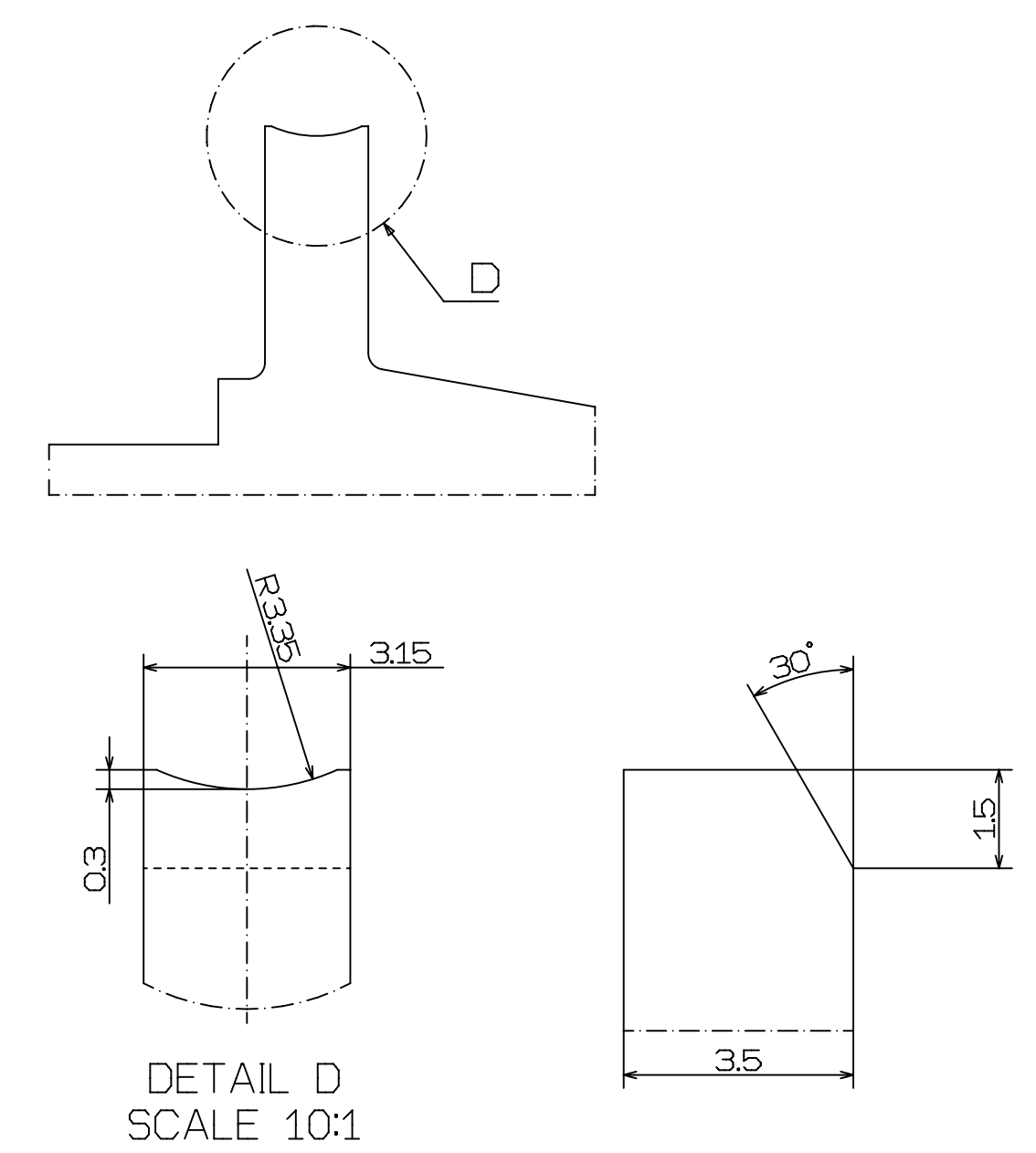
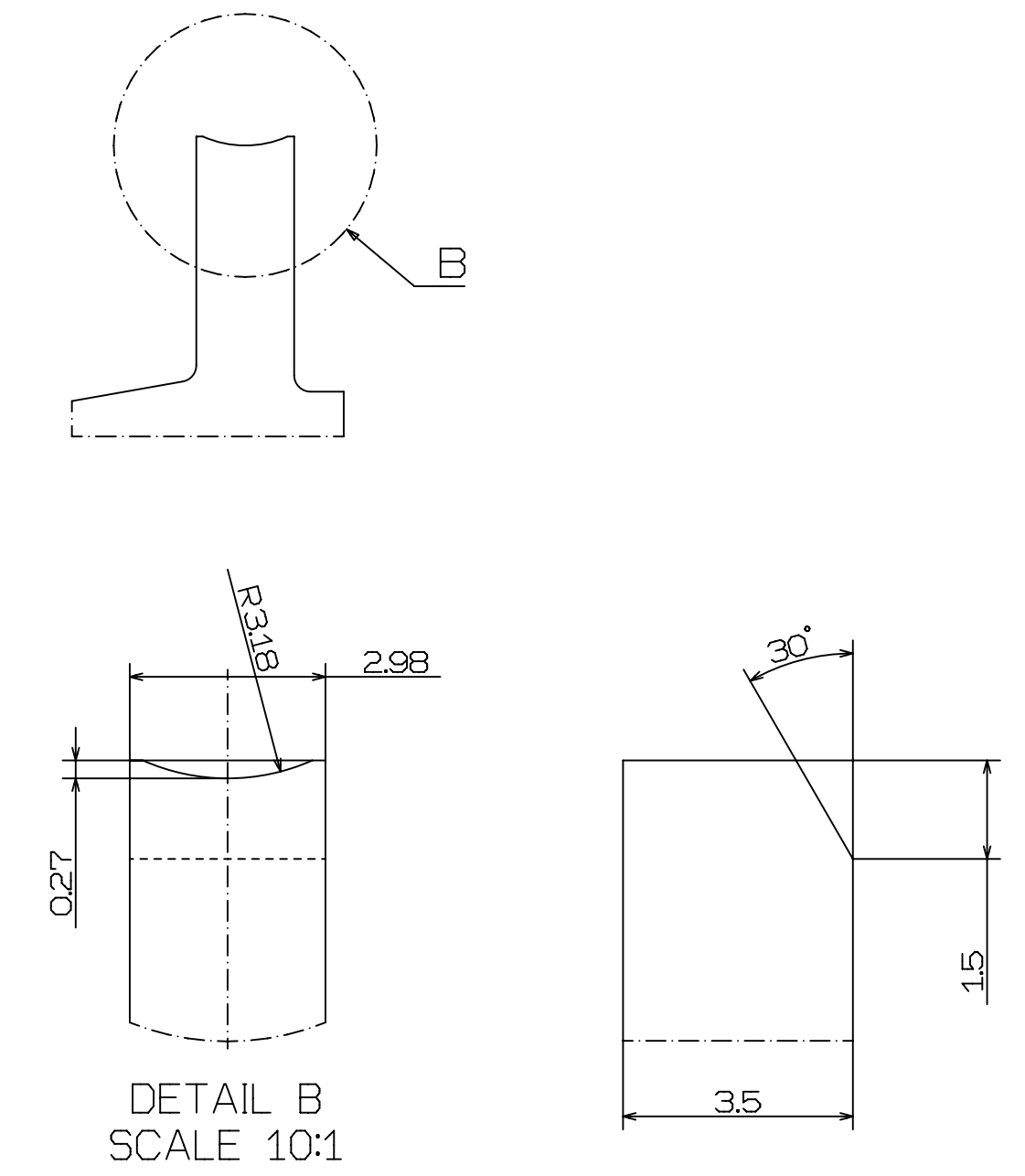


