Table of Contents

PPAP Package for:

Customer Name: Newark Electronics
Customer Part Number: 67T0212
(TE Connectivity Part Number:1-968853-3
Date: 3/3/2020

Nondisclosure Agreement

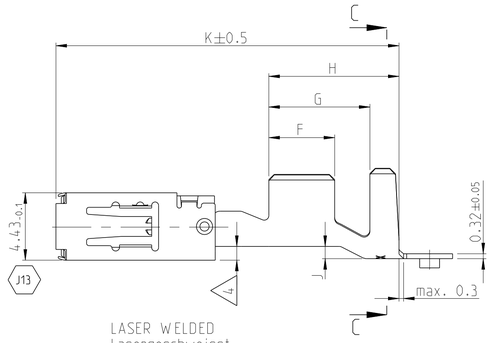
If a nondisclosure agreement has been reached with your company, it will be included on the following page(s). Please review the terms of this agreement to ensure that further actions associated with information contained within this PPAP package do not violate these terms.

If a nondisclosure agreement HAS NOT been reached, certain documents deemed confidential by TE Connectivity will not be included in this PPAP package. These documents include but are not limited to the Design FMEA, the Process Flow Diagram, the Process FMEA and the Control Plan. These documents can be reviewed by you company but cannot be retained.

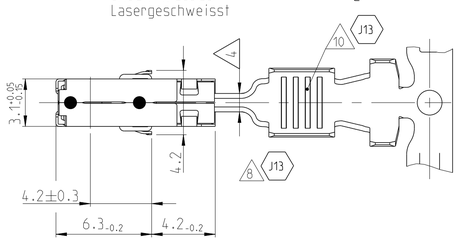
Section 1

Design Records

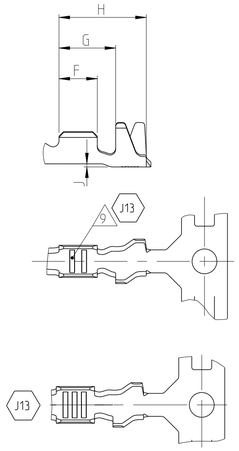
STANDARDCRIMP



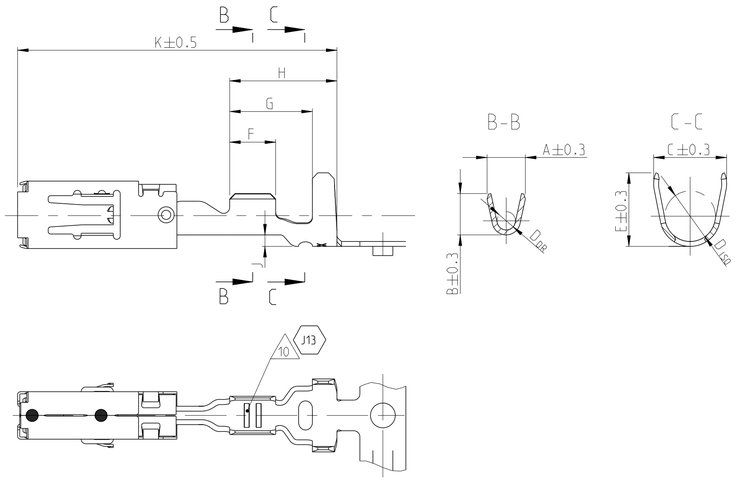
LASER WELDED
Lasergeschweisst



ONLY FOR WIRE SIZE RANGE
Nur fuer DGB
0.2 ... 0.5 mm²



SINGLE WIRE SEAL
Einzeldichtungssystem



REVISIONS					
P	LTR	DESCRIPTION	DATE	DWN	APVD
	J10	ECR-14-010789	18JUL2014	Joas	Leim
	J11	NOTE 8 ADDED. TABLE UPDATE WITH PNs 1-...-4	17MAY2017	MAH.	SBEC
	J12	PNs 1-968855-4, 1-968857-4, 1-968859-4 OBSOLETE ON DRW.	05MAR2018	MAH.	SBEC
	J13	Added PN 2-968851-3, 2-968853-3 2-968857-3 and 2-968859-3	07MAI2018	FRAN	BECK

