Table Of Contents

PPAP Package For:

NURSAN ELEKTRIK DONANIM A
TE Part: 2208018-1
21-November-2018

Section 1

Design Records

22POS. 0.64 GENERATION Y UNSEALED MALE CONNCTOR ASSEMBLY

CODING A AS SHOWN

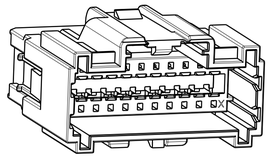
APPLICABLE COMPONENTS

ITEM	DESCRIPTION	MANDATORY (YES/NO)	TERMINAL CAVITY MIN/MAX OD	PLATING/ MATERIAL	FORD COMPONENT PART NO.	SUPPLIER COMPONENT PART NO.
1	B772 0.64_MM_TYCO_BLD_M1_B772 0.64mm GENERATION Y UNSEALED MALE TERMINAL CAVITY 1-22	NO	0/2.17 (C4)	N/A	N/A	N/A

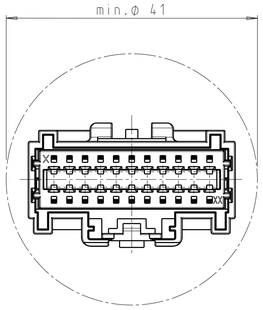
CONNECTOR ASSEMBLY CHART

ASSEMBLY PART NO.'S				MATING COMPONENT	
FORD COMPONENT PART NO.	SUPPLIER COMPONENT PART NO.	MAX. TEMP	VIBRATION CLASS	FORD COMPONENT PART NO.	SUPPLIER COMPONENT PART NO.
EU5T-14A459-AB	1-2208018-1	100°C	V1	EU5T-14489-AB	1-2208021-1
EU5T-14A459-BB	1-2208018-2	100°C	V1	EU5T-14489-BB	1-2208021-2
EU5T-14A459-CB	1-2208018-3	100°C	V1	EU5T-14489-CB	1-2208021-3
EU5T-14A459-DB	1-2208018-4	100°C	V1	EU5T-14489-DB	1-2208021-4

ITEM	PIA DESCRIPTION	COLOR	FORD COMPONENT PART NO.	SUPPLIER COMPONENT PART NO.	MATERIAL/ SPEC.NO.	RECYCLING CODE	WEIGHT	NO. OF ITEMS REQUIRED			
1a	22 POS. GENERATION Y MALE HOUSING CODE A	BLACK	NA	1-2208019-1	PA66-GF35	PA66-GF35	8.4g	1			
1b	22 POS. GENERATION Y MALE HOUSING CODE B	NATURAL	NA	1-2208019-2	PA66-GF35	PA66-GF35	8.4g		1		
1c	22 POS. GENERATION Y MALE HOUSING CODE C	GREY	NA	1-2208019-3	PA66-GF35	PA66-GF35	8.4g			1	
1d	22 POS. GENERATION Y MALE HOUSING CODE D	GREEN	NA	1-2208019-4	PA66-GF35	PA66-GF35	8.4g				1
2	SPACER FOR 22 POS. MALE CONNECTOR	RED	NA	1-2208020-1	PBT-GF30	PBT-GF30	1.35g	1	1	1	1

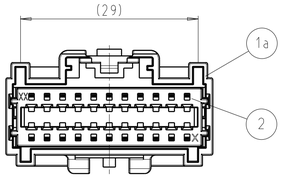


3D VIEW



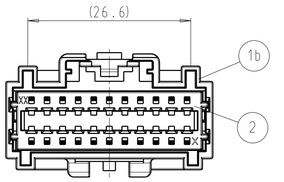
CODE A

EU5T-14A459-AB; TE CONNECTIVITY PN 1-2208018-1



CODE B

EU5T-14A459-BB; TE CONNECTIVITY PN 1-2208018-2



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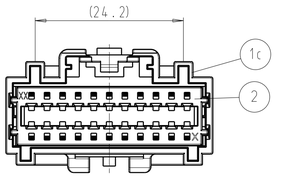
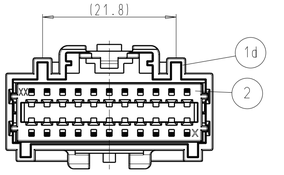
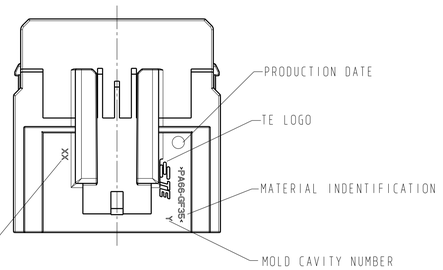
EU5T-14A459-CB; TE CONNECTIVITY PN 1-2208018-3

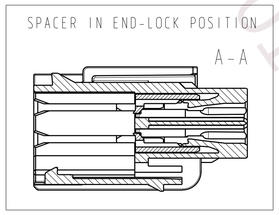


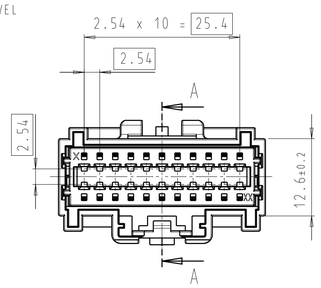
CODE D

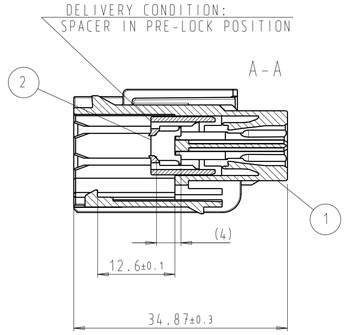
EU5T-14A459-DB; TE CONNECTIVITY PN 1-2208018-4

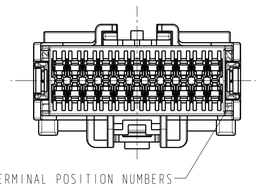


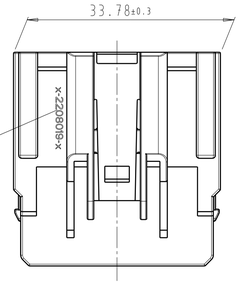












(C1)

NOTES: UNLESS OTHERWISE SPECIFIED:

1. PARTS CONFORM TO THE ELECTRICAL CONNECTION SYSTEM DESIGN SPECIFICATION (SDS) VER.22, EL-0181: PROTECTION FOR MALE CONNECTORS FROM TERMINAL BENDING
2. PARTS CONFORM TO THE USCAR-2, REV. 5 PARTS CONFORM TO THE LATEST REVISION OF TE CONNECTIVITY APPLICATION SPECIFICATION NO. 114-94258 (C2)
3. MAXIMUM CALCULATED MATING FORCE FULLY POPULATED WITH TIN TERMINALS = 60 [N] (C3)
4. TERMINAL EXTRACTION TOOL TE CONNECTIVITY PN. 2-1579028-7
5. N/A
6. N/A
7. N/A

LTRS	REVISIONS			
ORIGINATOR	CHECKER	ENGR APP	MATL APP	

RELEASE OF PART EU5T-14A459-AA
RELEASE OF PART EU5T-14A459-BA
RELEASE OF PART EU5T-14A459-CA
RELEASE OF PART EU5T-14A459-DA

AELE E 11783996 908 20120514

TE	GMUMPER	JHULING	TE

RELEASED FOR PRODUCTION
A1 CHANGED PART LABELING TO AGREE WITH PART AS MANUFACTURED
A2 NOTES UPDATED ACCORDING CAD & DRAFTING STANDARDS VERSION 29
A3 REMOVED NOT TOOLED PRELIMINARY STAMP

AELE E 12625180 050 20130606

TE	GMUMPER	ASANKOV1	TE

REMOVED EU5T-14A459-AA, EU5T-14A459-BA, EU5T-14A459-CA, EU5T-14A459-DA
B1 ADDED TERMINAL REFERENCE CODE
B2 CHANGED TE CONNECTIVITY PART NUMBERS
RELEASED EU5T-14A459-AB, EU5T-14A459-BB EU5T-14A459-CB, EU5T-14A459-DB

AELE E 12625180 150 20141031

TE	GMUMPER	ASANKOV1	TE

C1 NOTES UPDATED ACCORDING CAD & DRAFTING STANDARDS VERSION 28.1
C2 ADDED APPLICATION SPECIFICATION NO. 114-94258
C3 WAS 3-1579007-6
C4 WAS 2.23