INSULATION ANVIL

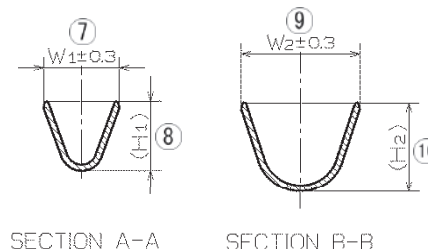
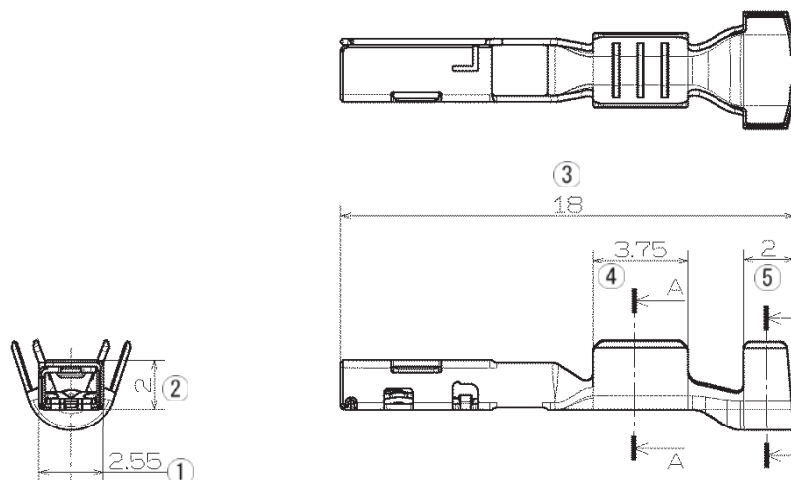


圧着部寸法
DIMENTION OF CRIMPING WING

符号 ISS.	サイズ SIZE	H1	H2	W1	W2	N
①	S	(2.2)	(3.4)	2.6	4.3	0.75
②	M	(2.8)	(4.0)	3.0	4.95	0.85

適用電線表
APPLICABLE WIRE SIZE

符号 ISS.	サイズ SIZE	電線種 WIRE TYPE	電線サイズ WIRE SIZE
①	S	TXL (AWG)	22~20
		CHFUS (ISO)	0.35~0.5mm ²
②	M	TXL (AWG)	18~16
		CHFUS (ISO)	0.75~1.0mm ²
		AESSX (JASO)	1.25mm ²



②	12 SEALED 2PIECES FEMALE TERMINAL M SIZE (Ag)				8240-0512	TER-WUS120FMAG
①	12 SEALED 2PIECES FEMALE TERMINAL S SIZE (Ag)				8240-0511	TER-WUS120FSAG
符号 ISS.	名 称 DESCRIPTION	数量 QTY	材 質 MATERIAL	色 相 COLOR	部 品 番 号 PART NO.	登 録 名 称 PART NAME

材 質 MATERIAL BODY : C2600R-H SPRING : C7035-EH		板 厚 THICKNESS BODY : 0.25 SPRING : 0.2		登 録 名 称 PART NAME	
仕 上 FINISH Ag PLATING		尺 度 SCALE 5:1		上 記 参 照 SEE ABOVE TABLE	
色 相 COLOR		質 量 MASS		管 理 番 号 REFERENCE NO.	
承 認 APPROVED		検 図 CHECKED		部 品 番 号 PART NO.	
16.01.09 K.Yamashita		16.01.09 K.Uezono		SEE ABOVE TABLE	
		設 計 DESIGNED Y.KITAGAWA		名 称 DESCRIPTION	
		製 図 DRAWN H.KANGYU		1.2mm防水メス端子(Ag)	
				12 SEALED 2PIECES FEMALE TERMINAL(Ag)	
角 度 ANGLE		三 角 法 THIRD ANGLE PROJECTION		Sumitomo Wiring Systems, Ltd.	

一 般 公 差 表 GENERAL TOLERANCES		
以 上 OR OVER	未 満 LESS THAN	
10	10	±0.2
	50	±0.3

Supplier

Sumitomo Wiring Systems, Ltd.

Part Certification

PROCESS FLOW DIAGRAM

Family name					Date (Orig.) 17.Nov.'14	Prepared by Sumitomo Wiring Systems, Ltd.			
Part Number 8240-0511					Date (Rev.) N/A	Title N/A			
Part Name TER-WUS120FSAG					Page 1 of 15	Phone Number 81-59-382-8867			
Cross Functional Team Members									
Engineer Section QA Section D.Hirasawa M.Hayakawa Y.Hattori K.Takahashi									
Step	Fab	Move	Store	Insp	Operation description	Item #	Product Characteristics	Item #	Control Characteristics
1	◆	●	▲	■	Receipt of material and receiving inspection	1	Product name	1	Material ledger
						2	Quantity	2	↑
						3	Condition of packing	3	↑
						4	Material characteristics	4	Inspection report
2	◆				Try of stamping	1	Machine check	1	Daily report
						2	product condition	2	↑
3				■	Initial inspection	1	Dimension	1	Inspection report
						2	Appearance	2	↑
						3	function	3	↑
4	◆				Stamping	1	Quantity	1	Daily report
5				■	Final inspection	1	Dimension	1	Inspection report
						2	Appearance	2	↑
						3	function	3	↑
6	◆	●			Packing	1	part name and code	1	Daily report
						2	Quantity	2	↑
7			▲		Shipment	1	Part name and code	1	Inventory book
						2	Quantity	2	↑
						3	Shipping destination	3	↑

Supplier	POTENTIAL FAILURE MODE AND EFFECTS ANALYSIS	
Sumitomo Wiring Systems, Ltd.		
Part Certification	☐ Design FMEA ☒ Process FMEA	

☐ System ☐ Subsystem ☒ Component		Page 1 of 15	FMEA Number PPAP S14-085													
Part Number 8240-0511		Design or Process Responsibility Sumitomo Wiring Systems, Ltd.		Prepared by Sumitomo Wiring Systems, Ltd.												
Model Year(s) / Vehicle(s) N/A		Key Date N/A		Telephone # 81-59-382-8867												
		Original FMEA Date 17.Nov.'14		FMEA Revision Date N/A												
Core Team																
Design section (T.Hata)		Engineering section (D.Hirasawa)														
QA section (M.Hayakawa)		Production section (T. Nakazawa)														
Design Item or Process Function Requirements	Potential Failure Mode	Potential Effect(s) of Failure	Severity	Class	Potential Cause(s) / Mechanism(s) of Failure	Occurrence	Current Design or Process Controls	Detection	RPN	Recommended Actions	Responsibility & Target Completion Date	Actions Taken	Severity	Occurrence	Detection	RPN
Receipt of material and receiving inspection	Wrong raw material	Lower its Function/Durability	8	N/A	Misshipment of supplier	1	Confirmation of Warrant and Label	2	16	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		Lower its Function/Durability	7	↑	Misoperation	1	Confirmation of Warrant and product	2	14	↑	↑	↑	↑	↑	↑	↑
Try of stamping	Dimensional problem and deformation	Lower its Function/Durability	8	↑	Missetting of Die	1	According to operation manual Inspection of product	2	16	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		Lower its Function/Durability	8	↑	Missetting of condition	1	According to operation manual Inspection of product	2	16	↑	↑	↑	↑	↑	↑	↑
Initial inspection	Dimensional problem and deformation	Lower its Function/Durability	6	↑	Fail to check the appearance difference	1	According to inspection manual	2	12	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		Lower its Function/Durability	6	↑	Mismeasuring	1	According to inspection manual	2	12	↑	↑	↑	↑	↑	↑	↑
		Lower its Function/Durability	6	↑	Breakdown of measuring machine	1	Daily check Periodical check	1	6	↑	↑	↑	↑	↑	↑	↑
Stamping	Dimensional problem and deformation	Lower its Function/Durability	6	↑	Not good stamping condition	1	According to operation manual Inspection of product	2	12	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		Lower its Function/Durability	6	↑	Back-off of cutting pieces	1	Visual check Control of bottom dead point	1	6	↑	↑	↑	↑	↑	↑	↑
		Lower its Function/Durability	6	↑	Broken die	1	Confirmation of check sheet of die Inspection of product	2	12	↑	↑	↑	↑	↑	↑	↑

Supplier

POTENTIAL FAILURE MODE AND EFFECTS ANALYSIS

Sumitomo Wiring Systems, Ltd.