J13 J13

VERSION Ausfuehrung	ORDER-NO. STRIP-FORM Bestell-Nr. Bandware	REV	BODY MATERIAL Werkstoff	SPRING	SURFACE Oberflaeche 2	WIRE SIZE RANGE Leiter-querschnitt mm²	INSULATION DIAMETER Isolations-durchmesser mm	A WIRE CRIMP Drahtcrimp	B WIRE CRIMP Drahtcrimp	D_{DR} WIRE CRIMP Drahtcrimp	C INSULATION CRIMP Isolationscrimp	E INSULATION CRIMP Isolationscrimp	D_{ISO} INSULATION CRIMP Isolationscrimp	F STRIP FORM Bandware	G STRIP FORM Bandware	H STRIP FORM Bandware	J CRIMP DIMENSIONS / Crimpabmessungen mm	K CRIMP DIMENSIONS / Crimpabmessungen mm	WEIGHT Gewicht g	SINGLE WIRE SEAL Einzeldichtung TE CONNECTIVITY NO.	DEAD END PLUG Blindstopfen TE CONNECTIVITY NO.	APPLICATION TOOLS Verarbeitungswerkzeuge
SINGLE WIRE SEAL / Einzeldichtung	1-1719506-3	A	CuNiSi	X10CrNi18-8	SILVER PLATED versilbert	12 AWG	3.0 - 3.8	4.0	4.2	2.0	5.0	5.0	3.5	3.5	5.9	7.5	0.8	21.0	0.59	828905-1	828922-1	SEE APPLICATION SPECIFICATION 114-18148 siehe Verarbeitungsspezifikation 114-18148
	1-1719506-1	A			PRE TIN PLATED verzinnt																	
J13	8 2-968859-3	D			SILVER PLATED versilbert	4	3.4 - 3.7	4.5	4.7	2.3	6.0	6.0	4.3	4.3	7.0	8.5	1.25	22.6	0.65	828985-1	828986-1	
	1-968859-3	E			SILVER PLATED versilbert																	
	1-968859-1	E			PRE TIN PLATED verzinnt																	
J13	8 2-968857-3	B			SILVER PLATED versilbert	1.5 - 2.5	2.2 - 3.0	3.6	3.8	1.7	5.0	5.0	3.5	3.5	6.0	7.6	0.8	21.0	0.58	828905-1	828922-1	
	1-968857-3	E			SILVER PLATED versilbert																	
	1-968857-2	D			GOLD PLATED vergoldet																	
	1-968857-1	E			PRE TIN PLATED verzinnt																	
	1-968855-3	E			SILVER PLATED versilbert	0.5 - 1.0	1.4 - 2.1	2.5	2.7	1.2	4.8	4.8	3.3	3.0	5.6	7.2	0.75	21.0	0.54	828904-1	828922-1	
	1-968855-2	E			GOLD PLATED vergoldet																	
	1-968855-1	E			PRE TIN PLATED verzinnt																	
J13	1-2141859-3	A			SILVER PLATED versilbert	0.2 - 0.5	1.2 - 1.4	2.4	2.3	1.0	4.5	4.5	3.2	2.5	5.1	6.7	0.75	21.0	0.52	828904-1	828922-1	
J13	1-2141859-2	A			GOLD PLATED vergoldet																	
J13	1-2141859-1	A			PRE TIN PLATED verzinnt																	
J13	9 1-968882-3	E			SILVER PLATED versilbert	0.2 - 0.5	1.2 - 1.4	2.1	2.1	0.8	4.5	4.5	3.2	2.5	5.1	6.7	0.75	21.0	0.52	828904-1	828922-1	
J13	9 1-968882-2	E			GOLD PLATED vergoldet																	
J13	9 1-968882-1	E			PRE TIN PLATED verzinnt																	
J13	8 2-968853-3	D			SILVER PLATED versilbert	4	2.7 - 3.7	4.5	4.7	2.3	5.7	5.9	3.3	4.3	6.8	8.7	0.8	22.6	0.65	-	-	
STANDARDCRIMP	1-968853-3	E			SILVER PLATED versilbert																	
	1-968853-1	E			PRE TIN PLATED verzinnt																	
J13	8 2-968851-3	D			SILVER PLATED versilbert	1.5 - 2.5	2.2 - 3.0	3.6	3.8	1.7	4.6	4.8	2.6	3.5	5.1	6.7	0.3	20.2	0.56	-	-	
	1-968851-3	E			SILVER PLATED versilbert																	
	1-968851-2	E			GOLD PLATED vergoldet																	
	1-968851-1	E			PRE TIN PLATED verzinnt																	
	1-968849-3	E			SILVER PLATED versilbert	0.5 - 1.0	1.4 - 2.1	2.5	2.7	1.2	3.3	3.5	1.8	3.0	4.6	6.2	0.2	20.2	0.51	-	-	
	1-968849-2	E			GOLD PLATED vergoldet																	
	1-968849-1	E			PRE TIN PLATED verzinnt																	
J13	1-2141857-3	A			SILVER PLATED versilbert	0.2 - 0.5	1.2 - 1.4	2.4	2.3	1.0	2.9	2.9	1.4	2.5	3.8	5.7	0.2	20.2	0.48	-	-	
J13	1-2141857-1	A			PRE TIN PLATED verzinnt																	
	9 1-968880-3	E			SILVER PLATED versilbert	0.2 - 0.5	1.2 - 1.4	2.1	2.1	0.8	2.9	2.9	1.4	2.5	3.8	5.7	0.2	20.2	0.48	-	-	
	9 1-968880-1	E			PRE TIN PLATED verzinnt																	

NOTES:
Bemerkungen:

1 MATING PART SEE INTERFACE DRAWING
TE-NO.: 114-18230-002
Gegenstecker nach Ausfuehrungsvorschrift
TE-Nr.: 114-18230-002

2 SURFACE:
- PRE TIN PLATED 1 TO 3 µm
- GOLD PLATED MIN. 2 µm (ONLY CONTACT AREA)
- SILVER PLATED 3 TO 5 µm (ONLY CONTACT AREA)

Oberflaeche:
- verzinnt 1 bis 3 µm
- vergoldet min. 2 µm (nur Kontaktzone)
- versilbert 3 bis 5 µm (nur Kontaktzone)

3 DOUBLE CRIMPS ARE ONLY POSSIBLE WITH
APPLICATORS AUTHORIZED BY TE (NO HAND TOOL)
SUITABLE TOOLS ON REQUEST
Doppelanschlaege sind nur mit von TE zugelassenen
Anschlagwerkzeugen moeglich (keine Handzangen)
passende Werkzeuge auf Anfrage

4 GAUGE INSPECTION
Lehrenpruefung

5 DETAILS OF DESIGN ARE LEFT TO MANUFACTURER
Einzelheiten der Ausfuehrung bleiben dem Hersteller ueberlassen

6 ONLY GERMAN LANGUAGE VERSION SHALL BE BINDING
Massgebend ist der deutsche Text

7 PUNCHING OIL RAZIOL CLF 11 SG
Stanzoel:

J13 8 "Ag+" MARKING ON SILVER PLATED VERSIONS FOR INCREASED LIMIT TEMPERATURE
"Ag+" Markierung auf versilberten Versionen fuer erhoehte Grenztemperatur

J13 9 968880 nicht fuer Neuanwendungen, wird ersetzt durch 2141857
968882 nicht fuer Neuanwendungen, wird ersetzt durch 2141859
968880 SUPERSEDED BY PN 2141857
968880 SUPERSEDED BY PN 2141857

J13 10 Unterschiedliche Ausfuehrung und Anzahl der Rillen moeglich
DIFFERENT FORM AND NUMBER OF THE SERRATIONS POSSIBLE

THIS DRAWING IS A CONTROLLED DOCUMENT.	DWN S. Blidar 22SEP97	TE Connectivity	
	CHK G. Hotea 22SEP97		
DIMENSIONS: mm	APVD J. Woller 22SEP97	NAME PRODUCT GROUP DRAWING FOR Tabellenzeichnung fuer AMP MCP 2.8	
TOLERANCES UNLESS OTHERWISE SPECIFIED: 1 PLC ±0.2, 2 PLC ±0.1, 3 PLC ±0.05, ANGLES ±1°	PRODUCT SPEC 108-18513		
	APPLICATION SPEC 114-18148	SIZE A1 / CAGE CODE 00779 / DRAWING NO C-1355036	RESTRICTED TO -
MATERIAL - / FINISH -	WEIGHT -	CUSTOMER DRAWING	SCALE 5:1 / SHEET 1 OF 1 / REV J13

Section 2

Engineering Change Documents

Product Change Notification

Current Date: 03-Mar-2020

TE Connectivity

Product Change Notification: E-18-006008 **PCN Date:** 14-AUG-18

TE would like to inform you of the following change(s) to the listed TE Connectivity Product. In case of any further questions about this change(s), please contact your TE Connectivity Sales Engineer. Affected part, drawing and/or specification numbers are listed on the attached sheet(s).

