

PRODUCT : Molded Component Parts

PROCESS FLOW DIAGRAM

KEY CONTACT/DEPT. LOC. Debbie Gillenwater /QA Dept.

SUPPLIER APPROVALS;

General Plant Manager
Quality Manager
Other Approvals

CUSTOMER APPROVALS:(IF REQUIRED)

4/3/14 Update process - Packing L. Roth

3/30/2011 Update process - Packing L. Roth

1 25 08 Updated process 101 J. Frain

9/27/05 Update Information D. Karleskint

8/25/05 Update Information J. Frain, J. Saylor

1/25/05 Update Information J. Frain, L. Roth, J. Renfrow, D. Gillenwater

4-7-04 Update Information D. Gillenwater, G. Smith, J. Renfrow

3/13/01 Update Information T. Gravil, R. Ramsey, D. Lyons

2/09/01 Update Information T. Gravil

1/8/00 ISSUED WITH FORMAT CHANGES T. Day

6/04/99 ISSUED WITH FORMAT CHANGES/UPDATED INFO T. Gravil, D. Lyons, T. Nail, K. Cantrell

DATE CHANGE POINTS CORE / DEVELOPMENT TEAM

ISSUE/REVISION HISTORY

OPERATION

INSPECTION

OPERATION / ADJUSTION

DECISION

STORAGE

DELAY

TRANSPORTATION

OPERATION STEP

OPERATION

OPER #

OPERATION DESCRIPTION

010

Receive Raw Material

0020

Reject for non-conformance

Quality Assurance
Receiving Inspection

Packaging, Identification,
Visual Inspection, #
Characteristics

Reject for non-conformance

0030

Raw Material Storage

Raw Material Inventory
Assessment

Visual Comparison Against Packing List
Shipping-Receiving

Notify Quality Assurance
Red Tag Procedure & Return to Vendor

Per QA Inspection Instruction Sheet-Receiving

Red Tag Procedure/Return to Vendor

PROCESS FLOW

KEY CHARACTERISTICS

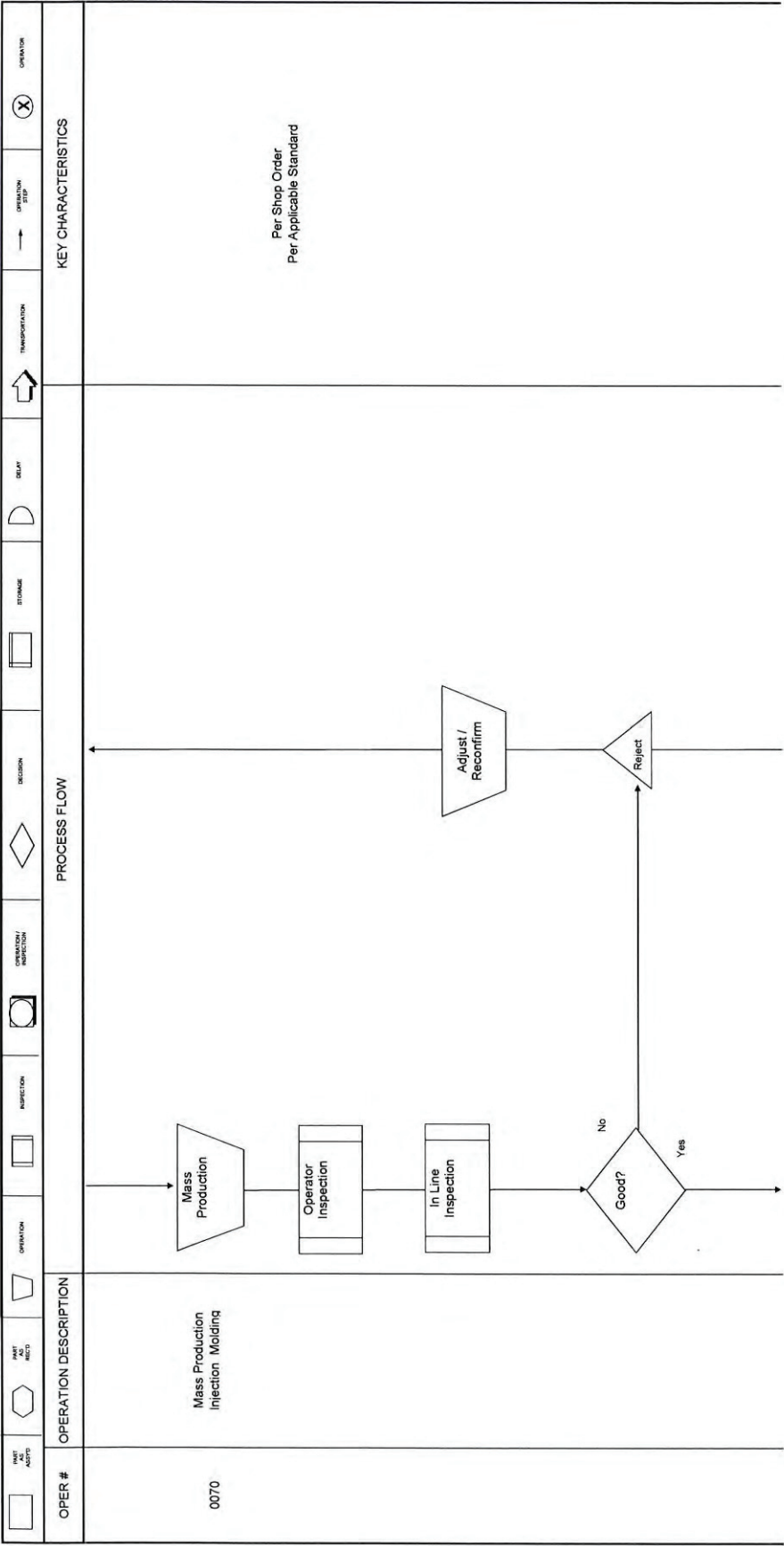
Injection Mold PDF.doc
Original Date: 6/04/99
Revision Date: 4/3/14

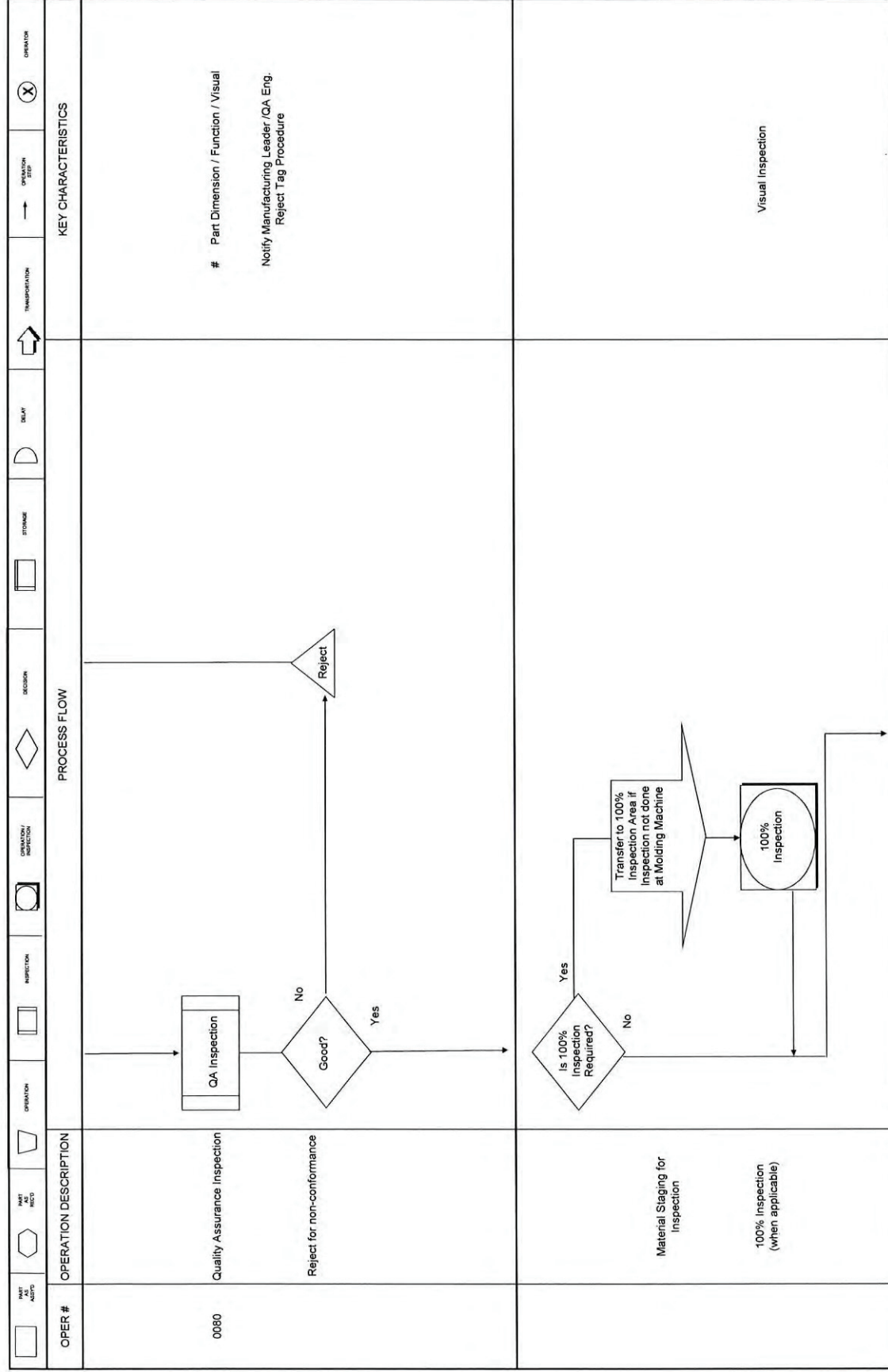
1 of 7

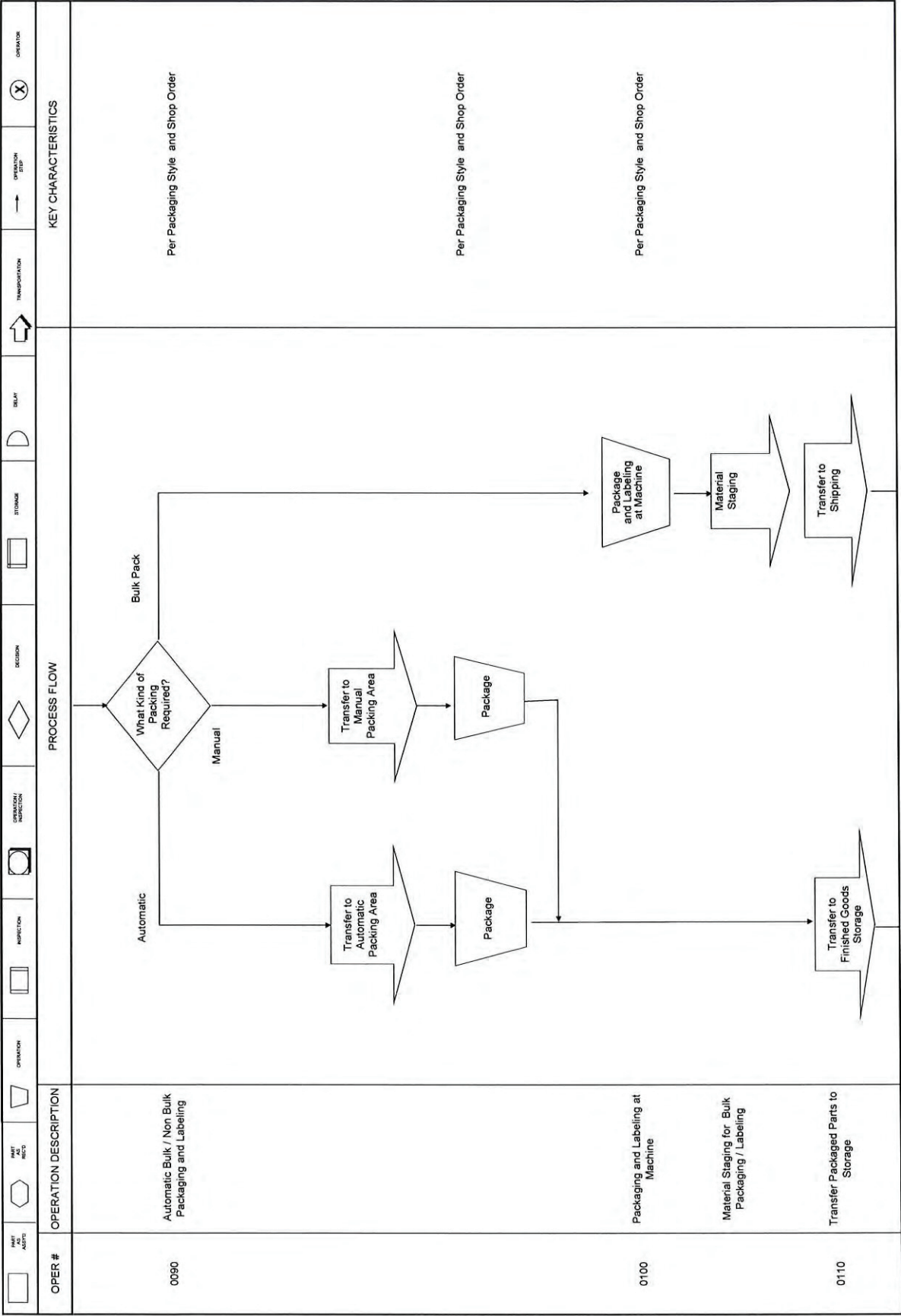
RCR

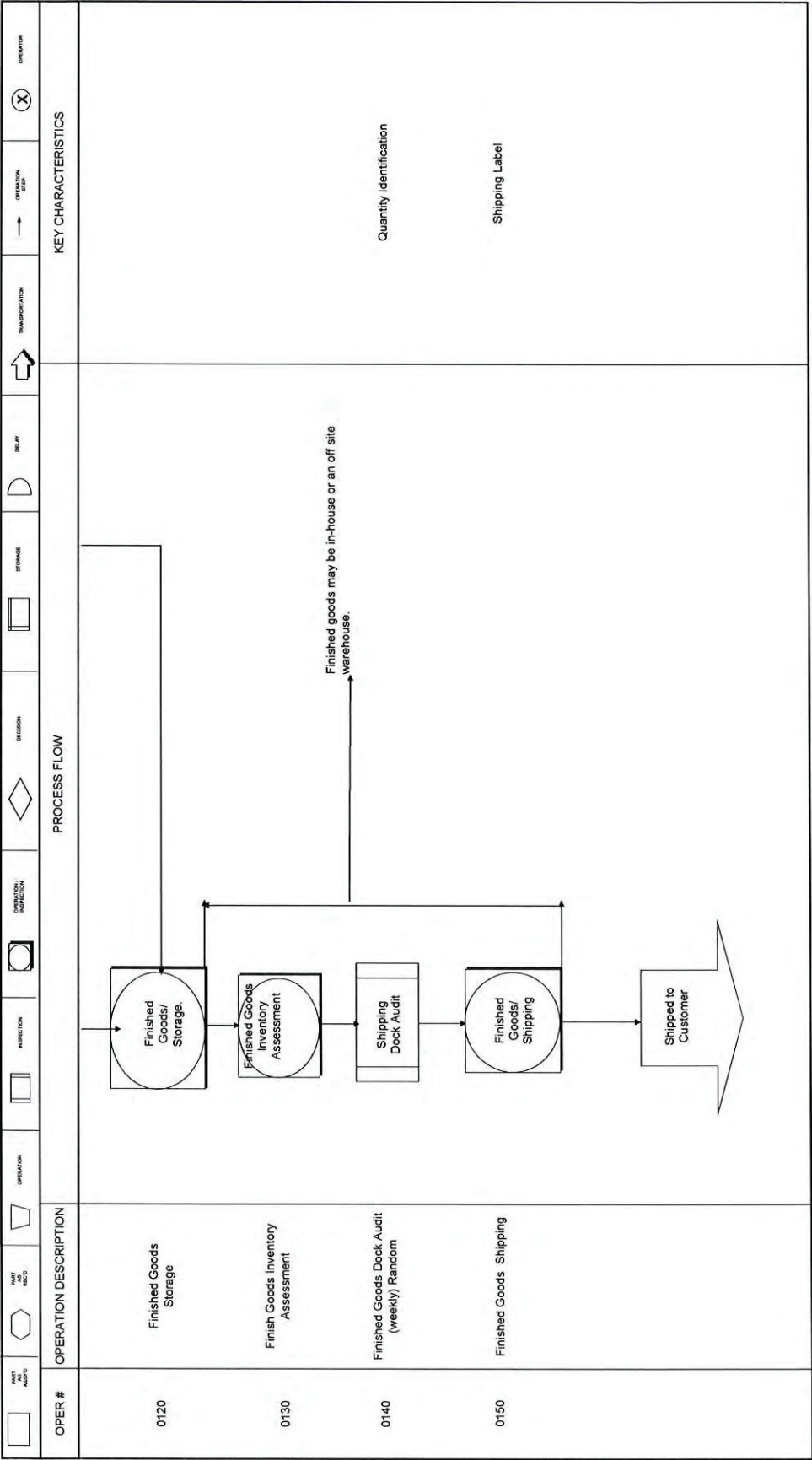
OPER #	OPERATION DESCRIPTION	OPERATION INSPECTION	INSPECTION	OPERATION	OPERATION	STORAGE	DELAY	TRANSPORTATION	OPERATION STOP	OPERATION
0050	Material Staging Raw Material Loading	Deliver to Raw Material Staging Area MATERIAL LOADING								Injection Molding Machine