Part Certification

☐ Design FMEA
 ☒ Process FMEA

☐ System
 ☐ Subsystem
 ☒ Component

Page 2 of 15

FMEA Number PPAP S14-085

Part Number 8240-0511

Design or Process Responsibility Sumitomo Wiring Systems, Ltd.

Prepared by Sumitomo Wiring Systems, Ltd.

Telephone # 81-59-382-8867

Model Year(s) / Vehicle(s) N/A

Key Date N/A

Original FMEA Date 17.Nov.'14

FMEA Revision Date N/A

Core Team

Design section (T.Hata)

Engineering section (D.Hirasawa)

QA section (M.Hayakawa)

Production section (T. Nakazawa)

Design Item or Process Function Requirements	Potential Failure Mode	Potential Effect(s) of Failure	S e v	C l a s s	Potential Cause(s) / Mechanism(s) of Failure	O c c	Current Design or Process Controls	D e t	R P N	Recommended Actions	Responsibility & Target Completion Date	Actions Taken	S e v	O c c	D e t	R P N
Final inspection	Dimensional problem and deformation	Lower its Function/Durability	6	N/A	Fail to check the appearance difference	1	According to inspection manual	2	12	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		Lower its Function/Durability	6	↑	Mismeasuring	1	According to inspection manual	2	12	↑	↑	↑	↑	↑	↑	↑
		Lower its Function/Durability	6	↑	Breakdown of measuring machine	1	Daily check Periodical check	1	6	↑	↑	↑	↑	↑	↑	↑
Packing and Shipment	Wrong quantity	N/A	2	↑	Miss confirmation of the quantity	1	According to the packing specification	1	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Miss shipment	N/A	2	↑	Miss labeling	1	According to the packing specification	1	2	↑	↑	↑	↑	↑	↑	↑
	Broken package	↑	1	↑	Mishandling	1	According to shipping manual	2	2	↑	↑	↑	↑	↑	↑	↑

Supplier

Sumitomo Wiring Systems, Ltd.

Part Certification

CONTROL PLAN

Control Plan Category ☐ Prototype ☐ Pre-Launch ☒ Production		Key Contact Name Masahiro.Hayakawa		Date (Orig) 17.Nov.'14	Date (Rev) 0	Page 1 of 15
Control Plan Number PPAP S14-085		Key Contact Phone 81-59-382-8867		Customer Engineering Approval (If Req'd) N/A		Date (If Req'd) N/A
Part Number 8240-0511	ECL 3	Supplier / Plant Approval / Date N/A		Customer Quality Approval (If Req'd) N/A		Date (If Req'd) N/A
Part Name / Description TER-WUS120FSAG		Other supplier approval by (If Req'd) N/A		Other Approval (If Req'd) N/A		Date (If req'd) N/A
Supplier / Plant Sumitomo Wiring Systems,Ltd.	Supplier Code N/A	Other Approval Date (If Req'd) N/A				

Core team Members

Engineer Section D.Hirasawa Y.Hattori
 QA Section M.Hayakawa K.Takahashi

Part / Proc #	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 Size	Sample Freq.	Control Method	
1	Receipt of material and receiving	N/A	1	Product name	N/A	N/A	N/A	Check of slip	N/A	Lot	Material ledger	Get in touch with leader
		↑	2	Quantity	↑	↑	↑	Check of delivery slip	↑	↑	↑	
		↑	3	Condition of packing	↑	↑	↑	Visual check	↑	↑	↑	
		↑	4	Material characteristics	↑	↑	↑	Check of material inspection report	↑	↑	Inspection report	
2	Try of stamping	Press machine	1	N/A	Machine check	N/A	Operation	Machine check	N/A	Lot	Daily report	
		↑	2	↑	product condition	↑	↑	Daily report check	↑	↑	↑	
3	Initial inspection	Measuring instrument	1	Dimension	N/A	N/A	Inspection standard	Dimension data check	Depend on the inspection Standard		Inspection report	
		Magnifying glass	2	Appearance	↑	↑	↑	Visual check			↑	
		Measuring machine	3	function	↑	↑	↑	Function data check			↑	
4	Stamping	Press machine	1	N/A	Quantity	N/A	Operation standard	Check of preset counter	N/A	Lot	Daily report	

Sumitomo Wiring Systems, Ltd.

CONTROL PLAN

Control Plan Category ☐ Prototype ☐ Pre-Launch ☒ Production		Key Contact Name Masahiro.Hayakawa		Date (Orig) 17.Nov.'14	Date (Rev) 0	Page 2 of 15
Control Plan Number PPAP S14-085		Key Contact Phone 81-59-382-8867		Customer Engineering Approval (If Req'd) N/A		Date (If Req'd) N/A
Part Number 8240-0511	ECL 3	Supplier / Plant Approval / Date N/A		Customer Quality Approval (If Req'd) N/A		Date (If Req'd) N/A
Part Name / Description TER-WUS120FSAG		Other supplier approval by (If Req'd) N/A		Other Approval (If Req'd) N/A		Date (If req'd) N/A
Supplier / Plant Sumitomo Wiring Systems,Ltd.	Supplier Code N/A	Other Approval Date (If Req'd) N/A				

Engineer	Section	D.Hirasawa	Y.Hattori
QA	Section	M.Hayakawa	K.Takahashi

Part / Proc #	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 Size	Sample Freq.	Control Method	
5	Final inspection	Measuring instrument	1	Dimension	N/A	N/A	Inspection standard	Dimension data check	Depend on the inspection Standard		Inspection report	Get in touch with leader
		Magnifying glass	2	Appearance	↑	↑	↑	Visual check			↑	
		Measuring machine	3	function	↑	↑	↑	Function data check			↑	
6	Packing	N/A	1	part name and code	N/A	N/A	Operation standard	Visual check	All	Lot	Daily report	
		↑	2	Quantity	↑	↑	↑	↑	↑	↑	↑	
7	Shipment	↑	1	Part name and code	N/A	N/A	Shipping instruction sheet	Visual check	All	Lot	Inventory book	
		↑	2	Quantity	↑	↑	↑	↑	↑	↑	↑	
		↑	3	Shipping destination	↑	↑	↑	↑	↑	↑	↑	↑

Katsunuki Ota

Gage Repeatability and Reproducibility Data Sheet (Calipers)