General Product Description:
PRODUCT GROUP DRAWING FOR Tabellenzeichnung fuer AMP MCP 2.8

Description of Changes
New PNs added, 2-968851-3 with Revision D, 2-968853-3 with Revision D, 2-968857-3 with Revision B, 2-968859-3 with Revision D, 1-2141857-1 with Revision A, 1-2141857-3 with Revision A, 1-2141859-1 with Revision A, 1-2141859-2 with Revision A, 1-2141859-3 with Revision A. New Note 8, 9 and 10 added. Changed dimension from 4,4-0,1 to 4,43-0,1. Changed dimension G at PN 1-968880-1, PN 1-968880-2, PN 1-214857-1, PN 1-214857-3, PN 1-968859-1, PN 1-968859-3. Changed dimension G and F under PN 1-968853-1, PN 1-968853-3, PN 1-968882-1, PN 1-968882-2, PN 1-968882-3, PN 1-2141859-1, PN 1-2141859-2, PN 1-2141859-3, PN 1-968855-1, PN 1-968855-2, PN 1-968855-3, PN 1-968857-1 and PN 1-968857-3. **Other attachments:** E-18-006008 E-18-006008-PowerPoint E-18-006008 E-18-006008-PowerPoint

Reason for Changes:	
New Product. New Production Introduction.	
Estimated Dates:	
Last Order Date (Obsolete Parts Only):	**First Date To Ship** (Changed Parts Only):
Last Ship Date (Obsolete Parts Only):	**Last Date for Mixed Shipments:** (Changed Parts Only):
	No Mixed Shipments

The documents listed below are being modified. Related parts that are not explicitly listed on this PCN are not being modified or discontinued as per the PCN. The Last Order Date, Last Ship Date, First Date to Ship Changed Parts and last date for Mixed Shipments apply only to parts explicitly listed on this PCN.

Note: This PCN contains only document changes, these changes do not affect the form, fit or function of the parts referenced.

Customer Drawing(s) Being Modified:

Drawing Number	Current Revision	New Revision
1355036	J12	

Section 3

Customer Engineering Approval

Not Applicable

Section 4

Design FMEA

See Section A for nondisclosure conditions.
The Design FMEA, if included, is a Class II confidential document belonging to TE Connectivity. A class II document may not be further distributed and is subject to the conditions of the nondisclosure agreement.

Section 5

Process Flow Diagram

See Section A for nondisclosure conditions.
The Process Flow Diagram, if included, is a Class II confidential document belonging to TE Connectivity. A class II document may not be further distributed and is subject to the conditions of the nondisclosure agreement.

Section 6

Process FMEA

See Section A for nondisclosure conditions.
The Process FMEA, if included, is a Class II confidential document belonging to TE Connectivity. A class II document may not be further distributed and is subject to the conditions of the nondisclosure agreement.

Section 7

Control Plan

See Section A for nondisclosure conditions.
The Control Plan, if included, is a Class II confidential document belonging to TE Connectivity. A class II document may not be further distributed and is subject to the conditions of the nondisclosure agreement.

Section 8

Measurement System Analysis

Not Applicable

Section 9

Dimensional Results

8	7	6	5	4	3	2	1

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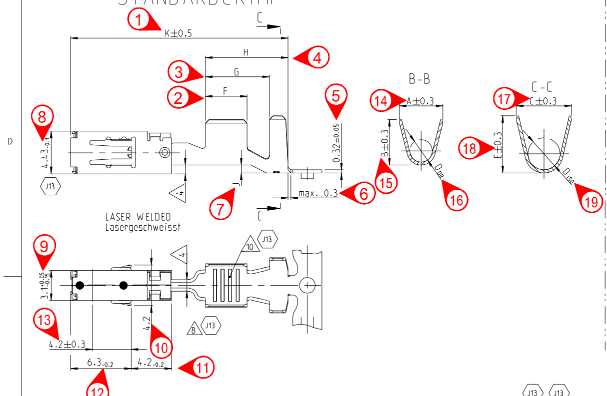
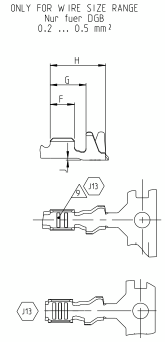
RELEASED FOR PUBLICATION -
ALL RIGHTS RESERVED.

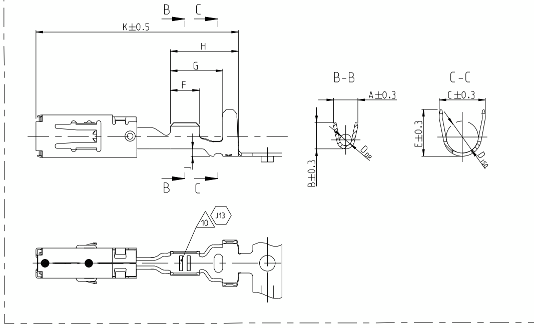
REVISIONS					
P	LTR	DESCRIPTION	DATE	DWN	APVD
	J10	ECR-14-010789	18JUL2014	Joas	Leim
	J11	NOTE 8 ADDED. TABLE UPDATE WITH PNs 1-...-4	17MAY2017	MAH.	SBEC
	J12	PNs 1-968855-4, 1-968857-4, 1-968859-4 OBSOLETE ON DRW.	05MAR2018	MAH.	SBEC
	J13	Added PN 2-968851-3, 2-968853-3 2-968857-3 and 2-968859-3	07MAI2018	FRAN	BECK