[illegible]









☐ Prototype

☐ Pre-Launch

☒ Production

CONTROL PLAN

Control Plan Number Connector Manufacturing Group (CMG)		Key Contact/Phone L. Roth/D. Gillenwater (270) 237-5419 x 8555 or 8563		Date (Orig.) 8/9/2010		Date (Rev.) 1/11/2016						
Part Number/Latest Change Level Various		Core Team L. Roth, P. Keith, J. Fraim, A. Davidson		Customer Engineering Approval/Date (If Req'd.)								
Part Name/Description Various, Connector Molding		Supplier/Plant Approval/Date L. Roth 1.11.16		Customer Quality Approval/Date (If Req'd.)								
Supplier/Plant Sumitomo Electric Wiring Systems		Supplier Code		Other Approval/Date (If Req'd.)								
Revision History:		8.9.10: Reviewed process, minor changes in bold 9.21.10: Added Set-up Checklist at Setup 3.30.11: Modified Section 0090 8.11.11: Modified Section 0060, other minor changes in bold 9.15.11: Added Annual Layouts, other updates in bold 3.6.12: Updated for Resin Concentrate Mix Process, Resin loading process 11.27.12: Updated special characteristics designations, Added Packing Scale Setup 4.3.14: Remove references to annealing process, color concentrate and 10T machine. 5/6/14: Review material loading section 0050, updated references to bag/gaylord/silo 5/29/14: Clarify 0020, Sample Size / Frequency 7/18/14: Match special characteristics with FMEA, update 0130. 12/3/14: Add QA Hold Procedure to section 0060 & 0080 1/11/16 Add Connector ID sheet in Control Method for item 090, Manual Packing / Labeling										
PART / PROCESS NUMBER	PROCESS NAME / OPERATION DESCRIPTION	MACHINE, DEVICE, JIG, TOOLS FOR MFG.	CHARACTERISTICS			METHODS			REACTION PLAN			
			NO.	PRODUCT	PROCESS	SPECIAL CHAR. CLASS	PRODUCT / PROCESS SPECIFICATION / TOLERANCE	EVALUATION / MEASUREMENT TECHNIQUE	SAMPLE	CONTROL METHOD		
0010	Raw Material Receiving	N/A	10	Plastic Resin	Material Receiving		Correct color & type No Damage Dry Material Correct Part Number & all appropriate documentation	Visual Inspection & comparison to packing list	Per container	Each Receipt	* SRW-RECFLOW * Electronic Data Scan	Notify S&R Coordinator, Q.A.
0020	Quality Assurance Receiving Inspection		20	Plastic Resin	Receiving Inspection	IC	* Correct color & type * Correct Part Number * No Damage * No contamination * Material Certification	* Visual comparison to box/skid label * Visual check of packaging * Review of Material Cert.	Per QRW - RAINBOW SQA Sample Plan	Each Incoming Shipment	Q.A. Inspection Instruction Sheet, Material Certifications	* Notify SQA Coordinator, QA Leader or QA Manager. * Return to Supplier * Issue PIR to Supplier * Reject / Hold Procedure
		Melt Flow Tester				IC	* Melt Flow (As applicable per IISRP)	* MFR Test	Each Lot	Each Lot		

PART / PROCESS NUMBER	PROCESS NAME / OPERATION DESCRIPTION	MACHINE, DEVICE, JIG, TOOLS FOR MFG.	CHARACTERISTICS			SPECIAL CHAR. CLASS	METHODS					REACTION PLAN
			NO.	PRODUCT	PROCESS		PRODUCT / PROCESS SPECIFICATION / TOLERANCE	EVALUATION / MEASUREMENT TECHNIQUE	SAMPLE		CONTROL METHOD	
									SIZE	FREQ.		
0030	Material Storage (Resin & Raw Materials)	N/A	30	Correct Location	Material Storage		* Correct Location	* Electronic Label Scan	Each Container	Each Receipt	Electronic Label Scan	Notify Leader, Q.A., Coordinator as needed Reject / Hold Procedure
	Silo	N/A		Correct Location	Material Storage		* Correct Silo	Visual confirmation of Silo Label / BOL/PL	Each Receipt	Each Receipt	* Visual	Notify PC Manager
	Inventory Assessment Audit (Non-Silo material)			Material Condition, Location	Inventory Assessment Audit	No Damage, No missing labels, Proper storage condition, FIFO	Visual Inspection	Sample of raw material in warehouse	Weekly	Weekly Stock Assessment Sheet, SQA Inventory Audit	Notify: Shipping Receiving Leader, Supervisor & Q.A. If needed Reject / Hold Procedure	
0050	Material Delivery to Manufacturing (Assign Gaylord / Bags)	Fork Truck	50	Correct Material	Assign Gaylord / bag to Hopper / Surge Bin		Correct Location / Loader (as applicable)	Compare raw material RPN # to RPN # on Loader (scan)	Each Container	Each material transfer	* Electronic scan, * Material Handling Log	Notify: Mfg. Coord., Supervisor & Q.A. if needed Reject / Hold Procedure
	Material Delivery to Manufacturing: (Assign Silo lot to Surge Bin)	Silo		Correct Materials	Assign Silo to Hopper/ Surge Bin		Assign Material to Correct Location / Loader (as applicable)	Compare raw material RPN # to RPN # on surge bin (scan)	Each Receipt	Each Receipt	* Electronic scan	Notify: Mfg. Coord., Supervisor & Q.A. if needed Reject / Hold Procedure
	Material Pre-drying (as applicable)	Off-line Loader / Pre-dryer		Dried Material	Pre-Drying (When applicable)		Drying Temperature set correctly.	Visual	Each unit	Monthly	PM Record	Notify Maintenance Manager
		Central Dryer					Drying Temperature set correctly.	Visual	Each unit	Each Shift	* Checksheet * Alarm if power off	Notify Maintenance
	Loading Material (To transport barrel/buggy)	Material Barrel / Buggy		Correct Material	Raw Material Loading to Barrel / Buggy		(Barrel/Buggy): Per Shop Order Match Raw Material RPN number to appropriate barrel / buggy. (Central Feed): Per Shop Order, match raw material RPN number to dummy Barrel Label.	* Verify per shop order. * Per applicable Work Instruction	Each container	Material Change / Each material transfer	* Electronic scan, * Material Handling Log	Notify: Mfg. Coord., Supervisor & Q.A. if needed Reject / Hold Procedure

PART / PROCESS NUMBER	PROCESS NAME / OPERATION DESCRIPTION	MACHINE, DEVICE, JIG, TOOLS FOR MFG.	CHARACTERISTICS			SPECIAL CHAR. CLASS	METHODS					REACTION PLAN
			NO.	PRODUCT	PROCESS		PRODUCT / PROCESS SPECIFICATION / TOLERANCE	EVALUATION / MEASUREMENT TECHNIQUE	SAMPLE		CONTROL METHOD	
									SIZE	FREQ.		
0060	Move Material to Molding Machine	Machine Resin Dryers	60	Correct Material	Transfer Raw Material to Molding Machine		Correct Material Part Number/Type per scan	Scan Shop Order against material tag per applicable work instruction.	Each container	Each Mold Set up / Material transfer	* Electronic Scan, * P- Chart	Notify Leader / Coordinator
	Dry Material			Drying (When applicable)	Set temperature per condition sheet.		Visual	Once	Each Mold Set up / Each Shift	* Controller Condition Check sheet * P - Chart	Adjust Dryer, dry material and requalify.	
					Dewpoint meter		Each unit	Monthly	Monthly PM			
	Set-Up Injection Molding Machine	Molding Machine		Set Machine Parameters	Process Parameters	Per Mold # Condition	Each Mold Set up	Each Mold Set up	Controller Check Sheet, Set-Up Operator Check Sheet	Notify Leader / Coordinator		
	Safety Checks			Safety Checks	Complete Safety Checks	Per Mold # Condition	Each Mold Set up	Each Mold Set up	Setup Operator Checksheet	Notify Leader / Coordinator		
	Correct Mold	Mold		Correct Mold	Per Shop Order	Visual per Shop Order	Each Mold Set up	Each Mold Set up	Setup Operator Checksheet	Notify Leader / Coordinator		
	Add Regrind Material to Virgin Material	Regrind Material (when applicable)		Add Regrind Material to Virgin Material	Set Mix Ratio per Mold # Condition Sheet.	Per Mold # Condition	Each Mold Start-up	Each Mold Start-up	Operator Daily Checksheet	Notify Leader / Coordinator		
	Automatic Machine Reject	Machine		Automatic Machine Reject	First 8 Shots for Molding Machines	Per Restart Verification Procedure Work Instruction & Machine Automatic Count Setting	Each Mold Start-up	Each Mold Start-up	Controller Check Sheet	Notify Leader / Coordinator		
	Set-up Validation			Set-up Inspection	No Weld Line, Short Shot, Broken Mold Pin Damage, Excessive flash	Per Critical Check Sheet / Applicable Work Instruction	10 Shots	Each Mold Start-up	Process Sheet	Notify Leader / Coordinator		
	Engineering Validation			Validation of injection function process	Engineering validation of any change to machine injection function (barrel/screw/ nozzle type / etc)	Per QAW - ROBUSTTEST	20 shots	Each change	QAF-RobustTest	Notify QA Leader, Coordinator / Above		
Start Up Samples		Collect QA Start-up Samples	One shot	Per GA-003	One shot	Each Mold Start-up	GA-003, QA Inspection Data Sheet.	Notify Leader / Coordinator				

PART / PROCESS NUMBER	PROCESS NAME / OPERATION DESCRIPTION	MACHINE, DEVICE, JIG, TOOLS FOR MFG.	CHARACTERISTICS			SPECIAL CHAR. CLASS	METHODS					REACTION PLAN			
			NO.	PRODUCT	PROCESS		PRODUCT / PROCESS SPECIFICATION / TOLERANCE	EVALUATION / MEASUREMENT TECHNIQUE	SAMPLE		CONTROL METHOD				
									SIZE	FREQ.					
0070	Quality Assurance Inspection Fit & Function, Visual, Dimensional	Magnifier Light, Profile Projector, Caliper, Micrometer, Force Gage, Mating Parts, Various jigs as required	60	Connector Visual, Fit & Function	Quality Assurance Inspection	C (IC, SWS, IM)	Per Q.A. Inspection Instruction Sheet	Per Q.A. Inspection Instruction Sheet	One Shot	SOP checks Per QAW - GA003	Q.A. Inspection Instruction Sheet, Data Sheets, Electronic Data Entry	Notify Leader, Coordinator / Above Manufacturing Coordinator			
			70	Molded Parts	Mass Production Inj. Molding	C, C# (IC, SWS)	Per Q.A. Inspection Instruction Sheet	Per Q.A. Inspection Instruction Sheet	One Shot	SOP checksPer QAW - GA003	Process Sheet	Reject Tag Procedure QA Hold Procedure			
									Each Lot	Each lot					
									1 shot per lot	Each lot					
0080	Operator Inspection	Mold, Machine	80	Molded Parts	100% Roving Inspection	C (IC, SWS, IM)	Per Critical Position Checksheets	Visual	1 shot per lot	Each lot	Process Sheet	Notify Leader / Coordinator / Q.A. Leader / Above			
									Molded Parts	No Short Shot, Weld Line, Flash, Damage, Broken pin or other defects			Visual per Critical Position Checksheets and / or applicable Work Instruction	1 shot per machine	Roving Floor Patrol
														One Shot	Per QAW - GA003
			0080	Quality Assurance Inspection Fit & Function, Visual, Dimensional	Magnifier Light, Profile Projector, Caliper, Micrometer, Force Gage, Mating Parts, Various jigs as required	80	Connector Visual, Fit & Function	Quality Assurance Inspection	C (IC, SWS, IM)	Per Q.A. Inspection Instruction Sheet	Per Q.A. Inspection Instruction Sheet	One Shot	Per QAW - GA003	Q.A. Inspection Instruction Sheet, Data Sheets, Electronic Data Entry	Notify QA Leader, Coordinator / Above Manufacturing Coordinator Tag Procedure QA Hold Procedure
Dimensional	Per Q.A. Inspection Instruction Sheet	Per Q.A. Inspection Instruction Sheet										One Shot	Per QAW - GA003		
												Molded Parts	Correct Location		
100% Internal Inspection (When Applicable)	100% Inspection	No Short Shot No Excessive Flash No defects				Visual, Per Critical Position Checksheets / Applicable work instruction	Each piece per Lot	As needed / required	CPC / Daily Inspection Log	Notify Q.A. Leader, Coordinator / Above Manufacturing Coordinator Tag Procedure QA Hold P procedure					

PART / PROCESS NUMBER	PROCESS NAME / OPERATION DESCRIPTION	MACHINE, DEVICE, JIG, TOOLS FOR MFG.	CHARACTERISTICS			SPECIAL CHAR. CLASS	METHODS					REACTION PLAN
			NO.	PRODUCT	PROCESS		PRODUCT / PROCESS SPECIFICATION / TOLERANCE	EVALUATION / MEASUREMENT TECHNIQUE	SAMPLE		CONTROL METHOD	
									SIZE	FREQ.		
0090	Automatic Bulk Packaging / Labeling	Weigh Scale	90	Molded Parts	Setup Packing Scale		Setup Scale	Set up scale per M1W- SCALESETUP	Per W/I	Each SOP, Each new Shop Order	Record confirmation on Changeover Checksheets	Notify Manufacturing Coordinator
	Automatic Bulk Packaging / Labeling	Weigh Scale, Label Printer, Scanner		Molded Parts	Automatic Bulk Packaging		Correct Number of Parts, No mixed parts	Automatic Machine Count, verify correct weight/quantity	Each Container	Each bag	Electronic Scanning System, Packing Log	Notify Q.A. Leader, Coordinator / Above Manufacturing Coordinator Reject Tag Procedure
	Manual Packing / Labeling	Weigh Scale		Molded Parts	Setup Packing Scale		Setup Scale	Set up scale per W/I M1W- SCALE SETUP MAN PACK	Per W/I	Each SOP, Each new Shop Order	Record confirmation on Changeover Checksheets	Notify Manufacturing Coordinator
	Manual Packing / Labeling	Weigh Scale, Label Printer, Scanner		Molded Parts	Manual Bulk Packaging		Correct Number of Parts, No mixed parts	Verify correct weight/quantity	Each Container	Each bag	Electronic Scanning System, Packing Log, Connector ID Sheet.	Notify Q.A. Leader, Coordinator / Above Manufacturing Coordinator Reject Tag Procedure
0100	Packaging & Labeling at Machine	Traveller label, Boxes, Plastic Bags	100	Molded Parts	Packaging & Labeling at Machine		Per shop Order	Visual	Each container	As Needed	Process Sheet, Electronic Scanning System	Notify Q.A. Leader, Coordinator / Above Manufacturing Coordinator Reject Tag Procedure
	Material Staging (Parts not going to Packing Process	Cart		Molded Parts	Material Staging for Non-Bulk Packing / Labeling		Correct staging location	Visual per Location	Each Container	As Needed	Electronic Scanning System	Notify Q.A. Leader, Coordinator / Above Manufacturing Coordinator Reject Tag Procedure
0110	Transfer packaged parts to storage	Fork Truck / Cart	110	Molded Finished Product	Transfer packaged parts to storage		Correct Location	Electronic Scanning System	Each container	As needed	Electronic Scanning System	Notify Q.A. Leader, Coordinator / Above Shipping Supervisor Reject Tag Procedure