Appraiser / Trial #		1	2	3	4	5	6	7	8	9	10	AVERAGE	
1 A	1	9.40	9.45	9.42	9.39	9.43	9.38	9.35	9.41	9.42	9.40	9.4050	
	2	9.41	9.44	9.43	9.38	9.43	9.38	9.36	9.41	9.42	9.41	9.4070	
	3	9.41	9.44	9.43	9.38	9.42	9.38	9.36	9.42	9.41	9.41	9.4060	
	Avarage	9.407	9.443	9.427	9.383	9.427	9.380	9.357	9.413	9.417	9.407	Xbar A 9.4060	
	Range	0.010	0.010	0.010	0.010	0.010	0.000	0.010	0.010	0.010	0.010	Rbar A 0.0090	
6 B	1	9.38	9.42	9.36	9.40	9.45	9.42	9.38	9.41	9.42	9.41	9.4050	
	2	9.38	9.42	9.37	9.41	9.45	9.41	9.38	9.41	9.43	9.40	9.4060	
	3	9.39	9.41	9.37	9.41	9.44	9.41	9.38	9.41	9.42	9.41	9.4050	
	Avarage	9.383	9.417	9.367	9.407	9.447	9.413	9.380	9.410	9.423	9.40	Xbar B 9.4053	
	Range	0.010	0.010	0.010	0.010	0.010	0.010	0.000	0.000	0.010	0.010	Rbar B 0.0080	
11 C	1	9.40	9.42	9.44	9.43	9.39	9.41	9.36	9.41	9.37	9.39	9.4020	
	2	9.41	9.42	9.45	9.44	9.40	9.40	9.36	9.41	9.37	9.39	9.4050	
	3	9.40	9.42	9.44	9.42	9.39	9.41	9.37	9.40	9.38	9.39	9.4020	
	Avarage	9.403	9.420	9.443	9.430	9.393	9.407	9.363	9.407	9.373	9.390	Xbar C 9.4030	
	Range	0.010	0.000	0.010	0.020	0.010	0.010	0.010	0.010	0.010	0.000	Rbar C 0.0090	
16 Part												Xbar-bar	9.4048
Avarage (X p)		9.398	9.427	9.412	9.407	9.422	9.400	9.367	9.410	9.404	9.401	R p	0.0600
17	(Rbar A + Rbar B + Rbar C)/(# of Appraisers = 3)											Rbar-bar	0.0087
18	(Max Xbar)-(Min Xbar) = Xbar DIFF												0.0030
19	(R bar-bar)*(D4=2.58)=UCL R												0.02
20	(R bar-bar)*(D3=0.00)=LCL R												0.00

Gage Repeatability and Reproducibility Report						Date 31. MAR. '16	
Part No. and Name	Measurement sample for Gage R&R use		Gage Name	Calipers	Performed by		
Characteristics	Dimension		Gage No.	817	T. Morishita		
Tolerance	0.6 Units mm		Gage Type	Calipers	T. Saitou		
Tolerance (T)	T= 0.6				T. Taniguchi		
From data sheet	Rbar-bar= 0.0087		Xbar DIFF=	0.0030	R p=	0.060	
Measurement Unit Analysis					Based on the TOLERANCE Method		
Repeatability - Equipment Variation (EV)					% EV= (EV*6/T) * 100 = 5.12 %		
EV = Rbar-bar * K1 = 0.0051		Trials		K1			
		2		0.8862			
		3		0.5908			
Reproducibility - Appraiser Variation (AV)					% AV= (AV*6/T) * 100 = 1.26 %		
AV= SQRT((Xbar DIFF * K2)^2 - (EV^2/nr)) = 0.001260					n = number of parts r = number of trials		
		Appraisers		2			3
		K2		0.7071			0.5231
Repeatability & Reproducibility (R&R)					% R&R= (R&R*6/T) * 100 = 5.27 % Gage system OK		
R&R= SQRT(EV^2 + AV^2) = 0.0053				Parts	K3		
Part Variation (PV) PV= R p * K3 = 0.0189				2	0.7071	% PV= (PV*6/T) * 100 = 18.88 %	
				3	0.5231		
				4	0.4467		
				5	0.4030		
Total Variation (TV) TV= SQRT (R&R^2 + PV^2) = 0.0196				6	0.3742	ndc= 1.41 (PV/GRR) = 5 Gage discrimination acceptable	
				7	0.3534		
				8	0.3375		
				9	0.3249		
				10	0.3146		

Katsunuki Ota

Gage Repeatability and Reproducibility Data Sheet (Projector)

Appraiser / Trial #		1	2	3	4	5	6	7	8	9	10	AVERAGE	
1 A	1	9.40	9.45	9.40	9.41	9.41	9.39	9.40	9.36	9.40	9.40	9.4020	
2	2	9.41	9.44	9.41	9.41	9.41	9.39	9.40	9.36	9.41	9.41	9.4050	
3	3	9.40	9.44	9.41	9.39	9.42	9.40	9.40	9.37	9.42	9.41	9.4060	
4	Avarage	9.403	9.443	9.407	9.403	9.413	9.393	9.400	9.363	9.410	9.407	Xbar A	9.4043
5	Range	0.010	0.010	0.010	0.020	0.010	0.010	0.000	0.010	0.020	0.010	Rbar A	0.0110
6 B	1	9.42	9.44	9.38	9.41	9.42	9.40	9.41	9.35	9.39	9.38	9.4000	
7	2	9.42	9.43	9.39	9.41	9.41	9.40	9.41	9.36	9.39	9.39	9.4010	
8	3	9.42	9.44	9.40	9.41	9.41	9.40	9.41	9.35	9.40	9.39	9.4030	
9	Avarage	9.420	9.437	9.390	9.410	9.413	9.400	9.410	9.353	9.393	9.387	Xbar B	9.4013
10	Range	0.000	0.010	0.020	0.000	0.010	0.000	0.000	0.010	0.010	0.010	Rbar B	0.0070
11 C	1	9.41	9.45	9.40	9.41	9.42	9.41	9.41	9.36	9.40	9.39	9.4060	
12	2	9.42	9.45	9.41	9.42	9.42	9.40	9.42	9.35	9.41	9.40	9.4100	
13	3	9.41	9.44	9.41	9.41	9.42	9.42	9.41	9.35	9.40	9.39	9.4060	
14	Avarage	9.413	9.447	9.407	9.413	9.420	9.410	9.413	9.353	9.403	9.393	Xbar C	9.4073
15	Range	0.010	0.010	0.010	0.010	0.000	0.020	0.010	0.010	0.010	0.010	Rbar C	0.0100
16 Part												Xbar-bar	9.4043
Avarage (X p)		9.412	9.442	9.401	9.409	9.416	9.401	9.408	9.357	9.402	9.396	R p	0.0856
17	(Rbar A + Rbar B + Rbar C)/(# of Appraisers = 3)											Rbar-bar	0.0093
18	(Max Xbar)-(Min Xbar) = Xbar DIFF												0.0060
19	(R bar-bar)*(D4=2.58)=UCL R												0.02
20	(R bar-bar)*(D3=0.00)=LCL R												0.00

Gage Repeatability and Reproducibility Report						Date 31. MAR. '16
Part No. and Name	Measurement sample for Gage R&R use	Gage Name	Projector	Performed by		
Characteristics	Dimension	Gage No.	T0026	T. Morishita		
Tolerance	0.6 Units mm	Gage Type	Projector:V24	T. Saitou		
Tolerance (T)	T= 0.6			T. Taniguchi		
From data sheet	Rbar-bar= 0.0093	Xbar DIFF=	0.0060	R p=	0.086	
Measurement Unit Analysis				Based on the TOLERANCE Method		
Repeatability - Equipment Variation (EV)				% EV= (EV*6/T) * 100 = 5.51 %		
EV = Rbar-bar * K1 = 0.0055		Trials	K1			
		2	0.8862			
		3	0.5908			
Reproducibility - Appraiser Variation (AV)				% AV= (AV*6/T) * 100 = 2.97 %		
AV= SQRT((Xbar DIFF * K2)^2 - (EV^2/nr)) = 0.0030						
		Appraisers	2	3	n = number of parts r = number of trials	
		K2	0.7071	0.5231		
Repeatability & Reproducibility (R&R)				% R&R= (R&R*6/T) * 100 = 6.26 % Gage system OK		
R&R= SQRT(EV^2 + AV^2) = 0.0063		Parts	K3			
Part Variation (PV)		2	0.7071	% PV= (PV*6/T) * 100 = 26.92 %		
PV= R p * K3 = 0.0269		3	0.5231			
		4	0.4467			
		5	0.4030			
Total Variation (TV)		6	0.3742	ndc= 1.41 (PV/GRR) = 6 Gage discrimination acceptable		
TV= SQRT (R&R^2 + PV^2) = 0.0276		7	0.3534			
		8	0.3375			
		9	0.3249			
		10	0.3146			