STANDARDCRIMP





SINGLE WIRE SEAL
Einzeldichtungssystem



VERSION Ausfuehrung	ORDER-NO. STRIP-FORM Bestell-Nr. Bandware	REV	MATERIAL Werkstoff: BODY	MATERIAL Werkstoff: SPRING	SURFACE Oberflaeche △2	WIRE SIZE RANGE Leiter-quer-schnitt mm²	INSULATION DIAMETER Isolations-durchmesser mm	A (WIRE CRIMP Drahtcrimp)	B (WIRE CRIMP Drahtcrimp)	D_{DR} (WIRE CRIMP Drahtcrimp)	C (INSULATION CRIMP Isolationscrimp)	E (INSULATION CRIMP Isolationscrimp)	D_{ISO} (INSULATION CRIMP Isolationscrimp)	F	G	H	J	K	WEIGHT Gewicht g	SINGLE WIRE SEAL Einzeldichtung TE CONNECTIVITY NO.	DEAD END PLUG Blindstopfen TE CONNECTIVITY NO.	APPLICATION TOOLS Verarbeitungswerkzeuge
SINGLE WIRE SEAL / Einzeldichtung	1-1719506-3	A	CuNiSi	X10CrNi18-8	SILVER PLATED versilbert	12 AWG	3.0 - 3.8	4.0	4.2	2.0	5.0	5.0	3.5	3.5	5.9	7.5	0.8	21.0	0.59	828905-1	828922-1	SEE APPLICATION SPECIFICATION 114-18148 siehe Verarbeitungsspezifikation 114-18148
	1-1719506-1	A			PRE TIN PLATED verzinnt																	
	△8 2-968859-3	D			SILVER PLATED versilbert	4	3.4 - 3.7	4.5	4.7	2.3	6.0	6.0	4.3	4.3	7.0	8.5	1.25	22.6	0.65	828985-1	828986-1	
	1-968859-3	E			SILVER PLATED versilbert																	
	1-968859-1	E			PRE TIN PLATED verzinnt																	
	△8 2-968857-3	B			SILVER PLATED versilbert	1.5 - 2.5	2.2 - 3.0	3.6	3.8	1.7	5.0	5.0	3.5	3.5	6.0	7.6	0.8	21.0	0.58	828905-1	828922-1	
	1-968857-3	E			SILVER PLATED versilbert																	
	1-968857-2	D			GOLD PLATED vergoldet																	
	1-968857-1	E			PRE TIN PLATED verzinnt																	
	1-968855-3	E			SILVER PLATED versilbert	0.5 - 1.0	1.4 - 2.1	2.5	2.7	1.2	4.8	4.8	3.3	3.0	5.6	7.2	0.75	21.0	0.54	828904-1	828922-1	
	1-968855-2	E			GOLD PLATED vergoldet																	
	1-968855-1	E			PRE TIN PLATED verzinnt																	
	1-2141859-3	A			SILVER PLATED versilbert	0.2 - 0.5	1.2 - 1.4	2.4	2.3	1.0	4.5	4.5	3.2	2.5	5.1	6.7	0.75	21.0	0.52	828904-1	828922-1	
	1-2141859-2	A			GOLD PLATED vergoldet																	
	1-2141859-1	A			PRE TIN PLATED verzinnt																	
	△9 1-968882-3	E			SILVER PLATED versilbert	0.2 - 0.5	1.2 - 1.4	2.1	2.1	0.8	4.5	4.5	3.2	2.5	5.1	6.7	0.75	21.0	0.52	828904-1	828922-1	
	△9 1-968882-2	E			GOLD PLATED vergoldet																	
	△9 1-968882-1	E			PRE TIN PLATED verzinnt																	
STANDARDCRIMP	△8 2-968853-3	D			SILVER PLATED versilbert	4	2.7 - 3.7	4.5	4.7	2.3	5.7	5.9	3.3	4.3	6.8	8.7	0.8	22.6	0.65	-	-	
	1-968853-3	E			SILVER PLATED versilbert																	
	1-968853-1	E			PRE TIN PLATED verzinnt																	
	△8 2-968851-3	D			SILVER PLATED versilbert	1.5 - 2.5	2.2 - 3.0	3.6	3.8	1.7	4.6	4.8	2.6	3.5	5.1	6.7	0.3	20.2	0.56	-	-	
	1-968851-3	E			SILVER PLATED versilbert																	
	1-968851-2	E			GOLD PLATED vergoldet																	
	1-968851-1	E			PRE TIN PLATED verzinnt																	
	1-968849-3	E			SILVER PLATED versilbert	0.5 - 1.0	1.4 - 2.1	2.5	2.7	1.2	3.3	3.5	1.8	3.0	4.6	6.2	0.2	20.2	0.51	-	-	
	1-968849-2	E			GOLD PLATED vergoldet																	
	1-968849-1	E			PRE TIN PLATED verzinnt																	
	1-2141857-3	A			SILVER PLATED versilbert	0.2 - 0.5	1.2 - 1.4	2.4	2.3	1.0	2.9	2.9	1.4	2.5	3.8	5.7	0.2	20.2	0.48	-	-	
	1-2141857-1	A			PRE TIN PLATED verzinnt																	
	△9 1-968880-3	E			SILVER PLATED versilbert	0.2 - 0.5	1.2 - 1.4	2.1	2.1	0.8	2.9	2.9	1.4	2.5	3.8	5.7	0.2	20.2	0.48	-	-	
	△9 1-968880-1	E			PRE TIN PLATED verzinnt																	

A–D_{ISO}: STRIP FORM / Bandware; A–K: CRIMP DIMENSIONS / Crimpabmessungen mm

4805 (3/13)

NOTES:
Bemerkungen:

1 MATING PART SEE INTERFACE DRAWING
TE-NO.: 114-18230-002
Gegenstecker nach Ausfuehrungsvorschrift
TE-Nr.: 114-18230-002

△2 SURFACE:
- PRE TIN PLATED 1 TO 3 µm
- GOLD PLATED MIN. 2 µm (ONLY CONTACT AREA)
- SILVER PLATED 3 TO 5 µm (ONLY CONTACT AREA)
Oberflaeche:
- verzinnt 1 bis 3 µm
- vergoldet min. 2 µm (nur Kontaktzone)
- versilbert 3 bis 5 µm (nur Kontaktzone)