AELE E 12625180 281 20150616

TE	GMUMPER	ASANKOV1	TE

TE connectivity

REFERENCE 22 POS. MALE UNSEALED 0.64mm GENERATION Y

PART MUST COMPLY WITH RESTRICTED SUBSTANCE MANAGEMENT STANDARD WSS-M99P9999-A1 TO SAFEGUARD HEALTH, SAFETY AND THE ENVIRONMENT

DRAFTED IN ACCORDANCE WITH FORD MOTOR COMPANY ENGINEERING CAD AND DRAFTING STANDARDS VERSION 28.1

3RD ANGLE PROJ
DIMENSIONS ARE IN MILLIMETERS

CAD TYPE	CAD LOC.	CAD FILE	DTMC
K-CATIA5	TCe	EU5T-14A459-A-DWG-01 ;4	IS MASTER
OPER. NO.	UNIT	DRAWING	
N/A	N/A	EU5T-14A459-AB	
DESIGN	DETAIL	TITLE	SHT 1
TE	TE	SLV WIR CONN MLE	OF 1
CHECKED	SAFETY		RH/LH
TE	N/A		N/A
SCALE	DATE	DIVISION	
2:1	20120309	PLANT	

FORD MOTOR COMPANY

EU5T-14A459-DB
EU5T-14A459-CB
EU5T-14A459-BB

Section 3

Customer Engineering Approval

Design Verification Plan

(After clip improvement and serviceability see last page) Date: January 12, 2015

System	Assembly	Program	Design Engineer
CPSC 18.01.07 connectors	**MALE ASSEMBLY 2x11 WAY Generation Y conn.** **(Proposed tests see last page)**		**K.Roth** Concurred **G.Mumper** **G.Puckel**
Subsystem Connectors Assembly	Component: **CU5T-14A459-AB** 1-2208018-1 **CU5T-14A459-BB** 1-2208018-2 **CU5T-14A459-CB** 1-2208018-3 **CU5T-14A459-DB** 1-2208018-4	Latest Design Level (DV- Prototype) (PV-Production) **(UPDATE)**	1-20-15

Test Name/Source	Acceptance Criteria	Test Results		Sample Size Required	Sample Size Tested	Statistical Test Accept. Criteria* Required	Statistical Test Accept. Criteria* Actual		Actual	Remarks
Group A - Dimensional Characteristics 5.1.2										
A-1. Visual Inspection - SAE/USCAR-2 5.1.8 To document the physical appearance of test samples.	The connectors assemblies must not show , with the aid of 10X magnification, any evidence of deterioration, cracks, deformities, etc, that could affect their functionality or distort their appearance. Connector locking mechanism must function without breaking	Pass	PV	1 each cavity				May 2013		
A-2. Critical Dimensions - SAE/USCAR-2 5.1.2	Device Connector Interface must meet all dimension call on on the connector released drawing. (Full Layout)	Pass	PV	1 each cavity				May 2013		

Group A flow chart:

Dimensional Characteristics SAE/USCAR-2 R5 Dimensional Characteristices 5.1.2 → SAE/USCAR-2 Visual Inspection 5.1.8 → SAE/USCAR-2 Dimensional Characteristices 5.1.2

Group D -Mechanical Test Flow Chart 5.9.5

Mechanical Test SAE/USCAR-2 R5 Terminal to Connector Insertion/Extraction 5.4.1 → SAE/USCAR-2 Visual Inspection 5.1.8 → SAE/USCAR-2 Terminal to Connector Insertion / Extraction 5.4.1 → SAE/USCAR-2 Visual Inspection 5.1.8

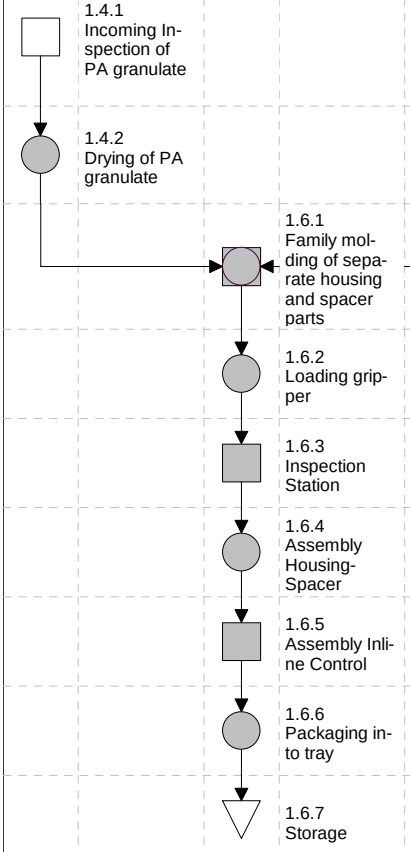
Section 5

Process Flow Diagram

The Process Flow Diagram, if included, is a confidential document belonging to TE Connectivity. As such, it may not be further distributed and is subject to the conditions of the nondisclosure agreement.

Process Flow Diagram

Program: PRJ-11-000004529	Revision Level: B	Created: 12.06.2012
Part number/Latest Change Level: 2208018-1/-2/-3/-4	Revised by: Baeke, Hendrik, PSE, Manufacturing Engineer	Modified: 28.06.2012
Part Description: Gen Y 2x11 Male Assembly		Page: 1/1



Part/ Process Number	Process Name/ Operation Description	No.	Product Characteristic	Class.	No.	Process Characteristic	Class.
1.4.1	1.4.1 ◆ Incoming Inspection of PA granulate						
1.5.1	1.5.1 ◆ Incoming Inspection of PBT granulate						
1.4.2	1.4.2 ◆ Drying of PA granulate						
1.5.2	1.5.2 ◆ Drying of PBT granulate						
1.6.1	1.6.1 ◆ Family molding of separate housing and spacer parts						
1.6.2	1.6.2 ◆ Loading gripper						
1.6.3	1.6.3 ◆ Inspection Station						
1.6.4	1.6.4 ◆ Assembly Housing-Spacer						
1.6.5	1.6.5 ◆ Assembly Inline Control						
1.6.6	1.6.6 ◆ Packaging into tray						
1.6.7	1.6.7 ◆ Storage						

Section 7

Control Plan

The Control Plan, if included, is a confidential document belonging to TE Connectivity. As such, it may not be further distributed and is subject to the conditions of the nondisclosure agreement.

CONTROL PLAN

Assembly

☐ Prototype ☐ Pre-Launch ☑ Production

CTRLplannr :	KEY CONTACT / PHONE Yves Vantoortelboom	DATE (orig) 6/05/2013 (Original)	REVISION Rev R12
PART NR + LATEST CHANGE LEVEL See Overview partnumbers	CORE TEAM Y. Vantoortelboom - B. Van Loocke - H. Baeke - T. Ryckx - R.	CUST ENG APPROVAL / DATE (if req'd)	
PARTNAME/DESCRIPTION 22 Pos. 0.64 Male GenY Pin Hsg Assy 22 Pos. 0.64 Female GenY Rec Hsg Assy	SUPPLIER/PLANT APPROVAL / DATE	CUST QUALITY APPROVAL / DATE (if req'd)	
SUPPLIER/PLANT TE Oostkamp / SUPPLIER CODE	OTHER APPROVAL / DATE (if req'd)	OTHER APPROVAL / DATE (if req'd)	

Part / Process Number	Process name / Operation Description	Machine, Device, Jig, Tools For Manufacturing	Nr	CHARACTERISTICS: Product	CHARACTERISTICS: Process	Spec Char. Class	METHOD: Product / Process Specifications & Tolerance	METHOD: Evaluation Measurement Technique	METHOD: Size	METHOD: Frequency	METHOD: Control Method	Action(s) when non conform: Reaction Plan

Overview Part numbers

TE Assy Part number (1)	Customer	Part number	Revision	Part n° housing(2) int. Molded	Part n° spacer(3) int. Molded	Packaging Instruction (4)	QIP (5)
1-2208021-1 (Cod A - Female)	Ford	EU5T-14489-AB	B	1-2208022-1 (Black)	0-2208023-1	107-90512	129-90948
1-2208021-2 (Cod B - Female)	Ford	EU5T-14489-BB	B	1-2208022-2 (Nature)	0-2208023-1	107-90512	129-90948
1-2208021-3 (Cod C - Female)	Ford	EU5T-14489-CB	B	1-2208022-3 (Grey)	0-2208023-1	107-90512	129-90948
1-2208021-4 (Cod D - Female)	Ford	EU5T-14489-DB	B	1-2208022-4 (Green)	0-2208023-1	107-90512	129-90948
1-2208018-1 (Cod A - Male)	Ford	EU5T-14A459-AB	B	1-2208019-1 (Black)	1-2208020-1	107-90512	129-90948
1-2208018-2 (Cod B - Male)	Ford	EU5T-14A459-BB	B	1-2208019-2 (Nature)	1-2208020-1	107-90512	129-90948
1-2208018-3 (Cod C - Male)	Ford	EU5T-14A459-CB	B	1-2208019-3 (Grey)	1-2208020-1	107-90512	129-90948
1-2208018-4 (Cod D - Male)	Ford	EU5T-14A459-DB	B	1-2208019-4 (Green)	1-2208020-1	107-90512	129-90948

