or to the manufacturing process, product assurance shall coordinate a requalification testing, consisting of all or part of the original testing sequence as determined by development/product, quality, and reliability engineering.

4.2 *Acceptance*

Acceptance is based on verification that the product meets the requirements of Para. 3.4. Failures attributed to equipment, test setup, or operator deficiencies shall not disqualify the product. When product failure occurs, corrective action shall be taken and samples resubmitted for qualification. Testing to confirm corrective action is required before resubmitted.

4.3 *Quality Conformance Inspection*

The applicable Tyco Electronics quality inspection plan will specify the sampling acceptable quality level to be used. Dimensional and functional requirements shall be in accordance with the applicable product drawing and this specification.

5 *Appendix*

LTR	REVISION RECORD	DWN	APP	DATE
A	NEW DOCUMENT	HS	RH	19JAN2018