3 DOUBLE CRIMPS ARE ONLY POSSIBLE WITH
APPLICATORS AUTHORIZED BY TE (NO HAND TOOL)
SUITABLE TOOLS ON REQUEST
Doppelanschlaege sind nur mit von TE zugelassenen
Anschlagwerkzeugen moeglich (keine Handzangen)
passende Werkzeuge auf Anfrage

△4 GAUGE INSPECTION
Lehrenpruefung

5 DETAILS OF DESIGN ARE LEFT TO MANUFACTURER
Einzelheiten der Ausfuehrung bleiben dem Hersteller ueberlassen

6 ONLY GERMAN LANGUAGE VERSION SHALL BE BINDING
Massgebend ist der deutsche Text

7 PUNCHING OIL RAZIOL CLF 11 SG
Stanzoel:

J13 △8 "Ag+" MARKING ON SILVER PLATED VERSIONS FOR INCREASED LIMIT TEMPERATURE
"Ag+" Markierung auf versilberten Versionen fuer erhoehte Grenztemperatur

J13 △9 968880 nicht fuer Neuanwendungen, wird ersetzt durch 2141857
968882 nicht fuer Neuanwendungen, wird ersetzt durch 2141859
968880 SUPERSEDED BY PN 2141857
968880 SUPERSEDED BY PN 2141857

J13 △10 Unterschiedliche Ausfuehrung und Anzahl der Rillen moeglich
DIFFERENT FORM AND NUMBER OF THE SERRATIONS POSSIBLE

THIS DRAWING IS A CONTROLLED DOCUMENT.		DWN S. Blidar 22SEP97	TE Connectivity			
DIMENSIONS: mm	TOLERANCES UNLESS OTHERWISE SPECIFIED: 0 PLC ± 1 PLC ± 2 PLC ± 3 PLC ± 4 PLC ± ±0.2 ANGLES ±1°	CHK G. Hotea 22SEP97	NAME: PRODUCT GROUP DRAWING FOR Tabellenzeichnung fuer AMP MCP 2.8			
		APVD J. Woller 22SEP97				
		PRODUCT SPEC 108-18513				
		APPLICATION SPEC 114-18148	SIZE A1	CAGE CODE 00779	DRAWING NO C-1355036	RESTRICTED TO -
MATERIAL -	FINISH -	WEIGHT -				
		CUSTOMER DRAWING	SCALE 5:1	SHEET 1 OF 1	REV J13	

Production Part Approval
Dimension Test Results

20/117079

ORGANIZATION:	PART NUMBER 1-968853-3
SUPPLIER/VENDOR CODE ***TYCO ELECTRONICS LOGISTICS AG***	PART NAME AMP MCP 2.8, CONTACT
INSPECTION FACILITY ***Steinach***	DESIGN RECORD CHANGE LEVEL: C-1355036
	ENGINEERING CHANGE DOCUMENT J13

ITEM	DIMENSION/ SPECIFICATION	SPECIFICATION / LIMITS		TEST DATE	QTY. TESTED	ORGANIZATION MEASUREMENT RESULT (DATA)				OK	NOT OK
	view left top										
1	K= 22.60	0.20	-0.20				22.8			x	
2	F= 4.30	0.20	-0.20				4.29			x	
3	G= 6.80	0.20	-0.20				6.78			x	
4	H= 8.70	0.20	-0.20				8.66			x	
5	0.32	0.05	- 0.05				0.32			x	
6	0.30	max.				on strip not measureable				x	
7	J= 0.80	0.20	-0.20				0.78			x	
8	4.43	0.00	- 0.1				4.32			x	
	view left middle										
9	3.10	0.05	-0.15				3.05			x	
10	4.20	0.20	-0.20				4.26			x	
11	4.20	0.00	- 0.2				4.15			x	
12	6.30	0.00	- 0.2				6.26			x	
13	4.20	0.3	- 0.3				4.2			x	
	section B-B										
14	A= 4.50	0.30	-0.30				4.52			x	
15	B= 4.70	0.30	-0.30				4.66			x	
16	D_{Dr}= 2.30	0.20	-0.20				2.25			x	
	section C-C										
17	C= 5.70	0.30	-0.30				5.82			x	
18	E= 5.90	0.30	-0.30				5.98			x	
19	D_{Iso}= 3.30	0.20	-0.20				3.35			x	

Blanked statements of conformance are unacceptable for any test results

SIGNATURE	TITEL	DATE
Veda Kulkarni	Quality Engineering	06-02-2020

Production Part Approval
Material Test Results

20/117079

ORGANIZATION:	PART NUMBER 1-968853-3
SUPPLIER/VENDOR CODE ***TYCO ELECTRONICS LOGISTICS AG***	PART NAME AMP MCP 2.8, CONTACT
INSPECTION FACILITY	DESIGN RECORD CHANGE LEVEL: C-1355036
Steinach	ENGINEERING CHANGE DOCUMENT J13

ITEM	DIMENSION /SPECIFICATION	SPECIFICATION / LIMITS	TEST DATE	QTY. TESTED	ORGANIZATION MEASUREMENT RESULT (DATA)	OK	NOT OK
1	**Body**						
	High Copper Alloy				High Copper Alloy	x	
	e-plate Ag				e-plate Ag	x	
2	**Spring**						
	X10CrNi188				X10CrNi188	x	
	surface: plain				plain	x	

Blanked statements of conformance are unacceptable for any test results

SIGNATURE	TITEL	DATE
Veda Kulkarni	Quality Engineering	06-02-2020

Section 10

Material, Performance Test Results

KMD Connectors Stolberg GmbH

den 10.12.2019

LAGER SCHENKER DEUTSCHLAND AG

LUDWIG STRAßE 100

74564 CRAILSHEIM
GERMANY

Seite 1

Abnahmeprüfzeugnis 3.1 EN 10204:2005	Coil 100186715B	Herst. KM	Packliste 163338	Auftrag 2107569 - 1	Kunde 03003681

Anzahl 1
Packstuecke WC400812

Gewicht netto 1049,00 KG

Ihre Bestellung 2550121005 H.HELLER
Kunden-Material-Nummer 2-704060-6 REV N
STOL76 0,320 X 27,30

Artikel 7800077

100-1230 REV S
"NOV-behandelt"