PART INSPECTION REPORT

1 of 1

Supplier

SUMITOMO WIRING SYSTEMS

Part Certification

Mold:SZ1

Part Number

8240-0511

ECL

3

Part Name

TER-WUS120FSAG

Dim No	Figure Code	Drawing Dimension	Acceptance		PARTS/TOOL CAVITIES CHECKED								OK	NOT OK	
			Lower	Upper	1	2	3	4	5	6	7	8			
1		2.55	2.35	2.75	2.55								O		
2		2	1.8	2.2	1.98								O		
3		18	17.7	18.3	18.11								O		
4		3.75	3.55	3.95	3.79								O		
5		2	1.8	2.2	1.99								O		
6		0.75	0.55	0.95	0.75								O		
7		2.6	2.3	2.9	2.56								O		
8		(2.2)	Ref		2.18								-		
9		4.3	4.0	4.6	4.22								O		
10		(3.4)	Ref		3.30								-		
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45															

Inspection Source Company Name

Inspected by

Y.Hattori

Title

QA STAFF

Inspection Report Date

31.Jan.'17

Inspector Supervisor

Title

Date

Approved by

K. Ota

Title

Components Gr. QA Dep. Deputy General Manager

Date

31.Jan.'17

PART INSPECTION REPORT

1 of 1

Supplier

SUMITOMO WIRING SYSTEMS

Part Certification

Mold:SZ2

Part Number

8240-0511

ECL

3

Part Name

TER-WUS120FSAG

Dim No	Figure Code	Drawing Dimension	Acceptance		PARTS/TOOL CAVITIES CHECKED								OK	NOT OK	
			Lower	Upper	1	2	3	4	5	6	7	8			
1		2.55	2.35	2.75	2.52								O		
2		2	1.8	2.2	1.99								O		
3		18	17.7	18.3	18.14								O		
4		3.75	3.55	3.95	3.74								O		
5		2	1.8	2.2	2.01								O		
6		0.75	0.55	0.95	0.69								O		
7		2.6	2.3	2.9	2.66								O		
8		(2.2)	Ref		2.18								-		
9		4.3	4.0	4.6	4.19								O		
10		(3.4)	Ref		3.30								-		
11															
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44															
45															

Inspection Source Company Name

Inspected by

Y.Hattori

Title

QA STAFF

Inspection Report Date

31.Jan.'17

Inspector Supervisor

Title

Date

Approved by

K. Ota

Title

Components Gr. QA Dep. Deputy General Manager

Date

31.Jan.'17

PART INSPECTION REPORT

1 of 1

Supplier

SUMITOMO WIRING SYSTEMS

Part Certification

Mold:SZ3

Part Number

8240-0511

ECL

3

Part Name

TER-WUS120FSAG

Dim №	Figure Code	Drawing Dimension	Acceptance		PARTS/TOOL CAVITIES CHECKED								OK	NOT OK	
			Lower	Upper	1	2	3	4	5	6	7	8			
1		2.55	2.35	2.75	2.52								0		
2		2	1.8	2.2	1.99								0		
3		18	17.7	18.3	18.16								0		
4		3.75	3.55	3.95	3.76								0		
5		2	1.8	2.2	2.02								0		
6		0.75	0.55	0.95	0.68								0		
7		2.6	2.3	2.9	2.68								0		
8		(2.2)	Ref		2.16								-		
9		4.3	4.0	4.6	4.20								0		
10		(3.4)	Ref		3.32								-		
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45															

Inspection Source Company Name

Inspected by

Y.Hattori

Title

QA STAFF

Inspection Report Date

31.Jan.'17

Inspector Supervisor

Title

Date

Approved by

K. Ota

Title

Components Gr. QA Dep. Deputy General Manager

Date

31.Jan.'17

MATERIAL TEST RESULTS

Supplier
Part Certification

SUMITOMO WIRING SYSTEMS Ltd.

Mold:SZ1

Page 1 of 1

Supplier	Part Number
SUMITOMO WIRING SYSTEMS Ltd.	8240-0511
Name of Laboratory	Part Name
SUMITOMO WIRING SYSTEMS Ltd.	TER-WUS120FSAG

[illegible]

Signature *K. Ota*

K. Ota

Title
Components Gr. QA Dep. Deputy General Manager

Components Gr. QA Dep. Deputy General Manager

Date	31.Jan.'17
------	------------

31.Jan.'17

MATERIAL TEST RESULTS

Supplier
Part Certification

SUMITOMO WIRING SYSTEMS Ltd.

Mold:SZ2

Page 1 of 1

Supplier	Part Number
SUMITOMO WIRING SYSTEMS Ltd.	8240-0511
Name of Laboratory	Part Name
SUMITOMO WIRING SYSTEMS Ltd.	TER-WUS120FSAG

[illegible]

Signature

K. Ota

Title

Components Gr. QA Dep. Deputy General Manager

Date	
------	--

31.Jan.'17

MATERIAL TEST RESULTS

Supplier Part Certification

SUMITOMO WIRING SYSTEMS Ltd.

Mold:SZ3

Page 1 of 1

Supplier	Part Number
SUMITOMO WIRING SYSTEMS Ltd.	8240-0511
Name of Laboratory	Part Name
SUMITOMO WIRING SYSTEMS Ltd.	TER-WUS120FSAG

[illegible]

Signature *K. Ota*

K. Ota

Title
Components Gr. QA Dep. Deputy General Manager

Components Gr. QA Dep. Deputy General Manager

Date	31.Jan.'17
------	------------

31.Jan.'17

PERFORMANCE TEST

SUMITOMO WIRING SYSTEMS Ltd

Mold:SZ2

Page

1 of 1

Supplier SUMITOMO WIRING SYSTEMS Ltd	Part Number 8240-0511
Name of Laboratory SUMITOMO WIRING SYSTEMS Ltd	Part Name TER-WUS120FSAG

[illegible]

K. Ota

Components Gr. QA Dep. Deputy General Manager

31.Jan.'17

31.Jan.'17

Process Capability data

Part Name: TER-WUS120FSAG

Part No: 8240-0511

K. Ota

Mold:SZ1

Measurement Place	1						
Standard	2.55						
UCL	2.75						
LCL	2.35						
n1	2.560						
n2	2.550						
n3	2.550						
n4	2.560						
n5	2.550						
n6	2.560						
n7	2.550						
n8	2.560						
n9	2.560						
n10	2.550						
n11	2.550						
n12	2.560						
n13	2.560						
n14	2.550						
n15	2.570						
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n17	2.560						
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n20	2.560						
n21	2.550						
n22	2.550						
n23	2.560						
n24	2.560						
n25	2.560						
n26	2.540						
n27	2.550						
n28	2.550						
n29	2.540						
n30	2.560						
x	2.560						
MAX	2.570						
MIN	2.540						
$\bar{\sigma}$	0.005						
CP	13.333						
CPK	13.000						

Measurement Place

Please refer to an attached sheet drawing

Process Capability data

Part Name: TER-WUS120FSAG

Part No: 8240-0511

K. Ota

Mold:SZ2

Measurement Place	1						
Standard	2.55						
UCL	2.75						
LCL	2.35						
n1	2.520						
n2	2.520						
n3	2.510						
n4	2.530						
n5	2.530						
n6	2.530						
n7	2.520						
n8	2.530						
n9	2.540						
n10	2.520						
n11	2.530						
n12	2.530						
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n24	2.520						
n25	2.530						
n26	2.520						
n27	2.520						
n28	2.530						
n29	2.520						
n30	2.520						
x	2.530						
MAX	2.540						
MIN	2.510						
σ	0.005						
CP	13.333						
CPK	11.733						

Measurement Place

Please refer to an attached sheet drawing

Process Capability data

Part Name: TER-WUS120FSAG

Part No: 8240-0511

K. Ota

Mold:SZ3

Measurement Place	1						
Standard	2.55						
UCL	2.8						
LCL	2.4						
n1	2.520						
n2	2.520						
n3	2.530						
n4	2.520						
n5	2.510						
n6	2.520						
n7	2.530						
n8	2.530						
n9	2.510						
n10	2.530						
n11	2.530						
n12	2.530						
n13	2.530						
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n24	2.530						
n25	2.530						
n26	2.530						
n27	2.520						
n28	2.510						
n29	2.530						
n30	2.530						
x	2.520						
MAX	2.530						
MIN	2.510						
$\bar{\sigma}$	0.005						
CP	13.333						
CPK	11.647						