Overview Changes

revision ctlplan	Date☐	Change	Changed by
Rev00	5/6/2013	Original	Yves Vantoortelboom
Rev00	8/2/2013	Revised numbering of male dummy parts for in-line control testequipment	Yves Vantoortelboom
Rev01	2/18/2015	Revised for new part revision of 22 Pos. 0.64 Male GenY Pin Hsg Assy	Yves Vantoortelboom
Rev02	2/25/2015	Revised for new part revision of 22 Pos. 0.64 Rec GenY Hsg Assy	Yves Vantoortelboom
Rev03	6/4/2015	Dummy run interval added to TPM chart	J. Duthieuw / B. Van Loocke
Rev04	10/10/2016	Revised with changed frequency for dummy run	JF Van den Brande
Rev R11	3/28/2018	Adjustment of gauge number 21-1775883-99010 into 21-1775883-99020	Francis Devos
Rev R12	3/28/2018	General review of the gauges	Francis Devos

Part / Process Number	Process name / Operation Description	Machine, Device, Jig, Tools For Manufacturing	CHARACTERISTICS			Spec Char. Class	METHOD					Action(s) when non conform
			Nr	Product	Process		Product / Process Specifications & Tolerance	Evaluation Measurement Technique	Size	Frequency	Control Method	Reaction Plan
1.3.1 / Female GenY Rec Hsg & Spacer	**Internal Molded Female Housing: Based on Generic Control Plan Molded Part acc table column (2) Internal Molded Female Spacer: Based on Generic Control Plan Molded Part acc table column (3) Family Moulding**											
1.1.1 & 1.2.1	**Reception & Entrance Control Materials Female Housing & Female Spacer**											
Molded parts /01-02	Reception of raw material in warehouse	Purchased material		Identification	-		PartNumber (PN) Product reference	Visual	1	Each delivery	Compare delivery note and CMR	Acc. Procedure 407-90013-01: Handling of product non-conformities Acc. Procedure 102-90842: Handling of supplier complaints
				Damages	-		Damages	Visual	All	Each delivery	Check status of the packaging	Acc. Procedure 407-90013-01: Handling of product non-conformities
Molded parts /04	Incoming inspection (Granulate) Acc.Procedure 102-90834	Purchased material		Material specifications	-		TE specifications and/or Supplier specifications	Visual	1	Each delivery	Check results in Material Certificate	Acc. Procedure 407-90013-01: Handling of product non-conformities Acc. Procedure 102-90842: Handling of supplier complaints
				Material specifications or Properties of polymers acc. QIP (e.g. viscosity, ash content, MFI, etc.)	-		TE specifications and/or Supplier specifications	Viscosity: F49-F6947 Ash Content: F49-F6933 MFI: 109-90803	Acc. SAP Skip lot	Acc. SAP Skip lot	Verify material certificate by means of lab analysis equipment and available specifications	Acc. Procedure 407-90013-01: Handling of product non-conformities Acc. Procedure 102-90842: Handling of supplier complaints
1.1.2 & 1.2.2	**Drying of granulate Female Housing & Female Spacer**											
Molded parts /05	Reception of raw material at drying equipment			Correct material	-		PartNumber (PN) Product reference	Visual	1	Each supply at dryer	Information on the drying equipment	Acc. Procedure 407-90013-01: Handling of product non-conformities Replace by correct material Take the correct material
	Drying of Granulate Acc. Inspection Spec. 129-90005	Centralised drying equipment (fixed)		-	Temperature & Time		TE specifications and/or Supplier specifications	Visual	-	Each supply at dryer	Compare machine settings to set-up instructions	Acc. Procedure 407-90013-01: Handling of product non-conformities Adjust machine settings
				-	Humidity (RV%)		TE specifications and/or Supplier specifications	Working Instruction 407-91001	1	1 molding area per week	Check	Acc. Procedure 407-90013-01: Handling of product non-conformities Adjust machine settings
		Separate Drying Equipment (mobile)		-	Temperature & Time		TE specifications and/or Supplier specifications	Visual	-	Each supply at dryer	Comparing machine settings to set-up instructions	Acc. Procedure 407-90013-01: Handling of product non-conformities Adjust machine settings
					Humidity (RV%)		TE specifications and/or Supplier specifications	Working Instruction 407-91001	1	1 molding area per week	Check	Acc. Procedure 407-90013-01: Handling of product non-conformities Adjust machine settings
Set-Up of molding machine Female Housing & Female Spacer												

Part / Process Number	Process name / Operation Description	Machine, Device, Jig, Tools For Manufacturing	CHARACTERISTICS			Spec Char. Class	METHOD					Action(s) when non conform
			Nr	Product	Process		Product / Process Specifications & Tolerance	Evaluation Measurement Technique	Size	Frequency	Control Method	Reaction Plan
Molded parts /06	Dried granulate at machine			Correct material	-		Factory order sheet, with BOM	Visual	1	Each Set-Up	Set-Up Sheet Process Start Sheet	Acc. Procedure 407-90013-01: Handling of product non-conformities Replace by correct material Take the correct material
	Molding (Set-Up)	Molding machine Arburg (M701) & Mold 21-1775881		-	Correct devices and set-up parameters		Set-up instructions and set-up parameters on disk	Visual	-	Each Set-Up	Compare machine settings to set-up instructions	Adjust machine settings
				Identification	-		Coding / Colour	* Poka Yoke mould changeover kit * Mould and coding detection connector	- 100%	Each Set-Up In-line integrated	Correct Changeover In-line Detection	Acc. Procedure 407-900013-01: Handling of product non-conformities Adjust the machine setting
					-		Coding / Colour	Functional	1 part/cav	Each set-up	Functional check with according counterpart	Acc. Procedure 407-90013-01: Handling of product non-conformities Adjust the machine setting
					-		Markings: PN, Cavity, Revision, Terminal Position, Logo, Material ID, Date clock	Visual	1 part/cav	Each Set-Up	Verify if markings on part are correct	Acc. Procedure 407-90013-01: Handling of product non-conformities Adjust the machine setting
				Visual inspection Acc. QIP 129-90948	-		General Inspection (no burrs, gatemark sunk, completely filled,….)	Visual	1 part/cav	Each Set-Up	Accept / Reject	Acc. Procedure 407-900013-01: Handling of product non-conformities Adjust the machine setting
					-		General Inspection (no damage due to core breakage)	Visual Gauge nr.: 51-1775883-99040	1 part/cav	Each Set-Up	Accept / Reject	Acc. Procedure 407-900013-01: Handling of product non-conformities Adjust the machine setting
				Dimensional Inspection	-	(1) h (2) f (3) f (1) f (2) f (3) h	<u>Housing Female</u>: (1) Depth snap: 12,1 (2) Length: 31,1 (3) Width: 14,375 <u>Spacer Female</u>: (1) Depth snap: 6,075 (2) Height snap: 0,575 (3) Length: 29,43	* CMM / Meas. Lab * CMM / Meas. Lab	1 part/cav	Each Set-Up	Accept / Reject	Acc. Procedure 407-90013-01: Handling of product non-conformities Adjust the machine setting
Production Molding **Female Housing & Female Spacer**												