Mechanische Prüfung		Soll min.	Soll max.	Ist min.	Ist max.
Dicke	mm	0,31	0,33	0,311	0,315
Breite	mm	27,2	27,4	27,27	27,3
Zugfestigkeit	|| RM N/mm²	580	650	626	628
Streckgrenze	|| RP N/mm²	540		576	578
Bruchdehnung	A 50mm || %	8		10,4	11
Biegbarkeit	|| 90° r= 0.48mm BK =			rissfrei	rissfrei
Biegbarkeit	|| 180° r= 1.12mm BK =			rissfrei	rissfrei
Biegbarkeit	+ 90° r= 0.32mm BK =			rissfrei	rissfrei
Biegbarkeit	+ 180° r= 0.80mm BK =			rissfrei	rissfrei
Drall-Grad	°/ 900		10	1	2
Korngröße	µm		25	15	15
Leitfähigkeit	m/(Omm²)	29		31	31
Querwölbung	mm/ 27		0,055	0,001	0,002
Oberflächenrauhtiefe Ra	Ra µm		0,2	0,08	0,13
Säbelförmigkeit	mm/ 900		1,6	0,24	0,39
Schneidgrat	mm		0,032	0,004	0,008
Ausbiegung	mm/ 900		225	5	10

Chemische Zusammensetzung %	bleifrei
NI	1.4854
SI	0.2497
ANDERE	Rest

Alle Elemente, die nicht explizit aufgelistet sind, entsprechen in ihren jeweiligen Anteilen der Spezifikation aus Ihrer o.g. Bestellung.

Werkstoffprüfung
Abnahmebeauftragter: Herr Fuchs
(Dieses Schreiben wurde maschinell erstellt und ist auch ohne Unterschrift gültig.)

Telefon :+49 2402 105-516
Fax :+49 2402 105-279
Email :andreas.fuchs@kmdgroup.com

KMD Connectors Stolberg GmbH

den 10.12.2019

LAGER SCHENKER DEUTSCHLAND AG

LUDWIG STRAßE 100

74564 CRAILSHEIM
GERMANY

Seite 1

Abnahmeprüfzeugnis 3.1 EN 10204:2005	Coil 100186715B	Herst. KM	Packliste 163339	Auftrag 2107569 - 1	Kunde 03003681

Anzahl 1 — Gewicht netto 1052,00 KG
Packstuecke WC400813

Ihre Bestellung 2550121005 H.HELLER
Kunden-Material-Nummer 2-704060-6 REV N — Artikel 7800077
STOL76 0,320 X 27,30
100-1230 REV S
"NOV-behandelt"

Mechanische Prüfung		Soll min.	Soll max.	Ist min.	Ist max.
Dicke	mm	0,31	0,33	0,311	0,315
Breite	mm	27,2	27,4	27,27	27,3
Zugfestigkeit	|| RM N/mm²	580	650	626	628
Streckgrenze	|| RP N/mm²	540		576	578
Bruchdehnung	A 50mm || %	8		10,4	11
Biegbarkeit	|| 90° r= 0.48mm BK =			rissfrei	rissfrei
Biegbarkeit	|| 180° r= 1.12mm BK =			rissfrei	rissfrei
Biegbarkeit	+ 90° r= 0.32mm BK =			rissfrei	rissfrei
Biegbarkeit	+ 180° r= 0.80mm BK =			rissfrei	rissfrei
Leitfähigkeit	m/(Omm²)	29		31	31
Säbelförmigkeit	mm/ 900		1,6	0,24	0,39
Ausbiegung	mm/ 900		225	5	10
Querwölbung	mm/ 27		0,055	0,001	0,002
Schneidgrat	mm		0,032	0,004	0,008
Oberflächenrauhtiefe Ra	Ra µm		0,2	0,08	0,13
Korngröße	µm		25	15	15
Drall-Grad	°/ 900		10	1	2

Chemische Zusammensetzung %	bleifrei
NI	1.4854
SI	0.2497
ANDERE	Rest

Alle Elemente, die nicht explizit aufgelistet sind, entsprechen in ihren jeweiligen Anteilen der Spezifikation aus Ihrer o.g. Bestellung.

Werkstoffprüfung
Abnahmebeauftragter: Herr Fuchs
(Dieses Schreiben wurde maschinell erstellt und ist auch ohne Unterschrift gültig.)

Telefon :+49 2402 105-516
Fax :+49 2402 105-279
Email :andreas.fuchs@kmdgroup.com

otelinox
A subsidiary of SAMSUNG C&T

INSPECTION CERTIFICATE
1000512466
(according to DIN EN 10204, type 3.1)

Manufacturer:	**SC Otelinox SA**
Adress:	16, Gaesti Street, Targoviste, 130087, Romania

Member of CISQ Federation RINA SIMTEX
CERTIFIED MANAGEMENT SYSTEM IATF 16949
Member of CISQ Federation RINA SIMTEX
CERTIFIED MANAGEMENT SYSTEM ISO 9001
SR AC ISO 14001 SR AC OHSAS 18001 LABORATORY ACCREDITATED BY RENAR ISO/CEI 17025 Cert. no. LI 967

IDENTITY

Product:	**CRC/Slit1.4310 HT5 2H 0.14x15.5mm MULTICOIL**	
Customer:	**TE Connectivity Germany GmbH**	
SO No. / Cust PO.	**1000324779 / PO 2550146684**	
Customer Art No:	**705410-4 REV A**	
Otx Art No:	**N13717M**	
Spec No:	**EN 10088-2 ; TEC-100-309-2 rev U ; ID 875 Version A1**	
Pallet No.	**1000512466**	
Coil No.	**1E24/20-196126/3/A/1 / 1 2 3 4 5 6 7 8 9**	/ /
Net Weight [kg]	**1,044**	
Heat Treatment	**Without**	

CHEMICAL ANALISYS(%) Heat No: 0456394 Melting Process: E

xxx	C	Mn	Si	P	S	Cr	Ni
Req. (min-max)	0.05-0.15	MAX 2.0	MAX 2.0	MAX 0.045	MAX 0.015	16.00-19.00	6.00-9.50
Measured	0.1000	1.3800	0.8100	0.03300	0.00100	16.7700	6.7100
Element	**Mo**	**Ti**	**N**	**Al**	**Cu**	**Co**	
Req. (min-max)	MAX 0.8	xxx	MAX 0.10	xxx	xxx	xxx	
Measured	0.3200	xxx	0.0720	xxx	xxx	xxx	