Measurement Place

Please refer to an attached sheet drawing

2016		
Approval	Check	Charged
M.Imamura Manager	K.Motooka	Y.Hanebuchi
2016/3/31	2016/3/31	2016/3/31

Testing Items	Testing & Measurement Apparatus	Location		Instruction Manual No.	machine number	Capability of Testing & Measurement Apparatus	proof inspection																																																																																																																																																																																																																																							
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Vibration test Shock test Combined stress test Vibration/Mechanical Shock	Combined stress tester	●		SCD-35AG081	17	<table><tr><td>Table-1</td><td>#1</td><td></td><td></td><td>#4</td><td>#5</td><td>#6</td><td>#7</td><td>#8</td><td></td><td></td></tr><tr><td>Exciting Force(kgf)</td><td>3800</td><td></td><td></td><td>2500</td><td>2000</td><td>2000</td><td>1400</td><td>1400</td><td></td><td></td></tr><tr><td>Amplitude(mmP-P)</td><td>56</td><td></td><td></td><td>51</td><td>26</td><td>26</td><td>51</td><td>51</td><td></td><td></td></tr><tr><td>Acceleration(m/s2)</td><td>980</td><td></td><td></td><td>940</td><td>980</td><td>980</td><td>911</td><td>911</td><td></td><td></td></tr><tr><td>Frequency(Hz)</td><td>5 to 2000</td><td></td><td></td><td>5 to 2500</td><td>5 to 2500</td><td>5 to 2500</td><td>5 to 5000</td><td>5~5000</td><td></td><td></td></tr><tr><td>Temperature(deg. C)</td><td>-40 to 200</td><td></td><td></td><td>-40 to 200</td><td>-40 to 200</td><td>-40 to 200</td><td>-40 to 200</td><td>-40 to 200</td><td></td><td></td></tr><tr><td>Humidity(%RH)</td><td>30 to 98</td><td></td><td></td><td>30 to 98</td><td>30 to 98</td><td>30 to 98</td><td>30 to 98</td><td>30 to 98</td><td></td><td></td></tr><tr><td>Table-1 (cont.)</td><td></td><td></td><td>#13</td><td></td><td></td><td></td><td>#17</td><td>#18</td><td>#19</td><td>#20</td></tr><tr><td>Exciting Force(kgf)</td><td></td><td></td><td>1400</td><td></td><td></td><td></td><td>2500</td><td>3823</td><td>2450</td><td>2651</td></tr><tr><td>Amplitude(mmP-P)</td><td></td><td></td><td>100</td><td></td><td></td><td></td><td>60</td><td>56</td><td>51</td><td>60</td></tr><tr><td>Acceleration(m/s2)</td><td></td><td></td><td>568</td><td></td><td></td><td></td><td>756</td><td>980</td><td>1142</td><td>963</td></tr><tr><td>Frequency(Hz)</td><td></td><td></td><td>5 to 2000</td><td></td><td></td><td></td><td>5 to 2000</td><td>5 to 2000</td><td>5 to 2500</td><td>DC to 2500</td></tr><tr><td>Temperature(deg. C)</td><td></td><td></td><td>-40 to 200</td><td></td><td></td><td></td><td>-40 to 200</td><td>-40 to 200</td><td>-60 to 180</td><td>-40 to 200</td></tr><tr><td>Humidity(%RH)</td><td></td><td></td><td>30 to 98</td><td></td><td></td><td></td><td>30 to 98</td><td>30 to 98</td><td>30 to 98</td><td>30 to 98</td></tr><tr><td>Table-1 (cont.)</td><td>#21</td><td>#22</td><td>#23</td><td>#24</td><td>#25</td><td>#26</td><td></td><td></td><td></td><td></td></tr><tr><td>Exciting Force(kgf)</td><td>2500</td><td>2500</td><td>2500</td><td>2500</td><td>2447</td><td>4500</td><td></td><td></td><td></td><td></td></tr><tr><td>Amplitude(mmP-P)</td><td>60</td><td>60</td><td>51</td><td>51</td><td>51</td><td>51</td><td></td><td></td><td></td><td></td></tr><tr><td>Acceleration(m/s2)</td><td>963</td><td>963</td><td>1142</td><td>1142</td><td>1142</td><td>1000</td><td></td><td></td><td></td><td></td></tr><tr><td>Frequency(Hz)</td><td>5 to 2500</td><td>5 to 2500</td><td>5 to 2600</td><td>5 to 2600</td><td>5 to 2600</td><td>5 to 2800</td><td></td><td></td><td></td><td></td></tr><tr><td>Temperature(deg. C)</td><td>-40 to 200</td><td>-40 to 200</td><td>-60 to 180</td><td>-60 to 180</td><td>-60 to 180</td><td>-45 to 180</td><td></td><td></td><td></td><td></td></tr><tr><td>Humidity(%RH)</td><td>30 to 98</td><td>30 to 98</td><td>30 to 98</td><td>30 to 98</td><td>30 to 98</td><td>30 to 98</td><td></td><td></td><td></td><td></td></tr></table>	Table-1	#1			#4	#5	#6	#7	#8			Exciting Force(kgf)	3800			2500	2000	2000	1400	1400			Amplitude(mmP-P)	56			51	26	26	51	51			Acceleration(m/s2)	980			940	980	980	911	911			Frequency(Hz)	5 to 2000			5 to 2500	5 to 2500	5 to 2500	5 to 5000	5~5000			Temperature(deg. C)	-40 to 200			-40 to 200	-40 to 200	-40 to 200	-40 to 200	-40 to 200			Humidity(%RH)	30 to 98			30 to 98	30 to 98	30 to 98	30 to 98	30 to 98			Table-1 (cont.)			#13				#17	#18	#19	#20	Exciting Force(kgf)			1400				2500	3823	2450	2651	Amplitude(mmP-P)			100				60	56	51	60	Acceleration(m/s2)			568				756	980	1142	963	Frequency(Hz)			5 to 2000				5 to 2000	5 to 2000	5 to 2500	DC to 2500	Temperature(deg. C)			-40 to 200				-40 to 200	-40 to 200	-60 to 180	-40 to 200	Humidity(%RH)			30 to 98				30 to 98	30 to 98	30 to 98	30 to 98	Table-1 (cont.)	#21	#22	#23	#24	#25	#26					Exciting Force(kgf)	2500	2500	2500	2500	2447	4500					Amplitude(mmP-P)	60	60	51	51	51	51					Acceleration(m/s2)	963	963	1142	1142	1142	1000					Frequency(Hz)	5 to 2500	5 to 2500	5 to 2600	5 to 2600	5 to 2600	5 to 2800					Temperature(deg. C)	-40 to 200	-40 to 200	-60 to 180	-60 to 180	-60 to 180	-45 to 180					Humidity(%RH)	30 to 98	30 to 98	30 to 98	30 to 98	30 to 98	30 to 98					OK
Table-1	#1			#4	#5	#6	#7	#8																																																																																																																																																																																																																																						
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Frequency(Hz)			5 to 2000				5 to 2000	5 to 2000	5 to 2500	DC to 2500																																																																																																																																																																																																																																				
Temperature(deg. C)			-40 to 200				-40 to 200	-40 to 200	-60 to 180	-40 to 200																																																																																																																																																																																																																																				
Humidity(%RH)			30 to 98				30 to 98	30 to 98	30 to 98	30 to 98																																																																																																																																																																																																																																				
Table-1 (cont.)	#21	#22	#23	#24	#25	#26																																																																																																																																																																																																																																								
Exciting Force(kgf)	2500	2500	2500	2500	2447	4500																																																																																																																																																																																																																																								
Amplitude(mmP-P)	60	60	51	51	51	51																																																																																																																																																																																																																																								
Acceleration(m/s2)	963	963	1142	1142	1142	1000																																																																																																																																																																																																																																								
Frequency(Hz)	5 to 2500	5 to 2500	5 to 2600	5 to 2600	5 to 2600	5 to 2800																																																																																																																																																																																																																																								
Temperature(deg. C)	-40 to 200	-40 to 200	-60 to 180	-60 to 180	-60 to 180	-45 to 180																																																																																																																																																																																																																																								
Humidity(%RH)	30 to 98	30 to 98	30 to 98	30 to 98	30 to 98	30 to 98																																																																																																																																																																																																																																								
Salt water spray	Combined corrosion tester	●		SCD-35AG071	4	<table><tr><td>Table-2</td><td>#1</td><td>#2</td><td>#3</td><td>#4</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Temperature(deg. C)</td><td>~35℃</td><td></td><td>~50℃</td><td>Max60℃</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>spray rate</td><td>1ml</td><td></td><td>1~2ml</td><td>—</td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>	Table-2	#1	#2	#3	#4							Temperature(deg. C)	~35℃		~50℃	Max60℃							spray rate	1ml		1~2ml	—							OK																																																																																																																																																																																																						
Table-2	#1	#2	#3	#4																																																																																																																																																																																																																																										
Temperature(deg. C)	~35℃		~50℃	Max60℃																																																																																																																																																																																																																																										
spray rate	1ml		1~2ml	—																																																																																																																																																																																																																																										
Thermal shock test	Thermal Shock chamber	●		SCD-35AG072	13	<table><tr><td>Table-3</td><td>#1</td><td>#2</td><td></td><td>#4</td><td></td><td></td><td></td><td>#8</td><td>#9</td><td>#10</td></tr><tr><td>Temp. Low(deg. C)</td><td>-70</td><td>-65</td><td></td><td>-65</td><td></td><td></td><td></td><td>-70</td><td>-70</td><td>-70</td></tr><tr><td>Temp. High(deg. C)</td><td>200</td><td>200</td><td></td><td>200</td><td></td><td></td><td></td><td>200</td><td>200</td><td>200</td></tr><tr><td>Table-3 (cont.)</td><td>#11</td><td>#12</td><td>#13</td><td>#14</td><td>#15</td><td>#16</td><td>#17</td><td></td><td></td><td></td></tr><tr><td>Temp. Low(deg. C)</td><td>-70</td><td>-70</td><td>-70</td><td>-70</td><td>-70</td><td>-70</td><td>-70</td><td></td><td></td><td></td></tr><tr><td>Temp. High(deg. C)</td><td>200</td><td>200</td><td>200</td><td>200</td><td>200</td><td>200</td><td>200</td><td></td><td></td><td></td></tr></table>	Table-3	#1	#2		#4				#8	#9	#10	Temp. Low(deg. C)	-70	-65		-65				-70	-70	-70	Temp. High(deg. C)	200	200		200				200	200	200	Table-3 (cont.)	#11	#12	#13	#14	#15	#16	#17				Temp. Low(deg. C)	-70	-70	-70	-70	-70	-70	-70				Temp. High(deg. C)	200	200	200	200	200	200	200				OK																																																																																																																																																																					
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Dewing test	Thermal Shock with Humidity chamber	●		SCD-35AG094	3	<table><tr><td>Table-4</td><td>#1</td><td>#2</td><td>#3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Temp. Low(deg. C)</td><td>-55</td><td>-55</td><td>-55</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Temp. High(deg. C)</td><td>200</td><td>200</td><td>200</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Humidity(%RH)</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>	Table-4	#1	#2	#3								Temp. Low(deg. C)	-55	-55	-55								Temp. High(deg. C)	200	200	200								Humidity(%RH)											OK																																																																																																																																																																																											
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Water resistance	Water spray tester	●		SCD-35AG072	2	Temp. range : ambient temp. to 150deg. C JIS D0203 R1(1.9L/min)・R2(3.2L/min) JIS D0203 S1(24.5L/min)・S2(39.2L/min)	OK																																																																																																																																																																																																																																							
Humidity resistance test Temperature/humidity cycling test Low temperature test	Temperature & Humidity Chamber	●		SCD-35AG037	13	<table><tr><td>Table-5</td><td></td><td></td><td>#3</td><td>#4</td><td>#5</td><td>#6</td><td>#7</td><td>#8</td><td>#9</td><td>#10</td></tr><tr><td>Temp. Low(deg. C)</td><td></td><td></td><td>-70</td><td>-70</td><td>-70</td><td>-70</td><td>-70</td><td>-70</td><td>-70</td><td>-70</td></tr><tr><td>Temp. High(deg. C)</td><td></td><td></td><td>180</td><td>180</td><td>150</td><td>150</td><td>180</td><td>150</td><td>150</td><td>150</td></tr><tr><td>Humidity(%RH)</td><td></td><td></td><td>20~98</td><td>20~98</td><td>20~98</td><td>20~98</td><td>30~98</td><td>20~98</td><td>20~98</td><td>20~98</td></tr><tr><td>Table-5 (cont.)</td><td>#11</td><td>#12</td><td>#13</td><td>#14</td><td>#15</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Temp. Low(deg. C)</td><td>-70</td><td>-70</td><td>-70</td><td>-70</td><td>-70</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Temp. High(deg. C)</td><td>150</td><td>150</td><td>150</td><td>150</td><td>150</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Humidity(%RH)</td><td>20~98</td><td>20~98</td><td>30~95</td><td>30~95</td><td>30~95</td><td></td><td></td><td></td><td></td><td></td></tr></table>	Table-5			#3	#4	#5	#6	#7	#8	#9	#10	Temp. Low(deg. C)			-70	-70	-70	-70	-70	-70	-70	-70	Temp. High(deg. C)			180	180	150	150	180	150	150	150	Humidity(%RH)			20~98	20~98	20~98	20~98	30~98	20~98	20~98	20~98	Table-5 (cont.)	#11	#12	#13	#14	#15						Temp. Low(deg. C)	-70	-70	-70	-70	-70						Temp. High(deg. C)	150	150	150	150	150						Humidity(%RH)	20~98	20~98	30~95	30~95	30~95						OK																																																																																																																																															
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Oil resistance test Fluid Resistance	Oil bath	●		SCD-35AG106	2	Max. 150deg. C(Aging oven : Max. 200deg. C)	OK																																																																																																																																																																																																																																							
Over current test Temperature rise Current cycle test Maximum Test Current Capability Terminal 1008 Hour Current Cycling	Windless and High Temperature Chamber Power supply recorder thermocouple	●		SCD-35AG078	15																																																																																																																																																																																																																																									