Part / Process Number	Process name / Operation Description	Machine, Device, Jig, Tools For Manufacturing	CHARACTERISTICS			Spec Char. Class	METHOD					Action(s) when non conform
			Nr	Product	Process		Product / Process Specifications & Tolerance	Evaluation Measurement Technique	Size	Frequency	Control Method	Reaction Plan
Molded parts /06	Molding (Serial Production)	Molding machine Arburg (M701) & Mold 21-1775881		-	Molding parameters		Tolerance frame on parameters	Software controlled Password protected	100%	In-line integrated	Sorting automatically	Acc. Procedure 407-90013-01: Handling of product non-conformities Acc. Procedure 102-90843: Handling of internal complaints
				Visual inspection acc. QIP / 129-90948	-		General Inspection (no burrs, gatemark sunk, completely filled,….)	Visual	1 part/cav	Each 2 hours	Accept / Reject	Acc. Procedure P407-90013-01: Handling of product non-conformities Acc. Procedure 102-90843: Handling of internal complaints
					-		General Inspection (no damage due to core breakage)	Visual Gauge nr.: 51-1775883-99040	1 part/cav	Each 2 hours	Accept / Reject	Acc. Procedure P407-90013-01: Handling of product non-conformities Acc. Procedure 102-90843: Handling of internal complaints
				Physical properties (PBT or PET only) (Spacer Only)	-		Material Specifications (e.g. viscosity, % GF,…)	Compare inspection report supplier by means of lab analysis equipment	1	1 molding area per week	Review	Acc. Procedure P407-90013-01: Handling of product non-conformities Acc. Procedure 102-90843: Handling of internal complaints
Molded parts /07	Molding (Serial Production) Line inspector verification, depending on Q-status operator	Molding machine Arburg (M701) & Mold 21-1775881		All operator inspections	-		See operator inspection	See operator inspection	-	Depending on Q-status operator	Accept / Reject	Acc. Procedure 407-90013-01: Handling of product non-conformities Acc. Procedure 102-90843: Handling of internal complaints
1.3.2 / Female GenY Rec Hsg &	**Loading Parts in Gripper Female Housing & Female Spacer**											
1.3.2	Loading Parts in Gripper (Transport from mold towards Assy Line)	Gripper & Assy Line 51-1775883		-	Pressence of parts		All positions of gripper loaded with parts: - in end position - in straight position	Part detection in robot gripper	100%	In-line integrated	Alarm / Line Stop in case of failure	Acc. Procedure 407-90013-01: Handling of product non-conformities Acc. Procedure 102-90843: Handling of internal complaints
	Loading Parts in Gripper (Transport from Assy Line back to mold)	Gripper & Assy Line 51-1775883		-	Absence of parts		All positions of gripper must be empty	Part detection in robot gripper	100%	In-line integrated	Alarm / Line Stop in case of failure	Acc. Procedure P407-90013-01: Handling of product non-conformities Acc. Procedure 102-90843: Handling of internal complaints
1.3.3 / Female GenY Rec Hsg &	**Laying-Off Parts in Inspection Station Female Housing & Female Spacer**											
1.3.3	Laying-Off Parts in Inspection Station for QIP checks (see 1.3.1 Family Molding)	Gripper & Assy Line 51-1775883		-	Request QIP parts by button push		QIP parts must be requested acc. frequency mentioned in QIP	Time control	100%	In-line integrated	* Alarm if late request * Machine stop if no request	Acc. Procedure P407-90013-01: Handling of product non-conformities Acc. Procedure 102-90843: Handling of internal complaints

Part / Process Number	Process name / Operation Description	Machine, Device, Jig, Tools For Manufacturing	CHARACTERISTICS			Spec Char. Class	METHOD					Action(s) when non conform
			Nr	Product	Process		Product / Process Specifications & Tolerance	Evaluation Measurement Technique	Size	Frequency	Control Method	Reaction Plan
1.3.4 / Female GenY Rec Hsg & Spacer	**Assembly Female Housing Assembly**											
1.3.4	22 Pos. 0.64 GenY Receptable Housing Assy (Assembly)	Assy Line 51-1775883		Visual inspection acc. QIP / 129-90948	-		Parts not damaged	Visual	7 Parts	Each Box	Accept / Reject	Acc. Procedure P407-90013-01: Handling of product non-conformities Acc. Procedure 102-90843: Handling of internal complaints
1.3.5 / Female GenY Rec Hsg & Spacer	**In-Line Control Female Housing Assembly**											
1.3.5	22 Pos. 0.64 GenY Receptable Housing Assy (In-Line Control)	Assy Line 51-1775883		-	Check teststation		Teststation functions OK	Dummy parts *D1: too deep (2x) *D2: too deep (1x) *D3: not deep enough (2x) *D4: not deep enough (1x) *D5: OK part - Prelock	All dummy parts defined	Acc. TPM schedule	Accept / Reject	Acc. Procedure P407-90013-01: Handling of product non-conformities Acc. Procedure 102-90843: Handling of internal complaints
				Dimensional Inspection	-	f	Housing Assy Female: Spacer in Prelock Pos. 3,9	In-line test-equipment: 24V DC	100%	In-line integrated	Sorting automatically	Acc. Procedure P407-90013-01: Handling of product non-conformities Acc. Procedure 102-90843: Handling of internal complaints
1.3.6 / Female GenY Rec Hsg & Spacer	**Packaging Female Housing Assembly**											
1.3.6	22 Pos. 0.64 GenY Receptable Housing Assy (Packaging)	Assy Line 51-1775883		Correct Packaging Materials	-		Packaging Instruction 107-90512	Visual	1	Each Box	Check	Acc. Procedure P407-90013-01: Handling of product non-conformities Acc. Procedure 102-90843: Handling of internal complaints
				Correct Label (Corresponds to contents of box)	-		Packaging Instruction 107-90512	Label scan (Corresponds to PN produced)	1	Each Box	Machine stop if scanned label does not correspond with PN produced	Acc. Procedure P407-90013-01: Handling of product non-conformities Acc. Procedure 102-90843: Handling of internal complaints
				-	Number of blisters		Packaging Instruction 107-90512	Counters in packaging unit	100%	In-line integrated	Alarm if not operative	Acc. Procedure P407-90013-01: Handling of product non-conformities Acc. Procedure 102-90843: Handling of internal complaints

Part / Process Number	Process name / Operation Description	Machine, Device, Jig, Tools For Manufacturing	Nr	CHARACTERISTICS Product	CHARACTERISTICS Process	Spec Char. Class	METHOD Product / Process Specifications & Tolerance	METHOD Evaluation Measurement Technique	METHOD Size	METHOD Frequency	METHOD Control Method	Action(s) when non conform Reaction Plan
				-	Number of parts		Packaging Instruction 107-90512	Counters in packaging unit	100%	In-line integrated	Alarm if not operative	Acc. Procedure P407-90013-01: Handling of product non-conformities Acc. Procedure 102-90843: Handling of internal complaints
1.3.7 / Female GenY Rec Hsg & Spacer	**Storage Female Housing Assembly**											
1.3.7	22 Pos. 0.64 GenY Receptable Housing Assy (Storage)						General instructions for internal warehousing & distribution					Acc. Procedure 102-90843: Handling of internal complaints
1.6.1 / Male GenY Pin Hsg & Spacer	**Internal Molded Male Housing: Based on Generic Control Plan Molded Part acc table column (2) Internal Molded Male Spacer: Based on Generic Control Plan Molded Part acc table column (3) Family Moulding**											
1.4.1 & 1.5.1	**Reception & Entrance Control Materials Male Housing & Male Spacer**											
Molded parts /01-02	Reception of raw material in warehouse	Purchased material		Identification	-		PartNumber (PN) Product reference	Visual	1	Each delivery	Compare delivery note and CMR	Acc. Procedure 407-90013-01: Handling of product non-conformities Acc. Procedure 102-90842: Handling of supplier complaints
				Damages	-		Damages	Visual	All	Each delivery	Check status of the packaging	Acc. Procedure 407-90013-01: Handling of product non-conformities
Molded parts /04	Incoming inspection (Granulate) Acc.Procedure 102-90834	Purchased material		Material specifications	-		TE specifications and/or Supplier specifications	Visual	1	Each delivery	Check results in Material Certificate	Acc. Procedure 407-90013-01: Handling of product non-conformities Acc. Procedure 102-90842: Handling of supplier complaints
				Material specifications or Properties of polymers acc. QIP (e.g. viscosity, ash content, MFI, etc.)	-		TE specifications and/or Supplier specifications	Viscosity: F49-F6947 Ash Content: F49-F6933 MFI: 109-90803	Acc. SAP Skip lot	Acc. SAP Skip lot	Verify material certificate by means of lab analysis equipment and available specifications	Acc. Procedure 407-90013-01: Handling of product non-conformities Acc. Procedure 102-90842: Handling of supplier complaints
1.4.2 & 1.5.2	**Drying of granulate Female Housing & Female Spacer**											
Molded parts /05	Reception of raw material at drying equipment			Correct material	-		PartNumber (PN) Product reference	Visual	1	Each supply at dryer	Information on the drying equipment	Acc. Procedure 407-90013-01: Handling of product non-conformities Replace by correct material Take the correct material
	Drying of Granulate Acc. Inspection Spec. 129-90005	Centralised drying equipment (fixed)		-	Temperature & Time		TE specifications and/or Supplier specifications	Visual	-	Each supply at dryer	Comparing machine settings to set-up instructions	Acc. Procedure 407-90013-01: Handling of product non-conformities Adjust machine settings