TEST RESULTS

Test Direction	Longitudinal					
Position/Test No:	**T/ 648**	**B/ 649**				
Requirement	**Rp02(MPa)**	**Rm(MPa)**	**Elong(A80%)**	**HV1**	**Ra(um)**	**Bending Test**
min-max	min 1,000	1,350-1,500	min 13.0	xxx	max 0.20	
T	1,192	1,362	19.5	429	0.18	Ok
B	1,184	1,364	17.0	430	0.17	Ok

GEOMETRY MEASUREMENTS

Requirement	**Thick[mm]**	**Width[mm]**	**Burr[%]**
Nominal Value	0.140	15.50	
min/max	-0.010/0.007	-0.05/0.05	max 5%
Min	0.137	15.480	2.9
Max	0.137	15.517	3.7

Other Test Results

PN-International 0-0705410-4/Rev.O
PN-Germany 1-1262050-0/Rev.A

Surface and dimensional control, material identity test : OK

Marking: Producer Trade Mark, Material, Heat No., Coil No.

Delivered product is in conformity with order requirements.

IL-CQ-1 Targoviste, 11.12.2019 Work Inspector : TICHIE CRISTINA

C 27

Section 11

Initial Process Studies

Not Applicable

Section 12

Qualified Laboratory Documentation

CERTIFICATE

This is to certify that

TE Connectivity Solutions GmbH

Plant Steinach

Amperestr. 3
9323 Steinach
Switzerland

has implemented and maintains a **Quality Management System**.

Scope:
Design and manufacturing of electronic and mechatronic components and connector systems

An audit, conducted and documented in a report, has verified that this quality management system fulfills the requirements of the following International Automotive Standard:

IATF 16949:2016

(with product design)

Certificate registration no.	515113 IATF16
Main certificate registration no.	515099 IATF16
Issuing date	2018-05-19
This certificate is valid until	2021-05-18
IATF No.	0306141

2-IAO-QMC-01001

For and on behalf of DQS

Stefan Heinloth
Managing Director, DQS GmbH

Michael Drechsel
Managing Director, DQS Holding GmbH

Annex to certificate registration no.: 515113 IATF16
IATF-No.: 0306141

TE Connectivity Solutions GmbH

Plant Steinach

Amperestr. 3
9323 Steinach
Switzerland

2-IAO-QMC-01001

Remote Location	Scope
515099 **TE Connectivity Germany GmbH** **Amperestr. 12-14** **64625 Bensheim** **Germany**	Continuous Improvement, Customer Service, Human Resource, Internal Audit Management, Management Review, Policy making, Production Equipment Development, Process Design, Product Design, Purchasing, Quality System Management, Sales, Supplier Management
515116 **TE Connectivity Germany GmbH** **Amperestr. 12-14** **73499 Wört** **Germany**	Process Design, Warehousing
515103 **TE Connectivity Germany GmbH** **Amperestr. 11** **91550 Dinkelsbühl** **Germany**	Production Equipment Development, Process Design
515110 **Tyco Electronics France SAS** **1 rue Ampère** **95300 Pontoise** **France**	Customer Service, Product Design, Sales
515514 **Tyco Electronics AMP Italia Products S.r.l.** **Corso Fratelli Cervi 15** **10093 COLLEGNO TORINO** **Italy**	Customer Service, Sales

Annex to certificate registration no.: 515113 IATF16
IATF-No.: 0306141

TE Connectivity Solutions GmbH

Plant Steinach

Amperestr. 3
9323 Steinach
Switzerland

2-IAO-QMC-01001

Remote Location	Scope
525517 **TE Connectivity Morocco** **I Lot 60, Zone Franche Tangier** **90 000 Tangier** **Morocco**	Warehousing
525515 **TE Connectivity Tunisia office** **Immeuble Lake Forum,** **4 ème étage 5 rue de la feuille d'érable** **1053 Tunis** **Tunisia**	Warehousing

Section 13

Appearance Approval Report

Not Applicable

Section 14

Sample Product

Sent in separate package
(if required)

Section 15

Master Sample

Retained at manufacturing location

Section 16

Checking Aids

Not Applicable

Section 17

Records of Compliance with Customer-Specific Requirements

MDS Report
Substances of assemblies and materials

1. Company and Product Name

1.1 Supplier Data

Name [ID]:	**Tyco Electronics GAD [913]**
DUNS Number:	**-**
Street/Postal Code:	**Amperestr. 12-14**
Nat./ZipCode/City:	**DE 64625 Bensheim**
Supplier Code:	**-**
Contact Person:	**IMDS Team (India) Engineering Services**
- Phone:	**-**
- Fax No.:	**-**
- E-Mail Address:	**IMDS@te.com**

1.2 Product Identification

Part/Item No.:	**1-968853-3**
Description:	**AMP MCP2.8 Flat Type Receptacle**
Report No.:	**-**
Date of Report:	**-**
Purchase Order No.:	**-**
Bill of Delivery No.:	**-**
Preliminary MDS:	**No**
IMDS ID / Version:	**4998442 / 14**
Node ID:	**764988073**
MDS Status (Change Date):	**Internally released (08/24/2018)**

MDS Report

Substances of assemblies and materials

Materials which are subject to legal prohibitions must not be included!
Dangerous substances formed or released during use must also be declared
Please note: GADSL list for substances that require declaration

2. Characterization of the Component

Part/Item No.:	**1-968853-3**	Report No.:	**-**
Description:	**AMP MCP2.8 Flat Type Receptacle**	IMDS ID / Version:	**4998442 / 14**
		Node ID:	**764988073**

Tree Level	Description Article Name Name Substance name	Part/Item No. Item- /Mat.-No. Material-No. CAS No.	IMDS ID / Version	Quantity	Weight [g]	Portion [%]	Portion (from - to) [%]	Classif. GADSL, SVHC	Parts Marking Recyclate (Indust./Consumer) Application [ID]
1	AMP MCP2.8 Flat Type Receptacle	1-968853-3	4998442 / 14		0.5569				
2	Body			1	0.4369				
3	High Copper Alloy		158414641 / 4		0.4335			3.2	No
4	Copper	7440-50-8				98.12		D	