Sumitomo Electric Wiring Systems, Inc

Gage R&R Study

6/2/2017

1

Study Date 6/2/2017

Company Part No.: Mold 268

Gage ID 3002231

Part No.:

Gage Desc Profile Projector

Part Desc.: HW09-RET-06F

Appraisers 3

Trials 3

Parts 10

Characteristic Length

Study Type Long-AIAG

Specification Limits Min

Max

MSA Version 4

☒ Approved

Pp (or Ppk) Target:

6-Sigma Proc Variation

	Appr A Eric Skaggs			Appr B Toni Robinson			Appr C Tabitha Whitney		
1	20.03	20.03	20.04	20.03	20.04	20.04	20.03	20.04	20.03
2	20.02	20.03	20.01	20	20.03	20.01	20.01	20.03	20.02
3	19.76	19.76	19.76	19.74	19.74	19.74	19.75	19.75	19.75
4	20.03	20.02	20.04	20.03	20.04	20.01	20.01	20.02	20
5	19.87	19.87	19.87	19.83	19.82	19.84	19.85	19.84	19.87
6	19.95	19.96	19.95	19.93	19.96	19.95	19.96	19.95	19.93
7	20.01	19.99	20	20	19.99	20	19.98	20	19.99
8	19.7	19.7	19.7	19.7	19.71	19.71	19.71	19.71	19.71
9	20.04	20.02	20.03	20.04	20.02	20.03	20.02	20.03	20.03
10	19.73	19.73	19.73	19.73	19.74	19.76	19.74	19.73	19.75

		% Contribution	% TV	% Tol		
Repeatability (EV)	0.008862	0.73%	8.5%		R bar	0.015000
Reproducibility (AV)	0.002484	0.06%	2.4%		UCL-R	0.038700
Appraiser x Part (INT)					Study Variation	0.103877
GRR	0.009203	0.78%	8.9%		Total Variation (TV)	0.103877
Part-to-Part (PV)	0.103468	99.22%	99.6%		Tolerance/6 (Tol):	
	number of distinct categories		15.9			

* Limit of individual R's (range values). An (*) is used to identify those sets of measurements that have a Range value that exceeds the UCL-R limit value. Correct by repeating those readings using the same appraiser and part or discard the values and recalculate the study results and the value UCL-R.

Comments

Approved by

E Skaggs

Date

6/2/17

Gage R&R Study

Gage R&R Analysis Sheet

Study Date 6/2/2017 Gage ID 3002231 Gage Desc Profile Projector Appraisers 3 Trials 3 Study Type Long-AIAG 4 R bar A = 0.010000 X bar A = 19.912667 R bar B = 0.019000 X bar B = 19.907000 R bar C = 0.016000 X bar C = 19.908000 R bar = 0.015000 X bar Diff = 0.005667	Company Part No.: Mold 268 Part No. Part Desc HW09-RET-06F Characteristic Length Specification Limits 6 Sigma Proc Var Pp (or Ppk) Target: Rp = 0.328888 Tol/6 = 0.000000
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Measurement Unit Analysis	% Total Variation (TV)	% Tolerance																				
Repeatability - Equipment Variation (EV) $EV = R \text{ bar} \times K1$ $= 0.008862$ <table border="1" style="display: inline-table; margin-left: 20px;"> <tr><td>Trials</td><td>K1</td></tr> <tr><td>2</td><td>0.8862</td></tr> <tr><td>3</td><td>0.5908</td></tr> </table>	Trials	K1	2	0.8862	3	0.5908	$\% EV = 100 [EV / TV]$ $= 8.5\%$	$\% EV = 100 [EV / (Tol / 6)]$ $=$														
Trials	K1																					
2	0.8862																					
3	0.5908																					
Reproducibility - Appraiser Variation (AV) $AV = \sqrt{[(X \text{ bar Diff} \times K2)^2 - (EV^2 / n \times r)]}$ $= 0.002484$ <table border="1" style="display: inline-table; margin-left: 20px;"> <tr><td>Appraisers</td><td>2</td><td>3</td></tr> <tr><td>K2</td><td>0.7071</td><td>0.5231</td></tr> </table> Note: If a negative value is calculated under the square root sign, AV defaults to zero. <table border="1" style="display: inline-table; margin-left: 20px;"> <tr><td>n = number of parts</td></tr> <tr><td>r = number of trials</td></tr> </table>	Appraisers	2	3	K2	0.7071	0.5231	n = number of parts	r = number of trials	$\% AV = 100 [AV / TV]$ $= 2.4\%$	$\% AV = 100 [AV / (Tol / 6)]$ $=$												
Appraisers	2	3																				
K2	0.7071	0.5231																				
n = number of parts																						
r = number of trials																						
Repeatability & Reproducibility (GRR) $GRR = \sqrt{(EV^2 + AV^2)}$ $= 0.009203$	$\% GRR = 100 [GRR / TV]$ $= 8.9\%$	$\% GRR = 100 [GRR / (Tol / 6)]$ $=$																				
Part Variation (PV) $PV = Rp \times K3$ $= 0.103468$ <table border="1" style="display: inline-table; margin-left: 20px;"> <tr><td>Parts</td><td>K3</td></tr> <tr><td>2</td><td>0.7071</td></tr> <tr><td>3</td><td>0.5231</td></tr> <tr><td>4</td><td>0.4467</td></tr> <tr><td>5</td><td>0.4030</td></tr> <tr><td>6</td><td>0.3742</td></tr> <tr><td>7</td><td>0.3534</td></tr> <tr><td>8</td><td>0.3375</td></tr> <tr><td>9</td><td>0.3249</td></tr> <tr><td>10</td><td>0.3146</td></tr> </table>	Parts	K3	2	0.7071	3	0.5231	4	0.4467	5	0.4030	6	0.3742	7	0.3534	8	0.3375	9	0.3249	10	0.3146	$\% PV = 100 [PV / TV]$ $= 99.6\%$	$\% PV = 100 [PV / (Tol / 6)]$ $=$
Parts	K3																					
2	0.7071																					
3	0.5231																					
4	0.4467																					
5	0.4030																					
6	0.3742																					
7	0.3534																					
8	0.3375																					
9	0.3249																					
10	0.3146																					
$ndc = 1.41(PV/GRR)$ $= 15.9$																						
Total Variation (TV) $TV = \sqrt{(GRR^2 + PV^2)}$ $= 0.103877$	If the 6 sigma process variation is known, then $TV = [6 \text{ sigma process variation}] / 6.00$ and $PV = \text{SQRT}[(TV^2) - (GRR)^2]$.																					

Approved by

E. Shipp

Date

6/2/17

Gage R&R Study



Blanket statements of conformance are unacceptable for any test results.

8/17/2017



Toray Resin Company, 821 W. Mausoleum Road, Shelbyville, Indiana 46176

Grade:	1401X34-TLGR1 SG249T
Lot:	R27294
Date:	04/13/17

Certification of Properties				
Test	Method	Unit	Specification	Result
Visual	.	.	Same as Std.	Good
Color	.	.	Same as Std.	Good
MFR	ISO 1133	g/10 min.	3.2~4.8	4.1
Tensile strength	ISO 527	MPa	Min. 49	57.0
Tensile elongation	ISO 527	%	Min. 19	60.6
Charpy - notched	ISO 179	kJ/m2	Min. 2	4.9
For the ship date, please see the BOL. For the ship quantity, please see the BOL.				
Toray Resin Company certifies the above results are in accordance with our ISO/TS 16949:2009 certificate.				

This Certificate of Properties is generated by electronic means. No signature is required. This document may not be reproduced, except in full, without the written consent of Toray Resin Company.

CPK DATA

ORGANIZATION: SUMITOMO ELECTRIC WIRING SYSTEMS (PLT.5)

Tested by/Date: Ashley Stinson 8/7/17

PART Name/Desc: **FOW120A02FB-B**

Design Rec. Change level/date:

PART NO (s): **6189-7457, 6189-7674**

EU5T-14A464-TB  11/9/2016

Mold #: **1623-B**

Eng. Change Documents: NA

CAVITY #:

M9	9.50		11.20		5.70		M10	9.50		11.20		5.70	
	+0.2	-0.2	+0.3	-0.3	+0.2	-0.2		+0.2	-0.2	+0.3	-0.3	+0.2	-0.2
1	9.46		11.27		5.69			9.47		11.27		5.69	
2	9.46		11.28		5.68			9.47		11.27		5.68	
3	9.46		11.27		5.68			9.47		11.27		5.69	
4	9.46		11.28		5.69			9.47		11.27		5.68	
5	9.46		11.27		5.68			9.47		11.27		5.68	
6	9.47		11.28		5.69			9.47		11.27		5.68	
7	9.47		11.27		5.67			9.47		11.27		5.68	
8	9.47		11.28		5.69			9.47		11.27		5.69	
9	9.46		11.28		5.68			9.47		11.27		5.65	
10	9.46		11.27		5.67			9.47		11.27		5.68	
11	9.47		11.28		5.68			9.47		11.27		5.69	
12	9.47		11.28		5.69			9.47		11.27		5.67	
13	9.46		11.28		5.69			9.47		11.27		5.69	
14	9.47		11.27		5.69			9.49		11.26		5.69	
15	9.46		11.28		5.69			9.47		11.27		5.68	
16	9.47		11.28		5.69			9.47		11.27		5.68	
17	9.47		11.27		5.69			9.47		11.27		5.68	
18	9.46		11.27		5.69			9.47		11.27		5.69	
19	9.46		11.28		5.68			9.47		11.27		5.69	
20	9.46		11.28		5.69			9.47		11.27		5.68	
21	9.46		11.28		5.67			9.47		11.27		5.69	
22	9.46		11.28		5.69			9.47		11.27		5.69	
23	9.46		11.27		5.68			9.47		11.27		5.69	
24	9.46		11.28		5.68			9.47		11.27		5.68	
25	9.46		11.27		5.69			9.47		11.27		5.67	
26	9.46		11.28		5.69			9.47		11.27		5.68	
27	9.46		11.28		5.69			9.47		11.27		5.69	
28	9.46		11.28		5.69			9.47		11.27		5.68	
29	9.47		11.28		5.69			9.47		11.27		5.69	
30	9.46		11.28		5.68			9.47		11.27		5.67	

CPK DATA

ORGANIZATION: SUMITOMO ELECTRIC WIRING SYSTEMS (PLT.5)
 PART Name/Desc: **FOW120A02FB-B**
 PART NO (s): **6189-7457, 6189-7674**
 Mold #: **1623-B**

Tested by/Date: Ashley Stinson 8/7/17
 Design Rec. Change level/date: EU5T-14A464-TB  11/9/2016
 Eng. Change Documents: NA

CAVITY #:

M9	9.50		11.20		5.70		M10	9.50		11.20		5.70	
	+0.2	-0.2	+0.3	-0.3	+0.2	-0.2		+0.2	-0.2	+0.3	-0.3	+0.2	-0.2
31	9.47		11.27		5.66			9.47		11.27		5.68	
32	9.46		11.27		5.67			9.47		11.27		5.69	
33	9.47		11.28		5.69			9.47		11.27		5.68	
34	9.46		11.28		5.66			9.47		11.27		5.67	
35	9.46		11.27		5.68			9.47		11.27		5.68	
36	9.46		11.27		5.69			9.47		11.27		5.67	
37	9.46		11.28		5.69			9.47		11.27		5.68	
38	9.46		11.27		5.69			9.47		11.27		5.69	
39	9.47		11.27		5.69			9.47		11.27		5.68	
40	9.46		11.28		5.68			9.47		11.27		5.68	
41	9.46		11.27		5.70			9.47		11.27		5.68	
42	9.46		11.27		5.68			9.46		11.27		5.68	
43	9.46		11.27		5.69			9.48		11.27		5.69	
44	9.46		11.27		5.68			9.47		11.27		5.68	
45	9.46		11.28		5.67			9.47		11.27		5.69	
46	9.46		11.28		5.68			9.47		11.27		5.69	
47	9.46		11.28		5.69			9.47		11.27		5.68	
48	9.46		11.28		5.69			9.47		11.27		5.69	
49	9.47		11.28		5.68			9.47		11.27		5.69	
50	9.46		11.27		5.68			9.47		11.27		5.69	
51	9.46		11.27		5.69			9.47		11.27		5.69	
52	9.46		11.28		5.69			9.47		11.27		5.68	
53	9.47		11.27		5.67			9.47		11.27		5.69	
54	9.46		11.28		5.69			9.48		11.27		5.69	
55	9.47		11.28		5.69			9.47		11.27		5.69	
56	9.47		11.27		5.68			9.47		11.27		5.68	
57	9.46		11.27		5.69			9.47		11.27		5.68	
58	9.46		11.27		5.69			9.49		11.26		5.69	
59	9.46		11.27		5.68			9.47		11.27		5.67	
60	9.46		11.28		5.69			9.47		11.27		5.69	

CPK DATA

ORGANIZATION: SUMITOMO ELECTRIC WIRING SYSTEMS (PLT.5)

Tested by/Date: Ashley Stinson 8/7/17

PART Name/Desc: FOW120A02FB-B

Design Rec. Change level/date:

PART NO (s): 6189-7457, 6189-7674

EU5T-14A464-TB



11/9/2016

Mold #: 1623-B

Eng. Change Documents: NA

CAVITY #.↓

M9	9.50		11.20		5.70		M10	9.50		11.20		5.70	
	+0.2	-0.2	+0.3	-0.3	+0.2	-0.2		+0.2	-0.2	+0.3	-0.3	+0.2	-0.2
61	9.46		11.28		5.68			9.47		11.27		5.68	
62	9.46		11.28		5.68			9.47		11.27		5.67	
63	9.46		11.27		5.68			9.47		11.27		5.68	
64	9.46		11.27		5.68			9.47		11.27		5.69	
65	9.46		11.28		5.68			9.47		11.27		5.67	
66	9.46		11.27		5.69			9.48		11.27		5.69	
67	9.47		11.28		5.69			9.48		11.27		5.68	
68	9.46		11.28		5.68			9.47		11.27		5.68	
69	9.46		11.28		5.69			9.48		11.27		5.69	
70	9.46		11.27		5.69			9.47		11.27		5.69	
71	9.47		11.28		5.69			9.47		11.27		5.69	
72	9.47		11.28		5.69			9.48		11.27		5.68	
73	9.46		11.27		5.68			9.48		11.27		5.69	
74	9.47		11.27		5.69			9.47		11.27		5.69	
75	9.47		11.28		5.68			9.48		11.28		5.68	
76	9.47		11.28		5.69			9.47		11.27		5.69	
77	9.46		11.28		5.69			9.47		11.27		5.68	
78	9.46		11.27		5.69			9.47		11.27		5.68	
79	9.46		11.27		5.68			9.47		11.27		5.68	
80	9.46		11.28		5.69			9.48		11.27		5.68	
81	9.46		11.27		5.68			9.48		11.28		5.66	
82	9.46		11.28		5.68			9.48		11.27		5.68	
83	9.46		11.28		5.68			9.48		11.27		5.69	
84	9.47		11.28		5.69			9.48		11.28		5.69	
85	9.46		11.27		5.68			9.48		11.27		5.69	
86	9.46		11.28		5.69			9.47		11.27		5.68	
87	9.47		11.28		5.68			9.48		11.27		5.68	
88	9.46		11.27		5.69			9.48		11.27		5.68	
89	9.47		11.28		5.69			9.47		11.27		5.68	
90	9.47		11.28		5.68			9.47		11.27		5.69	