Part / Process Number	Process name / Operation Description	Machine, Device, Jig, Tools For Manufacturing	Nr	CHARACTERISTICS Product	CHARACTERISTICS Process	Spec Char. Class	METHOD Product / Process Specifications & Tolerance	METHOD Evaluation Measurement Technique	METHOD Size	METHOD Frequency	METHOD Control Method	Action(s) when non conform Reaction Plan
				-	Humidity (RV%)		TE specifications and/or Supplier specifications	Working Instruction 407-91001	1	1 molding area per week	Check	Acc. Procedure 407-90013-01: Handling of product non-conformities Adjust machine settings
		Separate Drying Equipment (mobile)		-	Temperature & Time		TE specifications and/or Supplier specifications	Visual	-	Each supply at dryer	Comparing machine settings to set-up instructions	Acc. Procedure 407-90013-01: Handling of product non-conformities Adjust machine settings
					Humidity (RV%)		TE specifications and/or Supplier specifications	Working Instruction 407-91001	1	1 molding area per week	Check	Acc. Procedure 407-90013-01: Handling of product non-conformities Adjust machine settings
Set-Up of molding machine Female Housing & Female Spacer												
Molded parts /06	Dried granulate at machine			Correct material	-		Factory order sheet, with BOM	Visual	1	Each Set-Up	Set-Up Sheet Process Start Sheet	Acc. Procedure 407-90013-01: Handling of product non-conformities Replace by correct material Take the correct material
	Molding (Set-Up)	Molding machine Arburg (M701) & Mold 21-1775880		-	Correct devices and set-up parameters		Set-up instructions and set-up parameters on disk	Visual	-	Each Set-Up	Compare machine settings to set-up instructions	Adjust machine settings
				Identification	-		Coding / Colour	* Poka Yoke mould changeover kit * Mould and coding detection connector	- 100%	Each Set-Up In-line integrated	Correct Changeover In-line Detection	Acc. Procedure 407-90013-01: Handling of product non-conformities Adjust the machine setting
					-		Coding / Colour	Functional	1 part/cav	Each set-up	Functional check with according counterpart	Acc. Procedure 407-90013-01: Handling of product non-conformities Adjust the machine setting
					-		Markings: PN, Cavity, Revision, Terminal Position, Logo, Material ID, Date clock	Visual	1 part/cav	Each Set-Up	Verify if markings on part are correct	Acc. Procedure 407-90013-01: Handling of product non-conformities Adjust the machine setting
				Visual inspection Acc. QIP 129-90948	-		General Inspection (no burrs, gatemark sunk, completely filled,….)	Visual	1 part/cav	Each Set-Up	Accept / Reject	Acc. Procedure 407-90013-01: Handling of product non-conformities Adjust the machine setting
					-		General Inspection (no damage due to core breakage)	Visual Gauge nr.: 51-1775883-99020	1 part/cav	Each Set-Up	Accept / Reject	Acc. Procedure 407-90013-01: Handling of product non-conformities Adjust the machine setting

Part / Process Number	Process name / Operation Description	Machine, Device, Jig, Tools For Manufacturing	CHARACTERISTICS			Spec Char. Class	METHOD					Action(s) when non conform
			Nr	Product	Process		Product / Process Specifications & Tolerance	Evaluation Measurement Technique	Size	Frequency	Control Method	Reaction Plan
				Dimensional Inspection	-	(1) h (2) f (3) f (1) h	Housing Male: (1) Depth snap: 12,6 (2) Length: 31,3 (3) Width: 14,575 Spacer Male: (1) Length: 28,94	* CMM / Meas. Lab * CMM / Meas. Lab	1 part/cav	Each Set-Up	Accept / Reject	Acc. Procedure 407-90013-01: Handling of product non-conformities Adjust the machine setting
Production Molding Male Housing & Male Spacer												
Molded parts /06	Molding (Serial Production)	Molding machine Arburg (M701) & Mold 21-1775880		-	Molding parameters		Tolerance frame on parameters	Software controlled Password protected	100%	In-line integrated	Sorting automatically	Acc. Procedure 407-90013-01: Handling of product non-conformities Acc. Procedure 102-90843: Handling of internal complaints
				Visual inspection acc. QIP / 129-90948	-		General Inspection (no burrs, gatemark sunk, completely filled,….)	Visual	1 part/cav	Each 2 hours	Accept / Reject	Acc. Procedure 407-90013-01: Handling of product non-conformities Acc. Procedure 102-90843: Handling of internal complaints
					-		General Inspection (no damage due to core breakage)	Visual Gauge nr.: 51-1775883-99020	1 part /cav	Each 2 hours	Accept / Reject	Acc. Procedure 407-90013-01: Handling of product non-conformities Acc. Procedure 102-90843: Handling of internal complaints
				Dimensional Inspection	-	(1) h (2) f (3) f (1) h	Housing Male: (1) Depth snap: 12,6 (2) Length: 31,3 (3) Width: 14,575 Spacer Male: (1) Length: 28,94	* CMM / Meas. Lab * CMM / Meas. Lab	1 part/cav	Each 2 hours	Accept / Reject	Acc. Procedure 407-90013-01: Handling of product non-conformities Acc. Procedure 102-90843: Handling of internal complaints
				Physical properties (PBT or PET only) (Spacer Only)	-		Material Specifications (e.g. viscosity, % GF,…)	Compare inspection report supplier by means of lab analysis equipment	1	1 molding area per week	Review	Acc. Procedure P407-90013-01: Handling of product non-conformities Acc. Procedure 102-90843: Handling of internal complaints
Molded parts /07	Molding (Serial Production) Line inspector verification, depending on Q-status operator	Molding machine Arburg (M701) & Mold 21-1775880		All operator inspections	-		See operator inspection	See operator inspection	-	Depending on Q-status operator	Accept / Reject	Acc. Procedure 407-90013-01: Handling of product non-conformities Acc. Procedure 102-90843: Handling of internal complaints
1.6.2 / Male GenY Pin Hsg & Spacer	**Loading Parts in Gripper Male Housing & Male Spacer**											

Part / Process Number	Process name / Operation Description	Machine, Device, Jig, Tools For Manufacturing	CHARACTERISTICS			Spec Char. Class	METHOD					Action(s) when non conform
			Nr	Product	Process		Product / Process Specifications & Tolerance	Evaluation Measurement Technique	Size	Frequency	Control Method	Reaction Plan
1.6.2	Loading Parts in Gripper (Transport from mold towards Assy Line)	Gripper & Assy Line 51-1775883		-	Pressence of parts		All positions of gripper loaded with parts: - in end position - in straight position	Part detection in robot gripper	100%	In-line integrated	Alarm / Line Stop in case of failure	Acc. Procedure 407-90013-01: Handling of product non-conformities Acc. Procedure 102-90843: Handling of internal complaints
	Loading Parts in Gripper (Transport from Assy Line back to mold)	Gripper & Assy Line 51-1775883		-	Absence of parts		All positions of gripper must be empty	Part detection in robot gripper	100%	In-line integrated	Alarm / Line Stop in case of failure	Acc. Procedure 407-90013-01: Handling of product non-conformities Acc. Procedure 102-90843: Handling of internal complaints
1.6.3 / Male GenY Pin Hsg & Spacer	**Laying-Off Parts in Inspection Station Male Housing & Male Spacer**											
1.6.3	Laying-Off Parts in Inspection Station for QIP checks (see 1.6.1 Family Molding)	Gripper & Assy Line 51-1775883		-	Request QIP parts by button push		QIP parts must be requested acc. frequency mentioned in QIP	Time control	100%	In-line integrated	* Alarm if late request * Machine stop if no request	Acc. Procedure 407-90013-01: Handling of product non-conformities Acc. Procedure 102-90843: Handling of internal complaints
1.6.4 / Male GenY Pin Hsg & Spacer	**Assembly Male Housing Assembly**											
1.6.4	22 Pos. 0.64 Male GenY Pin Housing Assy (Assembly)	Assy Line 51-1775883		Visual inspection acc. QIP / 129-90948	-		Parts not damaged	Visual	7 Parts	Each Box	See QIP / 129-90948	Acc. Procedure 407-90013-01: Handling of product non-conformities Acc. Procedure 102-90843: Handling of internal complaints
1.6.5 / Male GenY Pin Hsg & Spacer	**In-Line Control Male Housing Assembly**											
1.6.5	22 Pos. 0.64 Male GenY Pin Housing Assy (In-Line Control)	Assy Line 51-1775883		-	Check teststation		Teststation functions OK	Dummy parts *D1: too deep (2x) *D2: too deep (1x) *D3: not deep enough (2x) *D4: not deep enough (1x) *D5: OK part - Prelock	All dummy parts defined	Following TPM program	Accept / Reject	Acc. Procedure 407-90013-01: Handling of product non-conformities Acc. Procedure 102-90843: Handling of internal complaints
				Dimensional Inspection	-	f	Housing Assy Male: Spacer in Prelock Pos. 12,6	In-line test-equipment: 24V DC	100%	In-line integrated	Sorting automatically	Acc. Procedure 407-90013-01: Handling of product non-conformities Acc. Procedure 102-90843: Handling of internal complaints
1.6.6 / Male GenY Pin Hsg & Spacer	**Packaging Male Housing Assembly**											