Tree Level	Description / Article Name / Name / Substance name	Part/Item No. / Item- /Mat.-No. / Material-No. / CAS No.	IMDS ID / Version	Quantity	Weight [g]	Portion [%]	Portion (from - to) [%]	Classif. / GADSL, SVHC	Parts Marking / Recyclate (Indust./Consumer) / Application [ID]
4	Nickel	7440-02-0				1.3	0.8 - 1.8	D	Not applicable [34]
4	Phosphorus	7723-14-0				0.03	0.01 - 0.05		
4	Silicon	7440-21-3				0.25	0.15 - 0.35		
4	Misc., not to declare	system				0.25	0 - 0.5		
4	Silver	7440-22-4				0.05	0 - 0.1	D	
3	e-plate Ag (electrodeposited Silver Coatings)		757767 / 3		0.0034			4.2	No
4	Carbon	7440-44-0				0.05	0 - 0.1		
4	Sulphur	7704-34-9				0.05	0 - 0.1		
4	Silver	7440-22-4				99.9		D	
2	Spring AMP MCP 2.8mm Flat Type Receptacle	0-0968863-1	4003185 / 20	1	0.12				
3	X10CrNi18-8		36413360 / 6		0.12			1.1.2	No
4	Carbon	7440-44-0				0.1	0.05 - 0.15		
4	Chromium	7440-47-3				17.5	16 - 19		
4	Manganese	7439-96-5				1	0 - 2		
4	Nitrogen	7727-37-9				0.05	0 - 0.1		
4	Nickel	7440-02-0				7.75	6 - 9.5	D	Other application (Surface not routinely touched or nickel release rate < 0.5µg/cm2/week) [33]
4	Phosphorus	7723-14-0				0.0225	0 - 0.045		

Tree Level	Description Article Name Name Substance name	Part/Item No. Item- /Mat.-No. Material-No. CAS No.	IMDS ID / Version	Quantity	Weight [g]	Portion [%]	Portion (from - to) [%]	Classif. GADSL, SVHC	Parts Marking Recyclate (Indust./Consumer) Application [ID]
4	Sulphur	7704-34-9				0.0075	0 - 0.015		
4	Silicon	7440-21-3				1	0 - 2		
4	Iron	7439-89-6				71.67			
4	Copper	7440-50-8				0.5	0 - 1	D	
4	Molybdenum	7439-98-7				0.4	0 - 0.8		

This is an uncontrolled copy of a document created by IMDS. End of the report.

Section 18

Part Submission Warrant

DaimlerChrysler Ford GM

Part Submission Warrant

Part Name	AMP MCP 2.8, CONTACT	Cust. Part Number	67T0212
Shown on Drawing No.	C-1355036	Org. Part Number	1-968853-3
Engineering Change Level	J13	Dated	7-May-2018
Additional Engineering Changes	N / A	Dated	N / A
Safety and/or Government Regulation	☐ Yes ☑ No	Purchase Order No.	N / A
Weight (kg)	0.000556		
Checking Aid Number	N / A	Checking Aid Engineering Change Level	N / A
Dated	N / A		

ORGANIZATION MANUFACTURING INFORMATION

TE Connectivity
Supplier Name & Supplier/Vendor Code

Amperestr. 3
Street Address

Steinach | | 9323 | Switzerland
City | Region | Postal Code | Country

CUSTOMER SUBMITTAL INFORMATION

Newark Electronics
Customer Name/Division

N/A
Buyer/Buyer Code

Various
Application

MATERIALS REPORTING

Reporting of all materials, not just Substances of Concern, may be required by certain OEMs or other customers.
Has customer-required Substances of Concern information been reported? ☑ Yes ☐ No

Submitted by IMDS or other customer format: 4998442 / 14

Are polymeric parts identified with appropriate ISO marking codes? ☐ Yes ☐ No ☑ N/A

REASON FOR SUBMISSION

- ☐ Initial submission
- ☐ Engineering Change(s)
- ☐ Tooling: Transfer, Replacement, Refurbishment, or additional
- ☐ Correction of Discrepancy
- ☐ Tooling Inactive > than 1 year
- ☐ Change to Optional Construction or Material
- ☐ Sub-Supplier or Material Source Change
- ☐ Change in Part Processing
- ☐ Parts produced at Additional Location
- ☑ Other - please specify: E-18-006008

REQUESTED SUBMISSION LEVEL (Check one)

- ☐ Level 1 - Warrant only (and for designated appearance items, an Appearance Approval Report) submitted to customer.
- ☐ Level 2 - Warrant with product samples and limited supporting data submitted to customer.
- ☑ Level 3 - Warrant with product samples and complete supporting data submitted to customer.
- ☐ Level 4 - Warrant and other requirements as defined by customer.
- ☐ Level 5 - Warrant with product samples and complete supporting data reviewed at supplier's manufacturing location.

SUBMISSION RESULTS

The results for ☑ dimensional measurements ☑ material and functional tests ☐ appearance criteria ☐ statistical process package
These results meet all design record requirements: ☑ YES ☐ NO (If "NO" - Explanation Required)
Mold / Cavity / Production Process: Stamping

DECLARATION

I affirm that the samples represented by this warrant are representative or our parts, which were made by a process that meets all Production Part Approval Process Manual 4th Edition Requirements. I further affirm the these samples were produced at a production rate of Proprietary /1 hour.
I also certify that the documented evidence of such compliance is on file and available for review. I have noted any deviation from the declaration below.

EXPLANATION/COMMENTS: Production Rate is TE proprietary.

Is each Customer Tool properly tagged and numbered? ☐ Yes ☐ No ☑ N/A

Organization Authorized Signature	Barbara Figueroa	Date	3-Mar-2020
Print Name	Barbara Figueroa	Phone No.	+52 622 225 11 54
Fax No.	N/A		
Title	PPAP Technician	E-mail	barbara.figueroa@te.com

FOR CUSTOMER USE ONLY (IF APPLICABLE)

Part Warrant Disposition: ☐ Approved ☐ Rejected ☐ Other

Customer Signature _____ Date _____

Print Name _____ Customer Tracking Number (optional) _____

Section 18a

Bulk Material Requirements

Not Applicable