CPK DATA

Page 8 of 38

ORGANIZATION: SUMITOMO ELECTRIC WIRING SYSTEMS (PLT.5)

Tested by/Date: Ashley Stinson 8/7/17

PART Name/Desc: FOW120A02FB-B

Design Rec. Change level/date:

PART NO (s): 6189-7457, 6189-7674

EU5T-14A464-TB 11/9/2016

Mold #: 1623-B

Eng. Change Documents: NA

CAVITY #.↓

M9	9.50 +0.2 -0.2	11.20 +0.3 -0.3	5.70 +0.2 -0.2		M10	9.50 +0.2 -0.2	11.20 +0.3 -0.3	5.70 +0.2 -0.2	
91	9.47	11.28	5.69			9.47	11.27	5.68	
92	9.46	11.28	5.67			9.48	11.27	5.68	
93	9.47	11.28	5.69			9.48	11.27	5.69	
94	9.47	11.28	5.69			9.47	11.27	5.69	
95	9.47	11.27	5.69			9.48	11.27	5.69	
96	9.47	11.28	5.69			9.47	11.27	5.67	
97	9.46	11.28	5.68			9.47	11.27	5.68	
98	9.46	11.28	5.69			9.47	11.27	5.69	
99	9.46	11.27	5.69			9.48	11.27	5.68	
100	9.47	11.28	5.68			9.47	11.27	5.67	

average 9.46 11.27 5.68
minimum 9.46 11.27 5.66
maximum 9.47 11.28 5.70
range 0.02 0.01 0.04
std dev 0.00 0.00 0.01

9.47 11.27 5.68
9.46 11.26 5.65
9.49 11.28 5.69
0.03 0.02 0.04
0.00 0.00 0.01

LSL 9.30 10.90 5.50
NOM 9.50 11.20 5.70
USL 9.70 11.50 5.90

9.30 10.90 5.50
9.50 11.20 5.70
9.70 11.50 5.90

CPK 18.78050602 42.96594023 10.06138669

12.62333373 29.97369822 10.71162829

CPK DATA

ORGANIZATION: SUMITOMO ELECTRIC WIRING SYSTEMS (PLT.5)

Tested by/Date: Ashley Stinson 8/7/17

PART Name/Desc: FOW120A02FB-B

Design Rec. Change level/date:

PART NO (s): 6189-7457, 6189-7674

EU5T-14A464-TB 11/9/2016

Mold #: 1623-B

Eng. Change Documents: NA

CAVITY #.↓

M11	9.50		11.20		5.70		M12	9.50		11.20		5.70	
	+0.2	-0.2	+0.3	-0.3	+0.2	-0.2		+0.2	-0.2	+0.3	-0.3	+0.2	-0.2
1	9.46		11.27		5.69			9.48		11.28		5.69	
2	9.46		11.27		5.69			9.48		11.28		5.67	
3	9.46		11.27		5.69			9.48		11.27		5.69	
4	9.46		11.27		5.67			9.48		11.27		5.69	
5	9.46		11.27		5.69			9.48		11.28		5.69	
6	9.46		11.27		5.69			9.47		11.27		5.68	
7	9.46		11.27		5.68			9.48		11.28		5.69	
8	9.46		11.27		5.68			9.48		11.27		5.68	
9	9.46		11.27		5.69			9.48		11.27		5.69	
10	9.46		11.27		5.68			9.48		11.27		5.69	
11	9.46		11.27		5.68			9.49		11.28		5.68	
12	9.46		11.27		5.68			9.48		11.27		5.67	
13	9.46		11.27		5.69			9.49		11.27		5.68	
14	9.45		11.26		5.67			9.48		11.27		5.68	
15	9.46		11.27		5.68			9.48		11.27		5.69	
16	9.46		11.27		5.69			9.48		11.27		5.69	
17	9.46		11.27		5.68			9.48		11.27		5.69	
18	9.46		11.27		5.68			9.48		11.27		5.69	
19	9.46		11.27		5.68			9.48		11.27		5.69	
20	9.46		11.26		5.69			9.48		11.27		5.68	
21	9.46		11.26		5.67			9.48		11.27		5.69	
22	9.46		11.26		5.67			9.48		11.28		5.68	
23	9.46		11.26		5.69			9.48		11.27		5.68	
24	9.45		11.26		5.68			9.48		11.27		5.68	
25	9.46		11.26		5.69			9.48		11.27		5.69	
26	9.46		11.27		5.69			9.48		11.27		5.68	
27	9.46		11.27		5.67			9.48		11.27		5.68	
28	9.45		11.26		5.67			9.48		11.27		5.68	
29	9.44		11.26		5.69			9.48		11.27		5.67	
30	9.45		11.26		5.69			9.49		11.28		5.69	

CPK DATA

ORGANIZATION: SUMITOMO ELECTRIC WIRING SYSTEMS (PLT.5)
 PART Name/Desc: **FOW120A02FB-B**
 PART NO (s): **6189-7457, 6189-7674**
 Mold #: **1623-B**

Tested by/Date: Ashley Stinson 8/7/17
 Design Rec. Change level/date: EU5T-14A464-TB 11/9/2016
 Eng. Change Documents: NA

CAVITY #.↓

M11	9.50		11.20		5.70		M12	9.50		11.20		5.70	
	+0.2	-0.2	+0.3	-0.3	+0.2	-0.2		+0.2	-0.2	+0.3	-0.3	+0.2	-0.2
31	9.46		11.26		5.68			9.48		11.27		5.69	
32	9.46		11.26		5.69			9.48		11.28		5.69	
33	9.46		11.27		5.69			9.48		11.27		5.68	
34	9.46		11.27		5.68			9.48		11.27		5.68	
35	9.45		11.27		5.68			9.48		11.27		5.69	
36	9.46		11.27		5.68			9.44		11.27		5.68	
37	9.46		11.27		5.68			9.49		11.28		5.68	
38	9.45		11.27		5.68			9.48		11.28		5.68	
39	9.46		11.27		5.68			9.48		11.28		5.69	
40	9.45		11.26		5.68			9.48		11.27		5.69	
41	9.45		11.27		5.68			9.49		11.27		5.68	
42	9.46		11.27		5.67			9.48		11.27		5.69	
43	9.46		11.27		5.67			9.48		11.27		5.69	
44	9.46		11.26		5.68			9.49		11.28		5.66	
45	9.46		11.27		5.68			9.49		11.27		5.69	
46	9.45		11.26		5.69			9.49		11.28		5.68	
47	9.46		11.26		5.68			9.48		11.27		5.68	
48	9.46		11.27		5.68			9.48		11.27		5.68	
49	9.45		11.27		5.67			9.48		11.28		5.66	
50	9.46		11.26		5.68			9.48		11.27		5.68	
51	9.45		11.27		5.68			9.49		11.28		5.68	
52	9.46		11.27		5.69			9.49		11.27		5.68	
53	9.46		11.27		5.69			9.49		11.27		5.69	
54	9.45		11.26		5.68			9.48		11.27		5.69	
55	9.46		11.26		5.68			9.48		11.27		5.69	
56	9.46		11.27		5.68			9.48		11.28		5.68	
57	9.46		11.27		5.68			9.48		11.27		5.68	
58	9.46		11.27		5.68			9.48		11.27		5.69	
59	9.46		11.27		5.68			9.48		11.28		5.69	
60	9.45		11.26		5.68			9.48		11.27		5.69	

CPK DATA

ORGANIZATION: SUMITOMO ELECTRIC WIRING SYSTEMS (PLT.5)

Tested by/Date: Ashley Stinson 8/7/17

PART Name/Desc: FOW120A02FB-B

Design Rec. Change level/date:

PART NO (s): 6189-7457, 6189-7674

EU5T-14A464-TB  11/9/2016

Mold #: 1623-B

Eng. Change Documents: NA

CAVITY #.↓

M11	9.50		11.20		5.70			M12	9.50		11.20		5.70		
	+0.2	-0.2	+0.3	-0.3	+0.2	-0.2			+0.2	-0.2	+0.3	-0.3	+0.2	-0.2	
61	9.44		11.26		5.68				9.48		11.28		5.69		
62	9.46		11.27		5.68				9.48		11.27		5.68		
63	9.46		11.27		5.68				9.48		11.27		5.68		
64	9.46		11.26		5.67				9.48		11.27		5.69		
65	9.47		11.27		5.68				9.48		11.28		5.69		
66	9.45		11.26		5.68				9.48		11.27		5.69		
67	9.46		11.26		5.68				9.48		11.28		5.69		
68	9.46		11.27		5.68				9.48		11.28		5.69		
69	9.44		11.26		5.68				9.48		11.27		5.68		
70	9.47		11.27		5.69				9.48		11.27		5.68		
71	9.46		11.26		5.69				9.48		11.28		5.68		
72	9.46		11.26		5.69				9.48		11.27		5.69		
73	9.46		11.27		5.69				9.48		11.28		5.68		
74	9.46		11.27		5.68				9.48		11.27		5.68		
75	9.46		11.26		5.69				9.48		11.27		5.69		
76	9.46		11.27		5.68				9.49		11.27		5.69		
77	9.46		11.27		5.68				9.48		11.28		5.69		
78	9.46		11.27		5.68				9.48		11.27		5.67		
79	9.46		11.26		5.69				9.48		11.28		5.69		
80	9.46		11.27		5.68				9.49		11.28		5.69		
81	9.46		11.27		5.68				9.48		11.27		5.69		
82	9.46		11.27		5.68				9.48		11.27		5.68		
83	9.46		11.27		5.69				9.48		11.28		5.69		
84	9.46		11.27		5.68				9.48		11.27		5.68		
85	9.46		11.26		5.69				9.48		11.28		5.68		
86	9.46		11.27		5.68				9.48		11.27		5.68		
87	9.46		11.27		5.69				9.48		11.28		5.69		
88	9.45		11.27		5.68				9.49		11.28		5.69		
89	9.45		11.26		5.68				9.48		11.28		5.69		
90	9.46		11.27		5.68				9.48		11.27		5.68		

CPK DATA

ORGANIZATION: SUMITOMO ELECTRIC WIRING SYSTEMS (PLT.5)
 PART Name/Desc: **FOW120A02FB-B**
 PART NO (s): **6189-7457, 6189-7674**
 Mold #: **1623-B**

Tested by/Date: Ashley Stinson 8/7/17
 Design Rec. Change level/date: EU5T-14A464-TB 11/9/2016
 Eng. Change Documents: NA

CAVITY #:**↓**

M11	9.50		11.20		5.70		M12	9.50		11.20		5.70	
	+0.2	-0.2	+0.3	-0.3	+0.2	-0.2		+0.2	-0.2	+0.3	-0.3	+0.2	-0.2
91	9.46		11.26		5.69			9.48		11.28		5.69	
92	9.46		11.27		5.68			9.48		11.27		5.69	
93	9.46		11.26		5.67			9.48		11.28		5.69	
94	9.46		11.26		5.68			9.48		11.27		5.69	
95	9.46		11.27		5.68			9.48		11.27		5.68	
96	9.46		11.26		5.68			9.48		11.27		5.68	
97	9.45		11.26		5.68			9.48		11.28		5.68	
98	9.46		11.26		5.69			9.49		11.28		5.68	
99	9.46		11.26		5.68			9.49		11.28		5.69	
100	9.46		11.27		5.68			9.48		11.27		5.69	

average 9.46 11.26 5.68
 minimum 9.44 11.26 5.67
 maximum 9.47 11.27 5.69
 range 0.02 0.01 0.03
 std dev 0.00 0.00 0.00

 LSL 9.30 10.90 5.50
 NOM 9.50 11.20 5.70
 USL 9.70 11.50 5.90

9.48 11.27 5.68
 9.44 11.27 5.66
 9.49 11.28 5.69
 0.05 0.01 0.04
 0.01 0.00 0.01

 9.30 10.90 5.50
 9.50 11.20 5.70
 9.70 11.50 5.90

CPK 11.15000138 55.98068117 12.17976156

11.24995043 34.9946436 11.94736362

CPK DATA

ORGANIZATION: SUMITOMO ELECTRIC WIRING SYSTEMS (PLT.5)

Tested by/Date: Ashley Stinson 8/7/17

PART Name/Desc: FOW120A02FB-B

Design Rec. Change level/date:

PART NO (s): 6189-7457, 6189-7674

EU5T-14A464-TB



11/9/2016

Mold #: 1623-B

Eng. Change Documents: NA

CAVITY #.↓

M13	9.50		11.20		5.70		M14	9.50		11.20		5.70	
	+0.2	-0.2	+0.3	-0.3	+0.2	-0.2		+0.2	-0.2	+0.3	-0.3	+0.2	-0.2
1	9.48		11.27		5.68			9.44		11.25		5.67	
2	9.48		11.28		5.68			9.45		11.26		5.68	
3	9.48		11.28		5.69			9.45		11.25		5.67	
4	9.48		11.28		5.67			9.45		11.26		5.68	
5	9.48		11.28		5.69			9.44		11.25		5.66	
6	9.48		11.28		5.67			9.45		11.25		5.67	
7	9.48		11.27		5.68			9.44		11.25		5.67	
8	9.49		11.28		5.69			9.44		11.25		5.69	
9	9.49		11.29		5.67			9.44		11.25		5.68	
10	9.48		11.28		5.68			9.45		11.25		5.68	
11	9.49		11.28		5.68			9.44		11.25		5.67	
12	9.48		11.28		5.68			9.45		11.25		5.67	
13	9.48		11.27		5.68			9.45		11.25		5.67	
14	9.48		11.28		5.68			9.45		11.25		5.68	
15	9.48		11.28		5.69			9.44		11.25		5.66	
16	9.48		11.28		5.69			9.45		11.25		5.66	
17	9.48		11.28		5.69			9.44		11.25		5.68	
18	9.48		11.28		5.67			9.44		11.26		5.68	
19	9.48		11.27		5.69			9.44		11.25		5.67	
20	9.49		11.29		5.68			9.45		11.26		5.68	
21	9.48		11.28		5.68			9.45		11.25		5.67	
22	9.48		11.28		5.68			9.44		11.25		5.67	
23	9.48		11.27		5.68			9.45		11.25		5.67	
24	9.48		11.27		5.69			9.44		11.25		5.68	
25	9.48		11.28		5.69			9.44		11.25		5.68	
26	9.49		11.28		5.68			9.45		11.26		5.67	
27	9.48		11.28		5.68			9.44		11.25		5.68	
28	9.44		11.27		5.68			9.45		11.25		5.68	
29	9.48		11.28		5.68			9.45		11.25		5.68	
30	9.48		11.28		5.68			9.44		11.25		5.68	

CPK DATA

ORGANIZATION: SUMITOMO ELECTRIC WIRING SYSTEMS (PLT.5)

Tested by/Date: Ashley Stinson 8/7/17

PART Name/Desc: FOW120A02FB-B

Design Rec. Change level/date:

PART NO (s): 6189-7457, 6189-7674

EU5T-14A464-TB



11/9/2016

Mold #: 1623-B

Eng. Change Documents: NA

CAVITY #.↓

M13	9.50		11.20		5.70		M14	9.50		11.20		5.70	
	+0.2	-0.2	+0.3	-0.3	+0.2	-0.2		+0.2	-0.2	+0.3	-0.3	+0.2	-0.2
31	9.48		11.28		5.67			9.45		11.26		5.68	
32	9.48		11.28		5.68			9.45		11.25		5.68	
33	9.48		11.27		5.69			9.45		11.25		5.68	
34	9.49		11.27		5.68			9.44		11.25		5.67	
35	9.48		11.28		5.68			9.44		11.25		5.66	
36	9.48		11.28		5.67			9.45		11.26		5.66	
37	9.48		11.28		5.68			9.45		11.25		5.69	
38	9.48		11.28		5.68			9.45		11.25		5.69	
39	9.48		11.27		5.67			9.45		11.25		5.67	
40	9.48		11.28		5.69			9.45		11.25		5.69	
41	9.49		11.28		5.69			9.44		11.25		5.67	
42	9.49		11.28		5.68			9.45		11.25		5.68	
43	9.49		11.27		5.67			9.44		11.25		5.68	
44	9.48		11.28		5.68			9.45		11.25		5.67	
45	9.49		11.27		5.68			9.44		11.25		5.66	
46	9.48		11.28		5.69			9.44		11.25		5.68	
47	9.49		11.28		5.67			9.44		11.25		5.66	
48	9.48		11.28		5.69			9.45		11.25		5.68	
49	9.49		11.28		5.68			9.44		11.25		5.68	
50	9.49		11.28		5.68			9.45		11.25		5.67	
51	9.48		11.28		5.68			9.44		11.25		5.67	
52	9.48		11.28		5.68			9.44		11.25		5.69	
53	9.48		11.28		5.67			9.45		11.25		5.68	
54	9.48		11.28		5.68			9.44		11.25		5.68	
55	9.49		11.28		5.68			9.44		11.25		5.66	
56	9.48		11.28		5.68			9.44		11.25		5.69	
57	9.48		11.28		5.69			9.45		11.26		5.67	
58	9.48		11.28		5.68			9.45		11.25		5.67	
59	9.48		11.27		5.68			9.44		11.25		5.68	
60	9.49		11.27		5.68			9.44		11.25		5.68	

CPK DATA

ORGANIZATION: SUMITOMO ELECTRIC WIRING SYSTEMS (PLT.5)

Tested by/Date: Ashley Stinson 8/7/17

PART Name/Desc: FOW120A02FB-B

Design Rec. Change level/date:

PART NO (s): 6189-7457, 6189-7674

EU5T-14A464-TB



11/9/2016

Mold #: 1623-B

Eng. Change Documents: NA

CAVITY #.↓

M13	9.50		11.20		5.70		M14	9.50		11.20		5.70	
	+0.2	-0.2	+0.3	-0.3	+0.2	-0.2		+0.2	-0.2	+0.3	-0.3	+0.2	-0.2
61	9.49		11.28		5.69			9.45		11.25		5.68	
62	9.48		11.28		5.69			9.44		11.25		5.68	
63	9.48		11.28		5.69			9.45		11.25		5.68	
64	9.48		11.28		5.68			9.44		11.25		5.67	
65	9.48		11.28		5.69			9.44		11.25		5.66	
66	9.48		11.27		5.68			9.45		11.25		5.68	
67	9.48		11.27		5.68			9.45		11.25		5.67	
68	9.48		11.27		5.68			9.45		11.25		5.67	
69	9.48		11.28		5.68			9.45		11.25		5.68	
70	9.48		11.28		5.68			9.44		11.25		5.69	
71	9.48		11.28		5.67			9.45		11.25		5.68	
72	9.48		11.27		5.68			9.45		11.25		5.67	
73	9.48		11.28		5.68			9.44		11.25		5.67	
74	9.48		11.27		5.68			9.45		11.25		5.68	
75	9.48		11.27		5.67			9.44		11.25		5.67	
76	9.48		11.28		5.67			9.45		11.26		5.68	
77	9.48		11.28		5.68			9.44		11.25		5.67	
78	9.49		11.28		5.68			9.45		11.26		5.67	
79	9.48		11.28		5.69			9.44		11.25		5.66	
80	9.48		11.27		5.68			9.44		11.25		5.67	
81	9.49		11.28		5.68			9.45		11.25		5.68	
82	9.49		11.27		5.69			9.45		11.25		5.67	
83	9.48		11.28		5.68			9.45		11.26		5.69	
84	9.48		11.28		5.67			9.45		11.25		5.67	
85	9.48		11.28		5.68			9.44		11.25		5.67	
86	9.48		11.28		5.69			9.45		11.25		5.68	
87	9.48		11.28		5.68			9.44		11.25		5.68	
88	9.48		11.27		5.67			9.44		11.25		5.68	
89	9.48		11.28		5.69			9.44		11.25		5.67	
90	9.48		11.27		5.69			9.44		11.25		5.69	

CPK DATA

Page 16 of 38

ORGANIZATION: SUMITOMO ELECTRIC WIRING SYSTEMS (PLT.5)

Tested by/Date: Ashley Stinson 8/7/17

PART Name/Desc: FOW120A02FB-B

Design Rec. Change level/date:

PART NO (s): 6189-7457, 6189-7674

EU5T-14A464-TB 11/9/2016

Mold #: 1623-B

Eng. Change Documents: NA

CAVITY #.↓

M13	9.50 +0.2 -0.2	11.20 +0.3 -0.3	5.70 +0.2 -0.2		M14	9.50 +0.2 -0.2	11.20 +0.3 -0.3	5.70 +0.2 -0.2	
91	9.48	11.28	5.68			9.44	11.25	5.67	
92	9.48	11.28	5.66			9.44	11.25	5.67	
93	9.48	11.27	5.68			9.44	11.25	5.68	
94	9.49	11.27	5.68			9.44	11.25	5.68	
95	9.48	11.28	5.69			9.45	11.25	5.68	
96	9.48	11.27	5.69			9.44	11.25	5.68	
97	9.48	11.27	5.68			9.45	11.25	5.69	
98	9.47	11.28	5.69			9.44	11.25	5.68	
99	9.49	11.28	5.68			9.44	11.25	5.68	
100	9.48	11.28	5.69			9.44	11.25	5.68	

average	9.48	11.28	5.68		9.44	11.25	5.67
minimum	9.44	11.27	5.66		9.44	11.25	5.66
maximum	9.49	11.29	5.69		9.45	11.26	5.69
range	0.05	0.02	0.03		0.02	0.01	0.03
std dev	0.01	0.00	0.01		0.00	0.00	0.01
LSL	9.30	10.90	5.50		9.30	10.90	5.50
NOM	9.50	11.20	5.70		9.50	11.20	5.70
USL	9.70	11.50	5.90		9.70	11.50	5.90
CPK	11.06663961	29.67033977	10.81706725		14.79390927	46.4820945	7.916361681

CPK DATA

ORGANIZATION: SUMITOMO ELECTRIC WIRING SYSTEMS (PLT.5)

Tested by/Date: Ashley Stinson 8/7/17

PART Name/Desc: FOW120A02FB-B

Design Rec. Change level/date:

PART NO (s): 6189-7457, 6189-7674

EU5T-14A464-TB 11/9/2016

Mold #: 1623-B

Eng. Change Documents: NA

CAVITY #.↓

M15	9.50		11.20		5.70			M16	9.50		11.20		5.70		
	+0.2	-0.2	+0.3	-0.3	+0.2	-0.2			+0.2	-0.2	+0.3	-0.3	+0.2	-0.2	
1	9.45		11.26		5.68				9.46		11.26		5.69		
2	9.45		11.26		5.68				9.46		11.27		5.69		
3	9.45		11.25		5.67				9.46		11.27		5.68		
4	9.45		11.26		5.68				9.46		11.26		5.69		
5	9.45		11.26		5.68				9.46		11.27		5.69		
6	9.46		11.26		5.68				9.46		11.27		5.69		
7	9.45		11.26		5.69				9.46		11.26		5.68		
8	9.45		11.25		5.67				9.46		11.26		5.68		
9	9.45		11.26		5.67				9.47		11.27		5.69		
10	9.45		11.25		5.68				9.46		11.26		5.69		
11	9.46		11.26		5.66				9.46		11.26		5.69		
12	9.45		11.26		5.66				9.46		11.27		5.68		
13	9.45		11.26		5.66				9.45		11.26		5.69		
14	9.45		11.25		5.68				9.46		11.26		5.69		
15	9.45		11.25		5.68				9.46		11.26		5.68		
16	9.45		11.26		5.68				9.46		11.27		5.68		
17	9.45		11.25		5.67				9.46		11.26		5.68		
18	9.45		11.26		5.68				9.46		11.27		5.69		
19	9.45		11.26		5.68				9.46		11.27		5.68		
20	9.45		11.26		5.67				9.46		11.27		5.68		
21	9.45		11.25		5.68				9.46		11.26		5.68		
22	9.45		11.25		5.67				9.46		11.27		5.68		
23	9.45		11.26		5.67				9.46		11.27		5.69		
24	9.44		11.25		5.68				9.46		11.26		5.68		
25	9.45		11.26		5.69				9.46		11.26		5.68		
26	9.45		11.26		5.69				9.45		11.27		5.69		
27	9.45		11.26		5.68				9.46		11.27		5.68		
28	9.45		11.26		5.68				9.46		11.26		5.68		
29	9.45		11.26		5.69				9.46		11.26		5.69		
30	9.45		11.26		5.66				9.45		11.26		5.69		

CPK DATA

ORGANIZATION: SUMITOMO ELECTRIC WIRING SYSTEMS (PLT.5)

Tested by/Date: Ashley Stinson 8/7/17

PART Name/Desc: **FOW120A02FB-B**

Design Rec. Change level/date:

PART NO (s): **6189-7457, 6189-7674**

EU5T-14A464-TB  11/9/2016

Mold #: **1623-B**

Eng. Change Documents: NA

CAVITY #:

M15	9.50		11.20		5.70			M16	9.50		11.20		5.70		
	+0.2	-0.2	+0.3	-0.3	+0.2	-0.2			+0.2	-0.2	+0.3	-0.3	+0.2	-0.2	
31	9.45		11.26		5.68				9.45		11.26		5.69		
32	9.45		11.25		5.68				9.45		11.26		5.69		
33	9.45		11.25		5.68				9.46		11.27		5.69		
34	9.45		11.25		5.68				9.46		11.26		5.68		
35	9.45		11.26		5.68				9.45		11.27		5.69		
36	9.45		11.26		5.68				9.46		11.27		5.69		
37	9.45		11.26		5.68				9.45		11.27		5.69		
38	9.45		11.26		5.67				9.46		11.27		5.69		
39	9.45		11.26		5.69				9.46		11.26		5.69		
40	9.45		11.26		5.67				9.45		11.26		5.69		
41	9.45		11.25		5.68				9.46		11.26		5.69		
42	9.45		11.25		5.68				9.46		11.27		5.69		
43	9.45		11.26		5.67				9.46		11.26		5.69		
44	9.45		11.26		5.68				9.46		11.26		5.68		
45	9.45		11.26		5.68				9.46		11.26		5.69		
46	9.45		11.26		5.68				9.45		11.26		5.69		
47	9.45		11.26		5.68				9.46		11.27		5.68		
48	9.45		11.26		5.68				9.45		11.26		5.69		
49	9.45		11.26		5.67				9.45		11.26		5.69		
50	9.45		11.26		5.69				9.46		11.27		5.68		
51	9.45		11.26		5.69				9.46		11.26		5.68		
52	9.45		11.26		5.69				9.45		11.26		5.68		
53	9.46		11.26		5.67				9.46		11.26		5.69		
54	9.45		11.26		5.67				9.46		11.26		5.69		
55	9.45		11.26		5.68				9.45		11.26		5.67		
56	9.45		11.25		5.68				9.46		11.26		5.69		
57	9.45		11.26		5.67				9.45		11.26		5.68		
58	9.46		11.25		5.67				9.46		11.26		5.69		
59	9.45		11.26		5.68				9.45		11.26		5.68		
60	9.46		11.26		5.66				9.46		11.26		5.69		

CPK DATA

ORGANIZATION: SUMITOMO ELECTRIC WIRING SYSTEMS (PLT.5)
 PART Name/Desc: **FOW120A02FB-B**
 PART NO (s): **6189-7457, 6189-7674**
 Mold #: **1623-B**

Tested by/Date: Ashley Stinson 8/7/17
 Design Rec. Change level/date: EU5T-14A464-TB  11/9/2016
 Eng. Change Documents: NA

CAVITY #:

M15	9.50		11.20		5.70			M16	9.50		11.20		5.70		
	+0.2	-0.2	+0.3	-0.3	+0.2	-0.2			+0.2	-0.2	+0.3	-0.3	+0.2	-0.2	
61	9.46		11.26		5.69				9.45		11.26		5.69		
62	9.45		11.26		5.68				9.46		11.26		5.69		
63	9.45		11.26		5.67				9.46		11.26		5.69		
64	9.45		11.26		5.68				9.46		11.26		5.68		
65	9.45		11.26		5.68				9.45		11.26		5.69		
66	9.46		11.26		5.67				9.45		11.26		5.69		
67	9.45		11.26		5.68				9.46		11.27		5.68		
68	9.45		11.26		5.68				9.46		11.27		5.69		
69	9.45		11.26		5.68				9.45		11.26		5.69		
70	9.45		11.26		5.68				9.46		11.27		5.69		
71	9.45		11.26		5.67				9.46		11.27		5.69		
72	9.45		11.26		5.67				9.44		11.26		5.68		
73	9.45		11.26		5.68				9.46		11.26		5.69		
74	9.45		11.26		5.69				9.46		11.26		5.69		
75	9.45		11.26		5.68				9.46		11.27		5.68		
76	9.45		11.26		5.67				9.45		11.26		5.69		
77	9.45		11.26		5.68				9.46		11.26		5.68		
78	9.45		11.26		5.68				9.46		11.26		5.68		
79	9.45		11.26		5.68				9.46		11.27		5.69		
80	9.45		11.26		5.66				9.46		11.26		5.69		
81	9.45		11.26		5.67				9.46		11.27		5.69		
82	9.45		11.26		5.68				9.46		11.27		5.69		
83	9.45		11.25		5.67				9.46		11.27		5.69		
84	9.45		11.26		5.68				9.46		11.26		5.70		
85	9.45		11.26		5.68				9.46		11.27		5.69		
86	9.45		11.26		5.67				9.46		11.26		5.69		
87	9.45		11.25		5.68				9.45		11.26		5.69		
88	9.45		11.25		5.66				9.46		11.26		5.68		
89	9.45		11.26		5.69				9.45		11.27		5.68		
90	9.45		11.25		5.68				9.46		11.27		5.69		

CPK DATA

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ORGANIZATION: SUMITOMO ELECTRIC WIRING SYSTEMS (PLT.5)

Tested by/Date: Ashley Stinson 8/7/17

PART Name/Desc: FOW120A02FB-B

Design Rec. Change level/date:

PART NO (s): 6189-7457, 6189-7674

EU5T-14A464-TB 11/9/2016

Mold #: 1623-B

Eng. Change Documents: NA

CAVITY #.↓

M15	9.50 +0.2 -0.2	11.20 +0.3 -0.3	5.70 +0.2 -0.2		M16	9.50 +0.2 -0.2	11.20 +0.3 -0.3	5.70 +0.2 -0.2	
91	9.46	11.26	5.68			9.46	11.26	5.68	
92	9.45	11.26	5.68			9.45	11.26	5.69	
93	9.46	11.25	5.68			9.46	11.26	5.69	
94	9.45	11.26	5.68			9.46	11.26	5.68	
95	9.45	11.26	5.67			9.46	11.27	5.69	
96	9.45	11.26	5.68			9.46	11.26	5.68	
97	9.45	11.26	5.68			9.46	11.27	5.69	
98	9.45	11.26	5.67			9.45	11.26	5.69	
99	9.45	11.26	5.67			9.46	11.26	5.69	
100	9.45	11.26	5.68			9.45	11.26	5.68	

average 9.45 11.26 5.68
minimum 9.44 11.25 5.66
maximum 9.46 11.26 5.69
range 0.02 0.01 0.03
std dev 0.00 0.00 0.01