Part / Process Number	Process name / Operation Description	Machine, Device, Jig, Tools For Manufacturing	CHARACTERISTICS			Spec Char. Class	METHOD					Action(s) when non conform
			Nr	Product	Process		Product / Process Specifications & Tolerance	Evaluation Measurement Technique	Size	Frequency	Control Method	Reaction Plan
1.6.6	22 Pos. 0.64 Male GenY Pin Housing Assy (Packaging)	Assy Line 51-1775883		Correct Packaging Materials	-		Packaging Instruction 107-90512	Visual	1	Each Box	Check	Acc. Procedure 407-90013-01: Handling of product non-conformities Acc. Procedure 102-90843: Handling of internal complaints
				Correct Label (Corresponds to contents of box)	-		Packaging Instruction 107-90512	Label scan (Corresponds to PN produced)	1	Each Box	Machine stop if scanned label does not correspond with PN produced	Acc. Procedure 407-90013-01: Handling of product non-conformities Acc. Procedure 102-90843: Handling of internal complaints
				-	Number of parts		Packaging Instruction 107-90512	Counters in packaging unit	100%	In-line integrated	Alarm if not operative	Acc. Procedure 407-90013-01: Handling of product non-conformities Acc. Procedure 102-90843: Handling of internal complaints
1.6.7 / Male GenY Pin Hsg & Spacer	**Storage Male Housing Assembly**											
1.6.7	22 Pos. 0.64 Male GenY Pin Housing Assy						General instructions for internal warehousing &					Acc. Procedure 102-90843: Handling of internal complaints

Section 9

Dimensional Results

22POS. 0.64 GENERATION Y UNSEALED MALE CONNCTOR ASSEMBLY

CODING A AS SHOWN

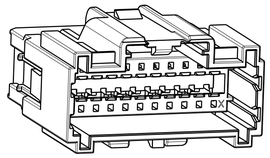
APPLICABLE COMPONENTS

ITEM	DESCRIPTION	MANDATORY (YES/NO)	TERMINAL CAVITY MIN/MAX OD	PLATING/ MATERIAL	FORD COMPONENT PART NO.	SUPPLIER COMPONENT PART NO.
1	B772 0.64_MM_TYCO_BLD_M1_B772 0.64mm GENERATION Y UNSEALED MALE TERMINAL CAVITY 1-22	NO	0/2.17 (C4)	N/A	N/A	N/A

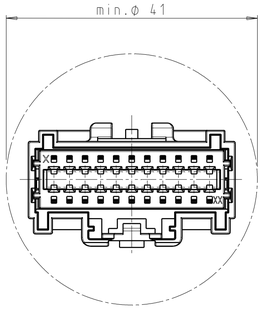
CONNECTOR ASSEMBLY CHART

ASSEMBLY PART NO.'S				MATING COMPONENT	
FORD COMPONENT PART NO.	SUPPLIER COMPONENT PART NO.	MAX. TEMP	VIBRATION CLASS	FORD COMPONENT PART NO.	SUPPLIER COMPONENT PART NO.
EU5T-14A459-AB	1-2208018-1	100°C	V1	EU5T-14489-AB	1-2208021-1
EU5T-14A459-BB	1-2208018-2	100°C	V1	EU5T-14489-BB	1-2208021-2
EU5T-14A459-CB	1-2208018-3	100°C	V1	EU5T-14489-CB	1-2208021-3
EU5T-14A459-DB	1-2208018-4	100°C	V1	EU5T-14489-DB	1-2208021-4

ITEM	PIA DESCRIPTION	COLOR	FORD COMPONENT PART NO.	SUPPLIER COMPONENT PART NO.	MATERIAL/ SPEC.NO.	RECYCLING CODE	WEIGHT	NO. OF ITEMS REQUIRED			
1a	22 POS. GENERATION Y MALE HOUSING CODE A	BLACK	NA	1-2208019-1	PA66-GF35	PA66-GF35	8.4g	1			
1b	22 POS. GENERATION Y MALE HOUSING CODE B	NATURAL	NA	1-2208019-2	PA66-GF35	PA66-GF35	8.4g		1		
1c	22 POS. GENERATION Y MALE HOUSING CODE C	GREY	NA	1-2208019-3	PA66-GF35	PA66-GF35	8.4g			1	
1d	22 POS. GENERATION Y MALE HOUSING CODE D	GREEN	NA	1-2208019-4	PA66-GF35	PA66-GF35	8.4g				1
2	SPACER FOR 22 POS. MALE CONNECTOR	RED	NA	1-2208020-1	PBT-GF30	PBT-GF30	1.35g	1	1	1	1

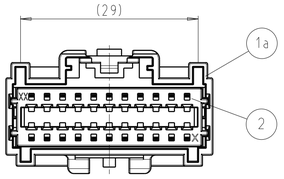


3D VIEW



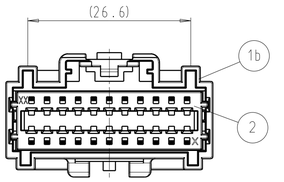
CODE A

EU5T-14A459-AB; TE CONNECTIVITY PN 1-2208018-1



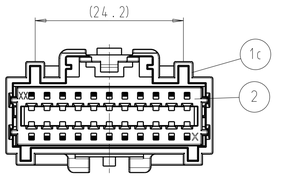
CODE B

EU5T-14A459-BB; TE CONNECTIVITY PN 1-2208018-2



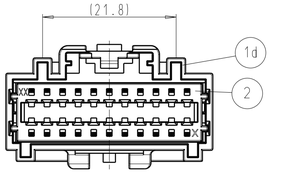
CODE C

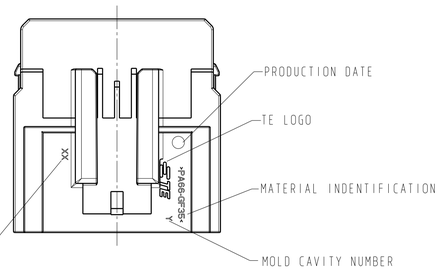
EU5T-14A459-CB; TE CONNECTIVITY PN 1-2208018-3

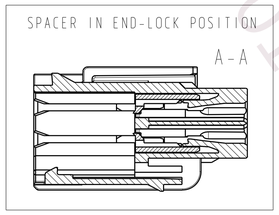


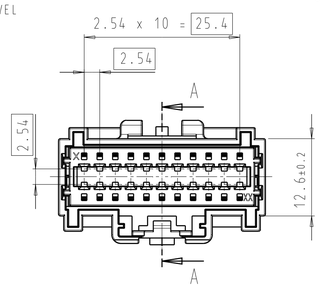
CODE D

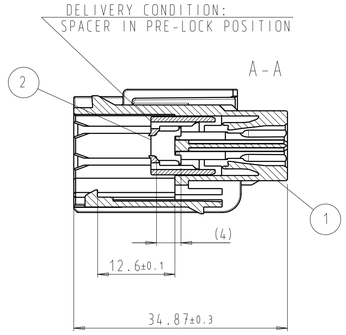
EU5T-14A459-DB; TE CONNECTIVITY PN 1-2208018-4

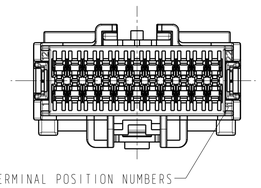


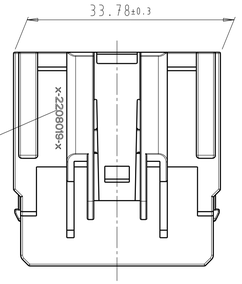












(C1)

NOTES: UNLESS OTHERWISE SPECIFIED:

1. PARTS CONFORM TO THE ELECTRICAL CONNECTION SYSTEM DESIGN SPECIFICATION (SDS) VER.22, EL-0181: PROTECTION FOR MALE CONNECTORS FROM TERMINAL BENDING
2. PARTS CONFORM TO THE USCAR-2, REV. 5 PARTS CONFORM TO THE LATEST REVISION OF TE CONNECTIVITY APPLICATION SPECIFICATION NO. 114-94258 (C2)
3. MAXIMUM CALCULATED MATING FORCE FULLY POPULATED WITH TIN TERMINALS = 60 [N] (C3)
4. TERMINAL EXTRACTION TOOL TE CONNECTIVITY PN. 2-1579028-7
5. N/A
6. N/A
7. N/A

LTRS	REVISIONS			
ORIGINATOR	CHECKER	ENGR APP	MATL APP	

RELEASE OF PART EU5T-14A459-AA
RELEASE OF PART EU5T-14A459-BA
RELEASE OF PART EU5T-14A459-CA
RELEASE OF PART EU5T-14A459-DA

AELE E 11783996 908 20120514

TE	GMUMPER	JHULING	TE

RELEASED FOR PRODUCTION
A1 CHANGED PART LABELING TO AGREE WITH PART AS MANUFACTURED
A2 NOTES UPDATED ACCORDING CAD & DRAFTING STANDARDS VERSION 29
A3 REMOVED NOT TOOLED PRELIMINARY STAMP

AELE E 12625180 050 20130606

TE	GMUMPER	ASANKOV1	TE

REMOVED EU5T-14A459-AA, EU5T-14A459-BA, EU5T-14A459-CA, EU5T-14A459-DA
B1 ADDED TERMINAL REFERENCE CODE
B2 CHANGED TE CONNECTIVITY PART NUMBERS
RELEASED EU5T-14A459-AB, EU5T-14A459-BB EU5T-14A459-CB, EU5T-14A459-DB

AELE E 12625180 150 20141031

TE	GMUMPER	ASANKOV1	TE

C1 NOTES UPDATED ACCORDING CAD & DRAFTING STANDARDS VERSION 28.1
C2 ADDED APPLICATION SPECIFICATION NO. 114-94258
C3 WAS 3-1579007-6
C4 WAS 2.23

AELE E 12625180 281 20150616

TE	GMUMPER	ASANKOV1	TE

TE connectivity

REFERENCE 22 POS. MALE UNSEALED 0.64mm GENERATION Y

PART MUST COMPLY WITH RESTRICTED SUBSTANCE MANAGEMENT STANDARD WSS-M99P9999-A1 TO SAFEGUARD HEALTH, SAFETY AND THE ENVIRONMENT

DRAFTED IN ACCORDANCE WITH FORD MOTOR COMPANY ENGINEERING CAD AND DRAFTING STANDARDS VERSION 28.1

3RD ANGLE PROJ
DIMENSIONS ARE IN MILLIMETERS

CAD TYPE	CAD LOC.	CAD FILE	DTMC
K-CATIA5	TCe	EU5T-14A459-A-DWG-01 ;4	IS MASTER
OPER. NO.	UNIT	DRAWING	
N/A	N/A	EU5T-14A459-AB	
DESIGN	DETAIL	TITLE	SHT 1
TE	TE	SLV WIR CONN MLE	OF 1
CHECKED	SAFETY		RH/LH
TE	N/A		N/A
SCALE	DATE	DIVISION	
2:1	20120309	PLANT	

FORD MOTOR COMPANY

EU5T-14A459-DB
EU5T-14A459-CB
EU5T-14A459-BB

Production Part Approval - Dimensional Results

Tyco tracking nr.: 2018-73709_24a/ 1509-YV-01

ORGANIZATION: **Tyco Electronics Belgium EC bvba**
SUPPLIER/VENDOR CODE:
INSPECTION FACILITY:
QS

PART NUMBER: **1-2208018-1**
PART NAME: **22 POS 0.64 Male Gen Y PIN HSG Assy**
DESIGN RECORD CHANGE LEVEL: **AELE E 12625180 281**
ENGINEERING CHANGE DOCUMENTS:

ITEM	DIMENSION/SPECIFICATION	SPECIFICATION/ LIMITS	TEST DATE	QTY TESTED	ORGANIZATION MEASUREMENT RESULTS (DATA)	OK	NOT OK
	Drawing EU5T-14A459-AB rev AELE E 12625180 281						
1	2.54 x 10 = [25.4]	N/A	N/A	N/A	Theoretical Dimension		
2	[2.54]	N/A	N/A	N/A	Theoretical Dimension		
3	[2.54]	N/A	N/A	N/A	Theoretical Dimension		
4	12.6	±0.2	27/06/2018	Cav.2.1	12.58	X	
				Cav.2.2	12.54	X	
				Cav.2.3	12.61	X	
				Cav.2.4	12.60	X	
				Cav.2.5	12.55	X	
				Cav.2.6	12.63	X	
				Cav.2.7	12.62	X	
				Cav.2.8	12.62	X	
5	12.6	±0.1	2/06/2013	Cav.2.1	12.60...12.61	X	
				Cav.2.2	12.58...12.60	X	
				Cav.2.3	12.57...12.59	X	
				Cav.2.4	12.58...12.59	X	
				Cav.2.5	12.56...12.58	X	
				Cav.2.6	12.57...12.58	X	
				Cav.2.7	12.58...12.58	X	
				Cav.2.8	12.57...12.58	X	
6	34.87	±0.3	2/06/2013	Cav.2.1	34.83...34.86	x	
				Cav.2.2	34.83...34.85	x	
				Cav.2.3	34.84...34.86	x	
				Cav.2.4	34.84...34.86	x	
				Cav.2.5	34.85...34.87	x	
				Cav.2.6	34.86...34.87	x	
				Cav.2.7	34.84...34.85	x	
				Cav.2.8	34.85...34.87	x	
7	33.78	±0.3	2/06/2013	Cav.2.1	33.59...33.68	x	
				Cav.2.2	33.58...33.69	x	
				Cav.2.3	33.59...33.69	x	
				Cav.2.4	33.57...33.68	x	
				Cav.2.5	33.59...33.68	x	
				Cav.2.6	33.57...33.67	x	
				Cav.2.7	33.57...33.68	x	
				Cav.2.8	33.57...33.69	x	
8	Min Ø 41		30/01/2017	Cav.2.1	ok	x	
				Cav.2.2	ok	x	
				Cav.2.3	ok	x	
				Cav.2.4	ok	x	
				Cav.2.5	ok	x	
				Cav.2.6	ok	x	
				Cav.2.7	ok	x	
				Cav.2.8	ok	x	

based on CFG-1003
march 2006

Signature

Title: QE

21/11/2018

Section 10

Material, Performance Test Results

Production Part Approval - Material Test Results

Tyco tracking nr:

ORGANIZATION: ***Tyco Electronics Belgium EC bvba***	PART NUMBER: **1-2208018-1**
SUPPLIER/VENDOR CODE:	PART NAME: **22 POS 0.64 Male Gen Y PIN HSG Assy**
INSPECTION FACILITY: ***QS***	DESIGN RECORD CHANGE LEVEL:
	ENGINEERING CHANGE DOCUMENTS:

ITEM	DIMENSION/SPECIFICATION	SPECIFICATION/ LIMITS	TEST DATE	QTY TESTED	ORGANIZATION MEASUREMENT RESULTS (DATA)	OK	NOT OK
	Material						
1	Housing						
	PA66- GF35				see certificate702661-1_MT	x	
	Color:black						
2	Spacer						
	PBT-GF30				see certificate 702350-4_MT	x	
	Color: Red						

based on CFG-1004
march 2006

Signature Title

Material test results

Certificate Housing
702661-1_MT

BASF
We create chemistry

Certificate of Analysis

BASF SE

Please note that the certificates of analysis are also conveniently available online and around the clock at www.worldaccount.basf.com

Fax No 003250832450

TYCO ELECTRONICS BELGIUM EC BVBA

SIEMENSLAAN 14

8020 OOSTKAMP

België

2018-08-24

RBU Performance Materials Europe

Certificate No 1718

Inspection Certificate 3.1 according to EN 10204

ULTRAMID® A3EG7 BLACK 00564
POLYAMIDE
25KG PE-BAG
Purchase Order/Customer Product#
2550096588
702661-1

Material	50036781
Order	3014650615 000010
Delivery	3190699314 000010
Lot	19190467J0
Lot/Qty	4000.000 KG
Total	12000.000 KG
Transport	DJE 99K8//

Characteristic / Method	Specification	Result	Unit
Viscosity number acc.to ISO 307 (Sulfuric acid)	130 - 160	145	ml/g
Moisture content acc. to ISO 15512	max.0,15	0,06	%
Reinforcing filler (glass / mineral) according to ISO 3451	33,0 - 37,0	35,0	%