Testing Items	Testing & Measurement Apparatus	Location		Instruction Manual No.	machine number	Capability of Testing & Measurement Apparatus	proof inspection
		Technical Center					
High temperature Exposure	Aging Oven	●		SCD-35AG079	15	Max. 500deg. C	OK
High-pressure washing test	High-pressure washing machine	●		SCD-35AG096	1	Max. 150deg. C Table Nozzle angle 0, 30, 60, 90 Pressure MIN[Water pressure5Mpa→11.9L/min]: MAX[Water pressure10Mpa→16.3L/min] φ Nozzle toSample 100mm (Width8mm, Vertical injection angle30) Water temperature Normal temperature to 80℃	OK
Corrosive gas test	Gas Corrosion Chamber		●	SCD-35AG103	2	temp. & humidity range:40deg. C 70%RH to 98%RH SO2 : Max. 500ppm H2S : Max. 0. 1ppm NO2 : Max. 0. 2ppm CL2 : Max. 0. 02ppm	OK
Dust resistance	Dust chamber	●		SCD-35AG123	1	blowing interval: 1 to 30sec. quantity of dust: 5kg Max	OK
Frozen salt water test	Salt water immersion test machine	●		SCD-35AG172	1	Temperature low-temp-bath: -30℃~+100℃, high-temp-bath: ~+200℃, Immersion: +6~+80℃(150L) Concentration:10%	OK
Fretting Corrosion	Fretting Corrosion Testing machine		●	SCD-35AG156	1	Temperature in a tank : normal temperature to 100℃ Movement frequency : 1 to 10Hz Movement distance : ±0.02mm to ±0.5mm	OK
Rotary drum drop and impact test	Rotary drum drop and impact testing Machine	●		SCD-35AG195	1	Rotational speed : 1~10rpm	OK
momentary shut-off	Power Supply, oscilloscope	●		SCD-35AG001	8	sensitivity :1mV to 5V/div Sampling Speed : 1ns	OK
Insertion & Retention force Terminal crimping force Terminal retention force Housing locking force Housing lock release force Twisting durability test Terminal strength Terminal to Terminal Engage/Disengage Force Terminal-Connector Insertion/Extraction Force Connector-Connector Mating/Unmating	Tensile & Comp. Tester/Push-Pull Tester		●	SCD-35AG063	2	Tensile & Comp. Tester speed(mm/min) 1 to 1000 load(N) 5,000	OK
					5	Push-Pull tester speed(mm/min) 20,50,100,200 load(N) 500	OK
Voltage drop Dry Circuit Resistance	Measurement System	●		SCD-35AG031	4	precision voltage : 1uV, current : 10nA	OK
Terminal Contact force	Terminal contact force meas. tester		●	SCD-35AG124	2	Load 0.1N to 100N, Speed 0.1mm/min to 1.0mm/min	OK
Insulation resistance	Insulation Resistance tester		●	SCD-35AG119	3	voltage : :10 to 1000V	OK
Waterproofness Pressure/Vacuum Leakage	Airleak Tester		●	SCD-35AG122	5	pressure : 1kPa to 500kPa, -10kPa to -200kPa	OK
Withstand voltage	Withstand voltage tester		●	SCD-35AG083	1	range :0 to 5KV	OK
Dimension	Projector		●	—	1	precision:1/1000mm magnification : 10	OK
Surface observation	stereomicroscope, metallurgical microscope		●	—	1	magnification : 1.5,5,10,20,40	OK
	Video microscope		●	—	1	magnification : 5-40、25-175、150-800	OK
Section cutting	cutting machine, grinder, polisher		●	— — —	1	— — —	OK
Leakage current	Power supply, resister, recorder	●	●	— — —	A lot	— — —	OK