9.46 11.26 5.68
9.44 11.26 5.67
9.47 11.27 5.70
0.03 0.02 0.02
0.00 0.00 0.00

LSL 9.30 10.90 5.50
NOM 9.50 11.20 5.70
USL 9.70 11.50 5.90

9.30 10.90 5.50
9.50 11.20 5.70
9.70 11.50 5.90

CPK 18.36827772 50.02512503 8.379845436

13.82198477 36.2896916 15.0636893

CPK DATA

ORGANIZATION: SUMITOMO ELECTRIC WIRING SYSTEMS (PLT.5)

Tested by/Date: Ashley Stinson 8/7/17

PART Name/Desc: FOW120A02FB-B

Design Rec. Change level/date:

PART NO (s): 6189-7457, 6189-7674

EU5T-14A464-TB



11/9/2016

Mold #: 1623-B

Eng. Change Documents: NA

CAVITY #.↓

M17	9.50		11.20		5.70		M18	9.50		11.20		5.70	
	+0.2	-0.2	+0.3	-0.3	+0.2	-0.2		+0.2	-0.2	+0.3	-0.3	+0.2	-0.2
1	9.47		11.27		5.69			9.48		11.26		5.67	
2	9.46		11.27		5.67			9.47		11.26		5.68	
3	9.46		11.27		5.69			9.47		11.26		5.68	
4	9.46		11.27		5.68			9.46		11.26		5.68	
5	9.46		11.27		5.67			9.46		11.25		5.67	
6	9.47		11.27		5.68			9.46		11.26		5.68	
7	9.46		11.26		5.69			9.47		11.26		5.68	
8	9.45		11.27		5.68			9.48		11.26		5.67	
9	9.46		11.27		5.68			9.46		11.26		5.68	
10	9.47		11.27		5.68			9.47		11.26		5.68	
11	9.46		11.26		5.68			9.47		11.26		5.68	
12	9.46		11.27		5.68			9.47		11.26		5.68	
13	9.46		11.27		5.68			9.47		11.26		5.68	
14	9.45		11.27		5.68			9.47		11.26		5.68	
15	9.45		11.27		5.69			9.47		11.25		5.68	
16	9.46		11.26		5.68			9.45		11.26		5.68	
17	9.46		11.26		5.67			9.46		11.26		5.68	
18	9.47		11.27		5.68			9.46		11.26		5.67	
19	9.46		11.26		5.67			9.46		11.26		5.69	
20	9.46		11.27		5.67			9.46		11.26		5.69	
21	9.46		11.26		5.68			9.46		11.25		5.68	
22	9.47		11.27		5.69			9.47		11.26		5.66	
23	9.46		11.27		5.68			9.46		11.26		5.67	
24	9.46		11.27		5.68			9.47		11.25		5.69	
25	9.46		11.26		5.67			9.47		11.26		5.68	
26	9.45		11.27		5.68			9.46		11.26		5.67	
27	9.46		11.26		5.68			9.47		11.25		5.68	
28	9.46		11.27		5.68			9.47		11.26		5.66	
29	9.46		11.27		5.68			9.47		11.25		5.67	
30	9.46		11.27		5.69			9.46		11.26		5.69	

CPK DATA

ORGANIZATION: SUMITOMO ELECTRIC WIRING SYSTEMS (PLT.5)

Tested by/Date: Ashley Stinson 8/7/17

PART Name/Desc: FOW120A02FB-B

Design Rec. Change level/date:

PART NO (s): 6189-7457, 6189-7674

EU5T-14A464-TB



11/9/2016

Mold #: 1623-B

Eng. Change Documents: NA

CAVITY #.↓

M17	9.50		11.20		5.70			M18	9.50		11.20		5.70		
	+0.2	-0.2	+0.3	-0.3	+0.2	-0.2			+0.2	-0.2	+0.3	-0.3	+0.2	-0.2	
31	9.46		11.26		5.68				9.46		11.26		5.68		
32	9.46		11.27		5.69				9.46		11.26		5.68		
33	9.46		11.27		5.69				9.46		11.25		5.68		
34	9.46		11.26		5.68				9.47		11.26		5.68		
35	9.46		11.27		5.69				9.46		11.25		5.67		
36	9.45		11.26		5.67				9.46		11.26		5.67		
37	9.45		11.27		5.67				9.47		11.26		5.69		
38	9.45		11.27		5.69				9.46		11.26		5.69		
39	9.46		11.27		5.67				9.46		11.25		5.67		
40	9.46		11.27		5.68				9.45		11.26		5.68		
41	9.46		11.26		5.68				9.47		11.26		5.68		
42	9.47		11.27		5.69				9.47		11.26		5.69		
43	9.46		11.27		5.68				9.46		11.26		5.68		
44	9.46		11.27		5.68				9.46		11.26		5.67		
45	9.47		11.27		5.69				9.47		11.26		5.67		
46	9.45		11.26		5.68				9.47		11.25		5.66		
47	9.47		11.27		5.68				9.47		11.26		5.68		
48	9.46		11.27		5.67				9.46		11.26		5.67		
49	9.45		11.26		5.69				9.46		11.25		5.67		
50	9.46		11.27		5.69				9.47		11.25		5.68		
51	9.45		11.26		5.68				9.46		11.26		5.68		
52	9.46		11.27		5.69				9.46		11.25		5.68		
53	9.46		11.27		5.68				9.46		11.26		5.67		
54	9.45		11.27		5.68				9.46		11.25		5.69		
55	9.46		11.27		5.69				9.46		11.26		5.67		
56	9.46		11.27		5.68				9.46		11.26		5.68		
57	9.46		11.26		5.68				9.47		11.26		5.68		
58	9.46		11.27		5.69				9.47		11.25		5.67		
59	9.46		11.27		5.69				9.46		11.26		5.69		
60	9.46		11.26		5.68				9.47		11.25		5.66		

CPK DATA

ORGANIZATION: SUMITOMO ELECTRIC WIRING SYSTEMS (PLT.5)

Tested by/Date: Ashley Stinson 8/7/17

PART Name/Desc: FOW120A02FB-B

Design Rec. Change level/date:

PART NO (s): 6189-7457, 6189-7674

EU5T-14A464-TB



11/9/2016

Mold #: 1623-B

Eng. Change Documents: NA

CAVITY #.↓

M17	9.50		11.20		5.70		M18	9.50		11.20		5.70	
	+0.2	-0.2	+0.3	-0.3	+0.2	-0.2		+0.2	-0.2	+0.3	-0.3	+0.2	-0.2
61	9.46		11.26		5.68			9.47		11.25		5.68	
62	9.46		11.27		5.65			9.47		11.25		5.68	
63	9.46		11.26		5.69			9.47		11.25		5.66	
64	9.45		11.27		5.68			9.46		11.25		5.67	
65	9.46		11.27		5.69			9.46		11.26		5.69	
66	9.47		11.27		5.69			9.47		11.26		5.67	
67	9.46		11.26		5.69			9.47		11.26		5.68	
68	9.46		11.27		5.68			9.47		11.25		5.68	
69	9.46		11.27		5.68			9.47		11.26		5.67	
70	9.46		11.27		5.66			9.46		11.26		5.67	
71	9.46		11.27		5.68			9.46		11.26		5.68	
72	9.46		11.26		5.67			9.46		11.26		5.67	
73	9.45		11.26		5.69			9.46		11.26		5.69	
74	9.46		11.26		5.68			9.46		11.25		5.69	
75	9.46		11.27		5.68			9.47		11.26		5.67	
76	9.47		11.27		5.69			9.46		11.26		5.68	
77	9.46		11.27		5.68			9.46		11.25		5.69	
78	9.46		11.26		5.68			9.46		11.26		5.69	
79	9.45		11.27		5.68			9.47		11.26		5.68	
80	9.45		11.26		5.68			9.46		11.25		5.67	
81	9.47		11.27		5.68			9.47		11.25		5.68	
82	9.46		11.27		5.69			9.47		11.26		5.69	
83	9.46		11.26		5.69			9.46		11.26		5.66	
84	9.47		11.27		5.66			9.46		11.26		5.68	
85	9.46		11.26		5.69			9.46		11.26		5.68	
86	9.46		11.26		5.69			9.47		11.26		5.69	
87	9.46		11.26		5.69			9.47		11.26		5.67	
88	9.46		11.27		5.68			9.46		11.25		5.69	
89	9.45		11.26		5.68			9.48		11.26		5.67	
90	9.45		11.26		5.68			9.46		11.25		5.69	

CPK DATA

ORGANIZATION: SUMITOMO ELECTRIC WIRING SYSTEMS (PLT.5)
 PART Name/Desc: **FOW120A02FB-B**
 PART NO (s): **6189-7457, 6189-7674**
 Mold #: **1623-B**

Tested by/Date: Ashley Stinson 8/7/17
 Design Rec. Change level/date: EU5T-14A464-TB 11/9/2016
 Eng. Change Documents: NA

CAVITY #:**↓**

M17	9.50		11.20		5.70		M18	9.50		11.20		5.70	
	+0.2	-0.2	+0.3	-0.3	+0.2	-0.2		+0.2	-0.2	+0.3	-0.3	+0.2	-0.2
91	9.46		11.27		5.68			9.47		11.25		5.68	
92	9.45		11.26		5.68			9.46		11.25		5.67	
93	9.46		11.27		5.69			9.47		11.26		5.67	
94	9.46		11.26		5.68			9.47		11.26		5.69	
95	9.46		11.26		5.68			9.47		11.25		5.66	
96	9.46		11.27		5.69			9.46		11.26		5.68	
97	9.45		11.26		5.68			9.47		11.26		5.68	
98	9.46		11.26		5.68			9.47		11.26		5.68	
99	9.46		11.27		5.69			9.48		11.26		5.68	
100	9.45		11.27		5.68			9.47		11.26		5.69	

average 9.46 11.27 5.68
 minimum 9.45 11.26 5.65
 maximum 9.47 11.27 5.69
 range 0.02 0.01 0.04
 std dev 0.00 0.00 0.01

9.46 11.26 5.68
 9.45 11.25 5.66
 9.48 11.26 5.69
 0.03 0.01 0.03
 0.00 0.00 0.01

LSL 9.30 10.90 5.50
 NOM 9.50 11.20 5.70
 USL 9.70 11.50 5.90

9.30 10.90 5.50
 9.50 11.20 5.70
 9.70 11.50 5.90

CPK 10.89908912 42.52301655 9.458323499

11.36636626 33.13385588 8.106937526

CPK DATA

ORGANIZATION: SUMITOMO ELECTRIC WIRING SYSTEMS (PLT.5)

Tested by/Date: Ashley Stinson 8/7/17

PART Name/Desc: FOW120A02FB-B

Design Rec. Change level/date:

PART NO (s): 6189-7457, 6189-7674

EU5T-14A464-TB



11/9/2016

Mold #: 1623-B

Eng. Change Documents: NA

CAVITY #.↓

M19	9.50		11.20		5.70		M20	9.50		11.20		5.70	
	+0.2	-0.2	+0.3	-0.3	+0.2	-0.2		+0.2	-0.2	+0.3	-0.3	+0.2	-0.2
1	9.46		11.26		5.68			9.49		11.27		5.69	
2	9.46		11.26		5.68			9.49		11.27		5.69	
3	9.46		11.26		5.68			9.48		11.27		5.69	
4	9.46		11.26		5.68			9.48		11.27		5.69	
5	9.46		11.26		5.68			9.49		11.27		5.69	
6	9.45		11.26		5.66			9.49		11.27		5.69	
7	9.46		11.26		5.67			9.49		11.27		5.69	
8	9.46		11.26		5.67			9.48		11.27		5.68	
9	9.46		11.26		5.67			9.49		11.27		5.69	
10	9.46		11.26		5.69			9.49		11.27		5.69	
11	9.46		11.25		5.68			9.49		11.27		5.68	
12	9.46		11.26		5.67			9.49		11.27		5.70	
13	9.46		11.26		5.68			9.49		11.27		5.69	
14	9.47		11.26		5.69			9.49		11.27		5.68	
15	9.46		11.26		5.68			9.49		11.27		5.69	
16	9.47		11.26		5.69			9.49		11.27		5.70	
17	9.46		11.26		5.67			9.49		11.27		5.69	
18	9.47		11.26		5.67			9.48		11.27		5.70	
19	9.46		11.25		5.67			9.49		11.27		5.70	
20	9.45		11.25		5.67			9.49		11.27		5.69	
21	9.45		11.25		5.67			9.46		11.26		5.69	
22	9.46		11.25		5.67			9.49		11.27		5.69	
23	9.46		11.26		5.68			9.49		11.27		5.69	
24	9.46		11.26		5.67			9.49		11.27		5.69	
25	9.46		11.26		5.68			9.48		11.27		5.70	
26	9.46		11.26		5.67			9.49		11.27		5.69	
27	9.46		11.26		5.67			9.49		11.27		5.69	
28	9.46		11.25		5.68			9.49		11.27		5.69	
29	9.45		11.25		5.66			9.49		11.27		5.69	
30	9.46		11.26		5.68			9.49		11.27		5.69	

CPK DATA

ORGANIZATION: SUMITOMO ELECTRIC WIRING SYSTEMS (PLT.5)

Tested by/Date: Ashley Stinson 8/7/17

PART Name/Desc: FOW120A02FB-B

Design Rec. Change level/date:

PART NO (s): 6189-7457, 6189-7674

EU5T-14A464-TB



11/9/2016

Mold #: 1623-B

Eng. Change Documents: NA

CAVITY #.↓

M19	9.50		11.20		5.70		M20	9.50		11.20		5.70	
	+0.2	-0.2	+0.3	-0.3	+0.2	-0.2		+0.2	-0.2	+0.3	-0.3	+0.2	-0.2
31	9.46		11.26		5.68			9.48		11.27		5.69	
32	9.46		11.25		5.68			9.49		11.27		5.69	
33	9.46		11.25		5.67			9.49		11.27		5.69	
34	9.46		11.26		5.68			9.49		11.27		5.69	
35	9.46		11.26		5.67			9.49		11.27		5.68	
36	9.46		11.25		5.67			9.49		11.27		5.69	
37	9.46		11.26		5.67			9.49		11.27		5.68	
38	9.46		11.26		5.69			9.49		11.27		5.69	
39	9.46		11.26		5.68			9.49		11.27		5.69	
40	9.45		11.26		5.68			9.49		11.27		5.69	
41	9.46		11.26		5.68			9.49		11.27		5.69	
42	9.46		11.26		5.67			9.49		11.27		5.69	
43	9.46		11.26		5.66			9.48		11.27		5.69	
44	9.46		11.26		5.68			9.49		11.27		5.69	
45	9.46		11.26		5.68			9.48		11.27		5.69	
46	9.46		11.26		5.68			9.49		11.27		5.69	
47	9.46		11.25		5.68			9.49		11.27		5.69	
48	9.46		11.26		5.68			9.49		11.27		5.69	
49	9.46		11.26		5.67			9.48		11.27		5.69	
50	9.46		11.25		5.68			9.49		11.27		5.69	
51	9.46		11.26		5.67			9.49		11.27		5.69	
52	9.46		11.26		5.67			9.49		11.27		5.69	
53	9.46		11.26		5.67			9.49		11.27		5.69	
54	9.46		11.26		5.68			9.48		11.27		5.69	
55	9.46		11.25		5.68			9.49		11.27		5.69	
56	9.46		11.26		5.67			9.49		11.27		5.69	
57	9.46		11.26		5.69			9.48		11.27		5.69	
58	9.46		11.25		5.67			9.49		11.27		5.68	
59	9.46		11.26		5.67			9.49		11.27		5.69	
60	9.46		11.25		5.68			9.49		11.27		5.69	