The above results are means of individual test values determined on samples taken during production of the lot.
Dr.Axel Ebenau, inspection representative
If you have any further questions please send an E-mail to:
EPME-Certificates@basf.com

We create chemistry

Certificate of Analysis

BASF SE

Please note that the certificates of analysis are also conveniently available online and around the clock at www.worldaccount.basf.com

Fax No 003250832450

TYCO ELECTRONICS BELGIUM EC BVBA

SIEMENSLAAN 14

8020 OOSTKAMP

België

2018-08-24

RBU Performance Materials Europe

Certificate No 1718

Inspection Certificate 3.1 according to EN 10204

ULTRAMID® A3EG7 BLACK 00564
POLYAMIDE
25KG PE-BAG
Purchase Order/Customer Product#
2550096588
702661-1

Material	50036781
Order	3014650615 000010
Delivery	3190699314 000010
Lot	24420367J0
Lot/Qty	8000.000 KG
Total	12000.000 KG
Transport	DJE 99K8//

Characteristic / Method	Specification	Result	Unit
Viscosity number acc.to ISO 307 (Sulfuric acid)	130 - 160	145	ml/g
Moisture content acc. to ISO 15512	max.0,15	0,06	%
Reinforcing filler (glass / mineral) according to ISO 3451	33,0 - 37,0	35,0	%

The above results are means of individual test values determined on samples taken during production of the lot.
Dr.Axel Ebenau, inspection representative
If you have any further questions please send an E-mail to:
EPME-Certificates@basf.com

Material test results

Certificate Spacer
702350-4_MT

Inspectie Certificaat (EN 10204-3.1)

Tyco Electronics Belgium EC BVBA
Koen Vandemeulebroeke
Siemenslaan 14
B-8020 OOSTKAMP

E-mail: koen.vandemeulebroeke@te.com

Bedrijf
LANXESS Deutschland GmbH
Kennedyplatz 1
50569 KÖLN

Datum: 26.06.2018

Artikelomschrijving	Artikel
POCAN B 3235 300350 P.1000 OCTA M.BE HP W	56430486

Klant order data

Uw order van:	Goederenontvanger	Uw produktnr.
2703565718 //702350-4	3000014105 LXS c/o DSV Solutions N.V.	702350-4

Leveringsgegevens

Leveringsnr.	Gelev. hoev	Geplande Leveringsdatum	Ordernr.
3015660381 / 000010	8.000,000 KG	22.06.2018	3032032719 / 000010

Charge	Gelev. hoev
0000791007	8.000,000 KG

De toetsingen werden specifiek voor het geleverde materiaal uitgevoerd.

Inspectiemethode/ Karakteristiek	Resultaat	Specificatie	Eenheid
1) ISO 180/1U			
aIU (23 °C)	58,0	>= 35,0	kJ/m²
2) DIN 6174 color difference CIELAB			
Delta L	-0,45		
Delta a	0,54		
Delta b	0,77		
Delta E	1,05		
3) Calc. from ash (sim. to ISO 3451-1/A)			
Glass fibre content	30,4	27,0 - 33,0	%
4) Sim. to DIN EN ISO 1133-1			
MVR 260°C; 2,16kg	14,4	10,0 - 21,0	cm³/10

Inspectie Certificaat (EN 10204-3.1)

Contact for inqiries regarding this Certificate of Analysis:

Mr. Michael Weber Mail: michael.weber@lanxess.com

The data presented above relate to characteristics.
They do not represent any assurance or warranty.
This information does not release the customer from the obligation to carry out incoming inspections of goods, either as agreed or as required under the regulations.
This information has been issued by computer and is valid without signature.
Authorized inspection representative: Dr. Dietmar Klein

Section 12

Qualified Laboratory Documentation

CERTIFICATE

This is to certify that

Tyco Electronics Belgium EC N.V.

Siemenslaan 14
8020 Oostkamp
Belgium

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.	515109 IATF16
Main certificate registration no.	515099 IATF16
Issuing date	2017-12-04
This certificate is valid until	2020-12-03
IATF No.	0280557

2-IAO-QMC-01001

For and on behalf of DQS

Frank Graichen
Managing Director, DQS GmbH

Michael Drechsel
Managing Director, DQS Holding GmbH

IATF Contract Office: DQS Holding GmbH, Konrad-Adenauer-Allee 8-10, 61118 Bad Vilbel, Germany
Issuing Office: DQS GmbH, August-Schanz-Straße 21, 60433 Frankfurt am Main, Germany

2017-03-09

Annex to certificate registration no.: 515109 IATF16
IATF-No.: 0280557

Tyco Electronics Belgium EC N.V.

Siemenslaan 14
8020 Oostkamp
Belgium

2-IAO-QMC-01001

Remote Location	Scope
515114 TE Connectivity Solutions GmbH Amperestr. 3 9323 Steinach Switzerland	Logistics
515101 TE Connectivity Germany GmbH Tempelhofer Weg 62 12347 Berlin Germany	Sales
515099 TE Connectivity Germany GmbH Amperestr. 12-14 64625 Bensheim Germany	Continuous Improvement, Internal Audit Management, Production Equipment Development, Purchasing, Supplier Management, Customer Service, Management Review, Process Design, Quality System Management, Human resource, Policy making, Product Design, Sales
515116 TE Connectivity Germany GmbH Amperestr. 12-14 73499 Wört Germany	Process Design
515902 TE Connectivity Germany GmbH Amperestr. 12-14 73499 Wört Germany	Warehousing

Annex to certificate registration no.: 515109 IATF16
IATF-No.: 0280557

Tyco Electronics Belgium EC N.V.

Siemenslaan 14
8020 Oostkamp
Belgium

2-IAO-QMC-01001

Remote Location	Scope
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	Sales
515514 Tyco Electronics AMP Italia S.r.l. Corso Fratelli Cervi 15 10093 COLLEGNO TORINO Italy	Sales
515115 TE Connectivity Morocco Lot 43 A, Tangier Free Zone 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

This annex (edition: 2017-12-04) is only valid in connection with the above-mentioned certificate.

2017-03-09

Section 18

Part Submission Warrant

Part Submission Warrant

2018-73709

Part Name: *22pos. 0.64 GenY unsealed male conn. Assy* Cust. Part Number: *EU5T-14A459-AB*

Shown on Drawing Number: *EU5T-14A459-AB* Org.Part Number: *1-2208018-1*

Engineering Change Level: *AELE E 12625180 281* Dated: *16/06/2015*

Additional Engineering Changes: Dated:

Safety and/or Government Regulation: ☐ Yes ☑ No Purchase Order No.: Weight (kg): *0.0092*

Checking Aid Number: Checking Aid Engineering Change Level: Dated:

ORGANIZATION MANUFACTURING INFORMATION

TE Connectivity Belgium BVBA /370 654 167
Organization Name and Supplier Code

Siemenslaan 14
Street Address

Oostkamp | Region | *8020* | *Belgium*
City | Region | Postal Code | Country

CUSTOMER SUBMITTAL INFORMATION

Nursan Kablo Donanimlari
Customer Name/Division

Buyer/Buyer Code

Ford
Application

MATERIALS REPORTING

Has customer-required Substance of Concern information been reported ☑ Yes ☐ No ☐ n/a

Submitted by IMDS or other customer format *517259871 / 5*

Are polymeric parts identified with appropriate ISO marking codes? ☐ Yes ☐ No ☑ n/a

REASON FOR SUBMISSION (Check at least one)

- ☑ 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

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 measurement ☑ 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 *Family Moulding - Housing: 8 cavity tool / Spacer: 8 cavity tool + Assembly*

DECLARATION

I affirm that the samples represented by this warrant are representative of our parts, which were made by a process that meets all Production Part Approval Process Manual 4th Edition Requirements. I further affirm that these samples were produced at the production rate of 9200/8 hours I also certify that documented evidence of such compliance is on file and is available for review. I have noted any deviations from this declaration below.

EXPLANATION/COMMENTS

Is each Customer Tool properly tagged and numbered? ☐ Yes ☐ No

Organization Authorized Signature Date: *21/11/2018*

Print Name: *Patrick Van de Voorde* Phone No.: *0032 50 83 2526* Fax: *0032 50 83 2450*

Title: *QE* Email: patrick.van_de_voorde@TE.com

FOR CUSTOMER USE ONLY (IF APPLICABLE)

PPAP Warrant Disposition : ☐ Approved ☐ Rejected ☐ Other

Customer Signature Date

Print Name Customer Tracking Number (optional)

based on CFG-1001 march 2006