CPK DATA

ORGANIZATION: SUMITOMO ELECTRIC WIRING SYSTEMS (PLT.5)
 PART Name/Desc: **FOW120A02FB-B**
 PART NO (s): **6189-7457, 6189-7674**
 Mold #: **1623-B**

Tested by/Date: Ashley Stinson 8/7/17
 Design Rec. Change level/date: EU5T-14A464-TB 11/9/2016
 Eng. Change Documents: NA

CAVITY #.↓

M19	9.50		11.20		5.70		M20	9.50		11.20		5.70	
	+0.2	-0.2	+0.3	-0.3	+0.2	-0.2		+0.2	-0.2	+0.3	-0.3	+0.2	-0.2
61	9.46		11.26		5.67			9.49		11.27		5.69	
62	9.46		11.25		5.67			9.49		11.27		5.69	
63	9.46		11.26		5.67			9.50		11.28		5.69	
64	9.46		11.26		5.67			9.49		11.27		5.69	
65	9.46		11.25		5.68			9.48		11.27		5.69	
66	9.46		11.26		5.68			9.49		11.27		5.69	
67	9.46		11.26		5.67			9.48		11.27		5.69	
68	9.46		11.26		5.66			9.48		11.27		5.69	
69	9.46		11.26		5.67			9.49		11.27		5.69	
70	9.45		11.25		5.68			9.49		11.27		5.69	
71	9.46		11.25		5.67			9.49		11.27		5.69	
72	9.46		11.26		5.68			9.49		11.27		5.69	
73	9.47		11.26		5.68			9.49		11.27		5.69	
74	9.46		11.26		5.66			9.49		11.27		5.69	
75	9.46		11.26		5.66			9.49		11.27		5.69	
76	9.46		11.26		5.67			9.49		11.27		5.70	
77	9.46		11.26		5.68			9.49		11.27		5.68	
78	9.46		11.26		5.67			9.49		11.27		5.69	
79	9.46		11.26		5.68			9.49		11.27		5.69	
80	9.46		11.26		5.67			9.49		11.27		5.70	
81	9.46		11.26		5.67			9.49		11.27		5.68	
82	9.46		11.26		5.67			9.49		11.27		5.69	
83	9.47		11.27		5.67			9.49		11.27		5.69	
84	9.46		11.26		5.67			9.49		11.27		5.69	
85	9.46		11.26		5.67			9.49		11.27		5.69	
86	9.46		11.26		5.69			9.49		11.27		5.69	
87	9.46		11.26		5.68			9.48		11.27		5.69	
88	9.46		11.26		5.68			9.49		11.27		5.68	
89	9.46		11.26		5.69			9.49		11.27		5.70	
90	9.46		11.26		5.67			9.49		11.27		5.69	

CPK DATA

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ORGANIZATION: SUMITOMO ELECTRIC WIRING SYSTEMS (PLT.5)

Tested by/Date: Ashley Stinson 8/7/17

PART Name/Desc: FOW120A02FB-B

Design Rec. Change level/date:

PART NO (s): 6189-7457, 6189-7674

EU5T-14A464-TB 11/9/2016

Mold #: 1623-B

Eng. Change Documents: NA

CAVITY #.↓

M19	9.50 +0.2 -0.2	11.20 +0.3 -0.3	5.70 +0.2 -0.2		M20	9.50 +0.2 -0.2	11.20 +0.3 -0.3	5.70 +0.2 -0.2	
91	9.46	11.25	5.67			9.49	11.27	5.68	
92	9.46	11.25	5.68			9.48	11.27	5.69	
93	9.45	11.26	5.67			9.49	11.27	5.70	
94	9.45	11.26	5.68			9.49	11.27	5.69	
95	9.46	11.25	5.67			9.49	11.27	5.69	
96	9.45	11.25	5.68			9.49	11.27	5.69	
97	9.46	11.26	5.68			9.49	11.27	5.68	
98	9.46	11.25	5.67			9.49	11.27	5.70	
99	9.46	11.26	5.67			9.49	11.27	5.68	
100	9.46	11.26	5.67			9.49	11.27	5.69	

average 9.46 11.26 5.67
minimum 9.45 11.25 5.66
maximum 9.47 11.27 5.69
range 0.02 0.01 0.03
std dev 0.00 0.00 0.01

9.49 11.27 5.69
9.46 11.26 5.68
9.50 11.28 5.70
0.04 0.02 0.02
0.00 0.00 0.00

LSL 9.30 10.90 5.50
NOM 9.50 11.20 5.70
USL 9.70 11.50 5.90

9.30 10.90 5.50
9.50 11.20 5.70
9.70 11.50 5.90

CPK 14.40074566 39.83311169 8.737846611

15.22364766 39.60608898 13.49965892

CPK DATA

ORGANIZATION: SUMITOMO ELECTRIC WIRING SYSTEMS (PLT.5)

Tested by/Date: Ashley Stinson 8/7/17

PART Name/Desc: FOW120A02FB-B

Design Rec. Change level/date:

PART NO (s): 6189-7457, 6189-7674

EU5T-14A464-TB 11/9/2016

Mold #: 1623-B

Eng. Change Documents: NA

CAVITY #.↓

M21	9.50		11.20		5.70		M22	9.50		11.20		5.70	
	+0.2	-0.2	+0.3	-0.3	+0.2	-0.2		+0.2	-0.2	+0.3	-0.3	+0.2	-0.2
1	9.49		11.27		5.69			9.47		11.27		5.68	
2	9.49		11.27		5.69			9.46		11.27		5.70	
3	9.48		11.27		5.69			9.46		11.27		5.68	
4	9.48		11.27		5.68			9.45		11.27		5.68	
5	9.47		11.27		5.69			9.46		11.27		5.69	
6	9.48		11.27		5.69			9.45		11.27		5.69	
7	9.48		11.27		5.68			9.45		11.27		5.68	
8	9.48		11.27		5.68			9.46		11.27		5.68	
9	9.48		11.27		5.69			9.46		11.27		5.69	
10	9.48		11.27		5.69			9.46		11.27		5.68	
11	9.48		11.27		5.69			9.45		11.26		5.67	
12	9.48		11.27		5.68			9.46		11.27		5.69	
13	9.48		11.27		5.68			9.46		11.27		5.68	
14	9.48		11.27		5.68			9.45		11.27		5.69	
15	9.48		11.27		5.69			9.46		11.27		5.68	
16	9.48		11.28		5.69			9.45		11.27		5.68	
17	9.48		11.27		5.69			9.45		11.27		5.68	
18	9.48		11.27		5.69			9.46		11.27		5.67	
19	9.48		11.27		5.69			9.45		11.27		5.68	
20	9.48		11.27		5.68			9.46		11.27		5.68	
21	9.48		11.27		5.69			9.47		11.27		5.68	
22	9.48		11.27		5.69			9.45		11.27		5.68	
23	9.48		11.28		5.69			9.46		11.27		5.68	
24	9.48		11.27		5.69			9.46		11.27		5.69	
25	9.47		11.27		5.67			9.45		11.27		5.68	
26	9.48		11.27		5.68			9.46		11.27		5.69	
27	9.48		11.27		5.69			9.46		11.27		5.68	
28	9.48		11.27		5.69			9.45		11.27		5.68	
29	9.48		11.27		5.69			9.46		11.27		5.67	
30	9.47		11.27		5.69			9.46		11.27		5.69	

CPK DATA

ORGANIZATION: SUMITOMO ELECTRIC WIRING SYSTEMS (PLT.5)

Tested by/Date: Ashley Stinson 8/7/17

PART Name/Desc: FOW120A02FB-B

Design Rec. Change level/date:

PART NO (s): 6189-7457, 6189-7674

EU5T-14A464-TB



11/9/2016

Mold #: 1623-B

Eng. Change Documents: NA

CAVITY #.↓

M21	9.50		11.20		5.70		M22	9.50		11.20		5.70	
	+0.2	-0.2	+0.3	-0.3	+0.2	-0.2		+0.2	-0.2	+0.3	-0.3	+0.2	-0.2
31	9.48		11.27		5.68			9.46		11.27		5.69	
32	9.48		11.28		5.69			9.45		11.27		5.69	
33	9.48		11.27		5.69			9.46		11.27		5.69	
34	9.48		11.27		5.68			9.46		11.27		5.68	
35	9.48		11.27		5.69			9.46		11.27		5.68	
36	9.47		11.27		5.69			9.46		11.27		5.68	
37	9.47		11.27		5.70			9.45		11.27		5.67	
38	9.48		11.28		5.69			9.46		11.27		5.69	
39	9.47		11.27		5.68			9.46		11.27		5.67	
40	9.48		11.27		5.68			9.46		11.27		5.67	
41	9.48		11.27		5.69			9.46		11.27		5.67	
42	9.47		11.27		5.69			9.46		11.27		5.69	
43	9.48		11.27		5.69			9.46		11.27		5.68	
44	9.47		11.27		5.69			9.45		11.27		5.69	
45	9.48		11.27		5.68			9.46		11.27		5.68	
46	9.48		11.27		5.68			9.45		11.27		5.68	
47	9.47		11.27		5.69			9.46		11.27		5.69	
48	9.47		11.27		5.69			9.47		11.27		5.67	
49	9.48		11.27		5.69			9.46		11.27		5.69	
50	9.48		11.27		5.69			9.46		11.27		5.69	
51	9.48		11.27		5.69			9.46		11.27		5.69	
52	9.48		11.27		5.69			9.46		11.27		5.68	
53	9.47		11.27		5.69			9.46		11.27		5.69	
54	9.48		11.27		5.69			9.45		11.27		5.68	
55	9.48		11.27		5.68			9.46		11.27		5.69	
56	9.48		11.27		5.69			9.46		11.27		5.68	
57	9.48		11.27		5.69			9.46		11.27		5.69	
58	9.48		11.27		5.69			9.47		11.27		5.68	
59	9.47		11.27		5.69			9.47		11.27		5.68	
60	9.48		11.27		5.69			9.45		11.26		5.68	

CPK DATA

ORGANIZATION: SUMITOMO ELECTRIC WIRING SYSTEMS (PLT.5)
 PART Name/Desc: **FOW120A02FB-B**
 PART NO (s): **6189-7457, 6189-7674**
 Mold #: **1623-B**

Tested by/Date: _____ Ashley Stinson 8/7/17
 Design Rec. Change level/date: _____
 EU5T-14A464-TB  11/9/2016
 Eng. Change Documents: _____ NA

CAVITY #:

M21	9.50		11.20		5.70		M22	9.50		11.20		5.70	
	+0.2	-0.2	+0.3	-0.3	+0.2	-0.2		+0.2	-0.2	+0.3	-0.3	+0.2	-0.2
61	9.48		11.27		5.69			9.46		11.27		5.67	
62	9.48		11.27		5.69			9.46		11.27		5.66	
63	9.48		11.27		5.69			9.46		11.26		5.68	
64	9.47		11.27		5.69			9.46		11.27		5.68	
65	9.48		11.27		5.69			9.46		11.27		5.70	
66	9.48		11.27		5.68			9.46		11.27		5.68	
67	9.48		11.27		5.69			9.45		11.27		5.67	
68	9.48		11.27		5.68			9.46		11.27		5.68	
69	9.48		11.27		5.69			9.45		11.27		5.68	
70	9.48		11.27		5.68			9.46		11.27		5.67	
71	9.47		11.27		5.69			9.46		11.27		5.68	
72	9.48		11.27		5.68			9.45		11.27		5.67	
73	9.48		11.27		5.69			9.46		11.27		5.69	
74	9.48		11.27		5.69			9.46		11.27		5.67	
75	9.48		11.27		5.69			9.45		11.27		5.69	
76	9.47		11.27		5.68			9.47		11.27		5.69	
77	9.48		11.27		5.69			9.46		11.27		5.69	
78	9.48		11.27		5.69			9.46		11.27		5.69	
79	9.48		11.27		5.69			9.46		11.27		5.68	
80	9.48		11.27		5.69			9.46		11.27		5.68	
81	9.47		11.27		5.69			9.46		11.27		5.69	
82	9.47		11.27		5.68			9.46		11.27		5.68	
83	9.48		11.27		5.69			9.46		11.27		5.68	
84	9.47		11.27		5.69			9.45		11.26		5.67	
85	9.48		11.27		5.70			9.45		11.27		5.68	
86	9.48		11.27		5.69			9.46		11.27		5.68	
87	9.48		11.27		5.68			9.45		11.27		5.68	
88	9.48		11.27		5.70			9.46		11.27		5.69	
89	9.48		11.27		5.69			9.45		11.26		5.68	
90	9.47		11.27		5.69			9.46		11.27		5.69	

CPK DATA

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ORGANIZATION: SUMITOMO ELECTRIC WIRING SYSTEMS (PLT.5)

Tested by/Date: Ashley Stinson 8/7/17

PART Name/Desc: FOW120A02FB-B

Design Rec. Change level/date:

PART NO (s): 6189-7457, 6189-7674

EU5T-14A464-TB 11/9/2016

Mold #: 1623-B

Eng. Change Documents: NA

CAVITY #.↓

M21	9.50 +0.2 -0.2	11.20 +0.3 -0.3	5.70 +0.2 -0.2		M22	9.50 +0.2 -0.2	11.20 +0.3 -0.3	5.70 +0.2 -0.2	
91	9.48	11.27	5.69			9.46	11.27	5.69	
92	9.47	11.27	5.69			9.45	11.26	5.69	
93	9.48	11.27	5.68			9.46	11.27	5.68	
94	9.48	11.27	5.69			9.46	11.27	5.68	
95	9.47	11.27	5.69			9.45	11.26	5.67	
96	9.47	11.27	5.68			9.46	11.27	5.68	
97	9.48	11.27	5.69			9.45	11.27	5.68	
98	9.48	11.27	5.69			9.46	11.27	5.69	
99	9.48	11.27	5.69			9.45	11.26	5.69	
100	9.48	11.27	5.69			9.45	11.27	5.68	

average 9.48 11.27 5.69
minimum 9.47 11.27 5.67
maximum 9.49 11.28 5.70
range 0.02 0.01 0.03
std dev 0.00 0.00 0.00

9.46 11.27 5.68
9.45 11.26 5.66
9.47 11.27 5.70
0.02 0.01 0.04
0.01 0.00 0.01

LSL 9.30 10.90 5.50
NOM 9.50 11.20 5.70
USL 9.70 11.50 5.90

9.30 10.90 5.50
9.50 11.20 5.70
9.70 11.50 5.90

CPK 16.2957048 43.46914557 15.05703129

9.482404721 44.54689874 9.691397391

CPK DATA

ORGANIZATION: SUMITOMO ELECTRIC WIRING SYSTEMS (PLT.5)

Tested by/Date: Ashley Stinson 8/7/17

PART Name/Desc: **FOW120A02FB-B**

Design Rec. Change level/date:

PART NO (s): **6189-7457, 6189-7674**

EU5T-14A464-TB  11/9/2016

Mold #: **1623-B**

Eng. Change Documents: NA

CAVITY #:

M23	9.50		11.20		5.70			M24	9.50		11.20		5.70		
	+0.2	-0.2	+0.3	-0.3	+0.2	-0.2			+0.2	-0.2	+0.3	-0.3	+0.2	-0.2	
1	9.46		11.26		5.69				9.45		11.27		5.68		
2	9.46		11.27		5.68				9.47		11.27		5.68		
3	9.45		11.26		5.69				9.47		11.27		5.68		
4	9.46		11.27		5.69				9.47		11.27		5.69		
5	9.46		11.27		5.69				9.47		11.27		5.69		
6	9.46		11.27		5.69				9.47		11.27		5.67		
7	9.46		11.27		5.69				9.47		11.27		5.67		
8	9.46		11.27		5.69				9.47		11.27		5.69		
9	9.46		11.26		5.69				9.47		11.27		5.68		
10	9.46		11.27		5.67				9.47		11.27		5.69		
11	9.45		11.26		5.69				9.47		11.27		5.68		
12	9.46		11.26		5.68				9.47		11.27		5.69		
13	9.46		11.26		5.69				9.47		11.27		5.68		
14	9.46		11.27		5.68				9.47		11.27		5.68		
15	9.46		11.27		5.69				9.47		11.27		5.69		
16	9.46		11.26		5.69				9.47		11.27		5.68		
17	9.45		11.26		5.68				9.47		11.27		5.69		
18	9.46		11.27		5.68				9.47		11.27		5.69		
19	9.45		11.27		5.69				9.46		11.27		5.69		
20	9.46		11.26		5.68				9.47		11.27		5.68		
21	9.46		11.26		5.68				9.47		11.27		5.69		
22	9.46		11.27		5.69				9.47		11.27		5.69		
23	9.46		11.27		5.69				9.46		11.27		5.69		
24	9.46		11.27		5.68				9.47		11.27		5.68		
25	9.46		11.26		5.69				9.47		11.27		5.67		
26	9.45		11.27		5.68				9.47		11.27		5.68		
27	9.46		11.27		5.68				9.47		11.27		5.68		
28	9.46		11.27		5.68				9.47		11.27		5.68		
29	9.46		11.27		5.68				9.47		11.27		5.68		
30	9.46		11.27		5.68				9.47		11.27		5.69		

CPK DATA

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ORGANIZATION: SUMITOMO ELECTRIC WIRING SYSTEMS (PLT.5)

Tested by/Date: Ashley Stinson 8/7/17

PART Name/Desc: FOW120A02FB-B

Design Rec. Change level/date:

PART NO (s): 6189-7457, 6189-7674

EU5T-14A464-TB 11/9/2016

Mold #: 1623-B

Eng. Change Documents: NA

CAVITY #.↓

M23	9.50		11.20		5.70		M24	9.50		11.20		5.70	
	+0.2	-0.2	+0.3	-0.3	+0.2	-0.2		+0.2	-0.2	+0.3	-0.3	+0.2	-0.2
31	9.46		11.27		5.69			9.47		11.27		5.69	
32	9.46		11.26		5.69			9.48		11.28		5.68	
33	9.46		11.26		5.68			9.47		11.27		5.69	
34	9.46		11.27		5.68			9.47		11.27		5.68	
35	9.46		11.26		5.69			9.47		11.27		5.69	
36	9.45		11.26		5.69			9.47		11.27		5.69	
37	9.46		11.26		5.68			9.47		11.27		5.69	
38	9.46		11.26		5.67			9.47		11.27		5.69	
39	9.46		11.27		5.69			9.47		11.27		5.67	
40	9.47		11.27		5.69			9.47		11.27		5.68	
41	9.46		11.27		5.69			9.47		11.27		5.68	
42	9.45		11.26		5.68			9.47		11.27		5.68	
43	9.46		11.26		5.68			9.48		11.27		5.68	
44	9.45		11.27		5.67			9.47		11.27		5.67	
45	9.46		11.27		5.68			9.47		11.27		5.68	
46	9.46		11.27		5.68			9.47		11.27		5.69	
47	9.45		11.27		5.69			9.47		11.27		5.68	
48	9.45		11.27		5.68			9.46		11.27		5.68	
49	9.46		11.27		5.69			9.47		11.27		5.68	
50	9.46		11.27		5.68			9.47		11.27		5.69	
51	9.45		11.26		5.67			9.47		11.27		5.68	
52	9.46		11.27		5.69			9.47		11.28		5.68	
53	9.45		11.26		5.68			9.47		11.27		5.69	
54	9.46		11.26		5.69			9.47		11.27		5.68	
55	9.45		11.26		5.68			9.47		11.27		5.68	
56	9.45		11.27		5.68			9.47		11.27		5.69	
57	9.45		11.26		5.69			9.47		11.27		5.69	
58	9.46		11.27		5.69			9.47		11.27		5.69	
59	9.45		11.27		5.69			9.47		11.27		5.69	
60	9.46		11.26		5.69			9.47		11.27		5.68	

CPK DATA

ORGANIZATION: SUMITOMO ELECTRIC WIRING SYSTEMS (PLT.5)

Tested by/Date: Ashley Stinson 8/7/17

PART Name/Desc: FOW120A02FB-B

Design Rec. Change level/date:

PART NO (s): 6189-7457, 6189-7674

EU5T-14A464-TB



11/9/2016

Mold #: 1623-B

Eng. Change Documents: NA

CAVITY #.↓

M23	9.50		11.20		5.70		M24	9.50		11.20		5.70	
	+0.2	-0.2	+0.3	-0.3	+0.2	-0.2		+0.2	-0.2	+0.3	-0.3	+0.2	-0.2
61	9.45		11.27		5.68			9.47		11.27		5.69	
62	9.46		11.27		5.69			9.47		11.27		5.68	
63	9.46		11.27		5.69			9.47		11.27		5.68	
64	9.46		11.27		5.68			9.47		11.27		5.68	
65	9.45		11.27		5.69			9.47		11.27		5.68	
66	9.45		11.27		5.69			9.47		11.27		5.69	
67	9.46		11.26		5.69			9.47		11.27		5.68	
68	9.46		11.27		5.68			9.47		11.28		5.68	
69	9.46		11.26		5.69			9.47		11.27		5.68	
70	9.45		11.26		5.68			9.47		11.27		5.68	
71	9.45		11.26		5.69			9.47		11.27		5.68	
72	9.45		11.26		5.69			9.47		11.27		5.69	
73	9.46		11.27		5.69			9.47		11.27		5.69	
74	9.45		11.26		5.69			9.47		11.27		5.69	
75	9.46		11.26		5.68			9.47		11.27		5.68	
76	9.45		11.26		5.69			9.47		11.27		5.68	
77	9.46		11.27		5.69			9.47		11.27		5.69	
78	9.46		11.26		5.69			9.47		11.27		5.69	
79	9.45		11.26		5.69			9.47		11.27		5.69	
80	9.45		11.27		5.69			9.47		11.27		5.68	
81	9.45		11.26		5.68			9.47		11.27		5.68	
82	9.46		11.26		5.69			9.47		11.27		5.67	
83	9.46		11.26		5.69			9.47		11.27		5.68	
84	9.46		11.27		5.69			9.47		11.27		5.69	
85	9.46		11.26		5.67			9.47		11.27		5.68	
86	9.46		11.27		5.69			9.47		11.27		5.69	
87	9.46		11.27		5.69			9.47		11.27		5.68	
88	9.45		11.26		5.68			9.47		11.27		5.69	
89	9.45		11.26		5.68			9.47		11.27		5.69	
90	9.43		11.26		5.68			9.47		11.28		5.69	

CPK DATA

Page 36 of 38

ORGANIZATION: SUMITOMO ELECTRIC WIRING SYSTEMS (PLT.5)

Tested by/Date: Ashley Stinson 8/7/17

PART Name/Desc: FOW120A02FB-B

Design Rec. Change level/date:

PART NO (s): 6189-7457, 6189-7674

EU5T-14A464-TB 11/9/2016

Mold #: 1623-B

Eng. Change Documents: NA

CAVITY #.↓

M23	9.50 +0.2 -0.2	11.20 +0.3 -0.3	5.70 +0.2 -0.2		M24	9.50 +0.2 -0.2	11.20 +0.3 -0.3	5.70 +0.2 -0.2	
91	9.46	11.26	5.67			9.47	11.27	5.69	
92	9.46	11.26	5.68			9.47	11.27	5.68	
93	9.46	11.26	5.69			9.47	11.28	5.68	
94	9.46	11.27	5.69			9.47	11.27	5.69	
95	9.46	11.26	5.67			9.47	11.27	5.68	
96	9.45	11.26	5.69			9.47	11.27	5.69	
97	9.46	11.26	5.68			9.47	11.27	5.68	
98	9.46	11.26	5.69			9.47	11.27	5.69	
99	9.45	11.27	5.68			9.47	11.27	5.69	
100	9.45	11.27	5.69			9.47	11.27	5.69	

average 9.46 11.26 5.68
minimum 9.43 11.26 5.67
maximum 9.47 11.27 5.69
range 0.04 0.01 0.02
std dev 0.00 0.00 0.00

9.47 11.27 5.68
9.45 11.27 5.67
9.48 11.28 5.69
0.03 0.01 0.03
0.00 0.00 0.00

LSL 9.30 10.90 5.50
NOM 9.50 11.20 5.70
USL 9.70 11.50 5.90

9.30 10.90 5.50
9.50 11.20 5.70
9.70 11.50 5.90

CPK 12.43642213 42.93832619 13.81928052

16.76200255 36.16141746 13.04721019

WORK INSTRUCTION

AREA:	QUALITY ASSURANCE LAB
TITLE	LABORATORY SCOPE - SCOTTSVILLE (SV5, SV5-2, SV5-Franklin)

PURPOSE: To summarize the testing capabilities available at Scottsville Plant (SV5, SV5-2, SV5-Franklin), and to clarify the equipment, tests performed, standards, recording method and reaction plan.	APPLICATION: Scottsville (SV5, SV5-2, SV5-Franklin)
	RULE ENFORCER: QA Coordinator / Above

SV5 Tests Performed

TESTS PERFORMED	EQUIPMENT USED	TEST METHODS / STANDARD	RECORDING METHOD	REACTION METHOD
Melt Flow Rate	Tinius Olsen Extrusion Plastometer	QRW - MELTFLOW	Melt Index Record	Reject Tag Procedure
Waterproof Test	Waterproof Tester	QAW - WATERPROOFTST	Inspection Data Sheet	Reject Tag Procedure
Moisture Analysis (Reference Only)	Moisture Tester	F-A-SV5-010	Moisture Test Data Sheet	Reject Tag Procedure
Insertion / Retention Test	Force Gage Instron Tester	QAW - INSERTRETPROC QAW - InstronOperation	Inspection Data Sheet Data storage	Reject Tag Procedure
Dimensional Measurement	Profile / Caliper / Micrometer / Depth Gage / Keyence Measurement System	Inspection Instruction Sheet	Inspection Data Sheet	Reject Tag Procedure
Part Weight	Scale	Inspection Instruction Sheet	Inspection Data Sheet	Reject Tag Procedure
Freeze Test	Freezer	SWS Inspection Standard	Inspection Data Sheet	Reject Tag Procedure

SV5 - Franklin Tests Performed

TESTS PERFORMED	EQUIPMENT USED	TEST METHODS / STANDARD	RECORDING METHOD	REACTION METHOD
Melt Flow Rate	Tinius Olsen Extrusion Plastometer	QRW - MELTFLOW	Melt Index Record	Reject Tag Procedure
Waterproof Test	Waterproof Tester	QAW - WATERPROOFTST	Inspection Data Sheet	Reject Tag Procedure
Insertion / Retention Test	Force Gage Instron Tester	QAW - INSERTRETPROC QAW - InstronOperation	Inspection Data Sheet Data storage	Reject Tag Procedure

WORK INSTRUCTION

AREA:	QUALITY ASSURANCE LAB			
TITLE	LABORATORY SCOPE - SCOTTSVILLE (SV5, SV5-2, SV5-Franklin)			
Dimensional Measurement	Caliper / Micrometer / Depth Gage / Keyence Measurement System	Inspection Instruction Sheet	Inspection Data Sheet	Reject Tag Procedure
Part Weight	Scale	Inspection Instruction Sheet	Inspection Data Sheet	Reject Tag Procedure
Freeze Test	Freezer	SWS Inspection Standard	Inspection Data Sheet	Reject Tag Procedure

SV5 (Building 2) Tests Performed

TESTS PERFORMED	EQUIPMENT USED	TEST METHODS / STANDARD	RECORDING METHOD	REACTION METHOD
Hardness Test	Hardness Tester	H-A-001	Hardness Test Data Sheet	Reject Tag Procedure
Dimensional Measurement	Profile / Caliper / Micrometer / Depth Gage / Nikon MM-400	Inspection Instruction Sheet	Inspection Data Sheet	Reject Tag Procedure
Contact Force Test	Contact Force Gage	MSW-Force Gage	Inspection Data Sheet	Reject Tag Procedure
Dimensional Measurement	Profile / Keyence System / OGP / Caliper / Micrometer / Depth Gage / Slip Gages	SWS Inspection Standard	Inspection Data Sheet	Reject Tag Procedure

Equipment Calibrations

	EQUIPMENT USED	TEST METHODS / STANDARD	RECORDING METHOD	REACTION METHOD
Calipers, Micrometers, Depth Gages, Weigh Scales, other process tools/jigs.	Certified Gages (Gage Blocks & Weights)	Per Calibration Procedure	Calibration Record and Gagetrak	Reject Tag Procedure
Keyence Microscope	Certified Gages			
Force Gages	Certified Weights			
Freezer	Certified Meter			
Melt Indexer	Outside Vendor			
Moisture Analyzer	Outside Vendor			
Water Pressure Gage	Outside Vendor			
Hardness Tester	Outside Vendor			
Optical Comparator (Profile)	Outside Vendor			
Keyence Measurement Scope	Outside Vendor			
OGP	Outside Vendor			
NIKON MM-400	Outside Vendor			
INSTRON Tensile Tester	Outside Vendor			



Part Submission Warrant

Part Name FOW120A02FB-B Cust. Part Number 6189-7457
Shown on Drawing No. EU5T-14A464-TB Org. Part Number 6189-7457
Engineering Drawing Change Level L4 Date 09/11/2016
Additional Engineering Changes N/A Dated N/A
Safety and/or Government Regulation ☐ Yes ☒ No Purchase Order No. N/A Weight (kg) 0.0030
Checking Aid No. N/A Checking Aid Engineering Change Level N/A Dated N/A

ORGANIZATION MANUFACTURING INFORMATION

Sumitomo Wiring Systems, Inc. /SEWS
Organization Name & Supplier/Vendor Code
7500 Viscount Blvd. suite 192 / 2687 Old Gallatin Rd.
Street Address
EL Paso, TX 79925 / Scottsville Ky. 42164 USA
City Region Postal Code Country

CUSTOMER SUBMITTAL INFORMATION

SEWS-CE
N/A
Buyer/Buyer Code
AUTOMOTIVE
Application

MATERIALS REPORTING

Has customer-required Substances of Concern information been reported?

☒ Yes ☐ No ☐ n/a

Submitted by IMDS or other customer format:

IMDS ID: 482403520 / 3

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
☐ Supplier or Material Source Change
☐ Change in Part Processing
☐ Parts Produced at Additional Location
☐ Other - please specify below

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 ☒ 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 MOLD 1623-B (M9-M24) / INJECTION MOLD / 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 reduction Part Approval Process Manual 4th Edition Requirements. I further affirm that these samples were produced at the production rate of 25,600 / 8 hours. I also certify that documented evidence of such compliance is on file and available for review. I have noted any deviations from this declaration below.

EXPLANATION/COMMENTS:

Is each Customer Tool properly tagged and numbered? ☐ Yes ☐ No ☒ n/a

Organization Authorized Signature J. Vargas Date August 21, 2017

Print Name Javier Vargas/ Veronica de Santiago Phone No. (915) 843-3000 FAX No. (915) 843-3001

Title Q.A Supervisor / PPAP Coordinator E-mail j.vargas@us.sws.co.jp / s.veronica@us.sws.co.jp

FOR CUSTOMER USE ONLY (IF APPLICABLE)

Part Warrant Disposition: ☐ Approved ☐ Rejected ☐ Other

Customer Signature _____ Date _____

Print Name _____ Customer tracking number (optional) _____