製品安全データシート (Material Safety Data Sheet)

作成：2011年8月24日

MSDS No. : SNP-001

1. 製品及び会社情報

製品の名称	錫めっき
会社情報	
提供者 住 所	DOWAメタルテック株式会社 金属加工事業部 静岡県磐田市新貝 2630 番地 (〒438-0025)
製造者 住 所	DOWAメタル株式会社 静岡県磐田市松之木島 767 番地 (〒438-0125)
担当部門 電話番号 FAX番号 E-mail	DOWAメタル株式会社 技術部品質管理課 0539-62-3131 0539-62-3996 DML_MSDS@dowa.co.jp

2. 危険有害性の要約

GHS分類

物理化学的危険性

火薬類	分類対象外
可燃性・引火性ガス	分類対象外
可燃性・引火性エアゾール	分類対象外
支燃性・酸化性ガス類	分類対象外
高压ガス	分類対象外
引火性液体	分類対象外
可燃性固体	分類できない
自己反応性化学品	分類対象外
自然発火性液体	分類対象外
自然発火性固体	分類できない
自己発熱性化学品	分類できない
水反応可燃性化学品	分類できない
酸化性液体	分類対象外
酸化性固体	分類対象外
有機過氧化物	分類対象外
金属腐食性物質	分類できない

健康に対する有害性

急性毒性 (経口)	分類できない
急性毒性 (経皮)	分類できない
急性毒性 (吸入：ガス)	分類対象外
急性毒性 (吸入：蒸気)	分類できない
急性毒性 (吸引：粉じん、ミスト)	分類できない (粉じん)
急性毒性 (吸入：粉じん、ミスト)	分類対象外 (ミスト)
皮膚腐食性・刺激性	分類できない
眼に対する重篤な損傷性・眼刺激性	分類できない
呼吸器感作性	分類できない
皮膚感作性	分類できない
生殖細胞変異原性	分類できない
発がん性	分類できない
生殖毒性	分類できない
特定標的臓器・全身毒性 (単回暴露)	分類できない
特定標的臓器・全身毒性 (反復暴露)	区分1 (肺)

ラベル要素



	吸引性呼吸器有害性	分類できない
環境に対する有害性	水性環境急性有害性 水性環境慢性有害性	情報なし 情報なし
注意喚起語	危険	
危険有害性情報	長期にわたる、または反復ばく露により肺の障害	
注意書き		
【安全対策】	粉じん、ヒューム、蒸気、スプレーを吸入しないこと。 取扱い後はよく手を洗うこと。	
【応急措置】	この製品を使用する時に、飲食または喫煙をしないこと。 気分が悪い時は、医師の診断、手当てを受けること。	
【保管】		
【廃棄】	内容物、容器を都道府県知事の許可を受けた専門の廃棄物処理業者に業務委託すること。	

3. 組成・成分

単一物質・混合物の区別	単一物質
化 学 名	錫 (T i n)
成分及び含有量	S n 99.9%以上
官報公示整理番号 (化審法、安衛法)	対象外 (元素)
C A S 番号	7 4 4 0 - 3 5 - 5

4. 応急措置

吸入した場合	粉末加工の場合には鼻孔を大量の水で洗い流し、重曹水でうがいをする。被災者を新鮮な空気のある場所に移動し、呼吸しやすい姿勢で休息させること。気分が悪い時は、医師に連絡すること。
皮膚に付着した場合	多量の水と石鹼で洗うこと。
目に入った場合	水で数分間、注意深く洗うこと。 眼の刺激が持続する場合は、医師の診断、手当てを受けること。
飲み込んだ場合	口をすすぐこと。 気分が悪い時は、医師の診断、手当てを受けること。
予想される急性症状及び遅発性症状	データなし
最も重要な兆候及び症状	データなし
応急措置をする者の保護	データなし
医師に対する特別注意事項	データなし

5. 火災時の措置

消火化剤	粉末消火剤、乾燥砂、乾燥珪藻土、水、二酸化炭素
火災時の特定危険有害性	消火の際には煙を吸い込まないように適切な保護具を着用する。
特定の消火方法	移動可能な容器は速やかに移す。上記消化剤を用いて消火する。 大量に燃えている場合は、周囲への延焼防止を図る。
消火を行う者の保護	消火活動は風上から行い、有害なガスの吸入を避ける。 状況に応じて呼吸保護具を着用する。

6. 漏出時の措置

人体に対する注意事項	屋内の場合、処理が終わるまで十分に換気を行う。漏出した場所の周辺に、ロープを張るなどして関係者以外の立ち入りを禁止する。 作業の際には適切な保護具を着用し、飛沫等が皮膚に付着したり、粉塵を吸入しないようにする。
環境に対する注意事項	河川等に排出され、環境へ影響を起こさないように注意する。 環境中に放出してはならない。
回収、中和	少量の場合、漏洩物は清潔な帯電防止工具を用いて集め、清潔な乾燥した容器に入れ、ゆるく覆いをし、後で廃棄処理する。
封じ込めおよび浄化の方法・機材	危険でなければ漏れを止める。
二次災害の防止策	全ての発火源を速やかに取り除く（近傍での喫煙、火花や火炎の禁止）。床面に残るとすべる危険性があるため、こまめに処理する。
除去方法	床面等にこぼれた場合は、掃き集めて空容器に回収する。 注水は避ける。

7. 取扱い及び保管上の注意

取扱い	蒸気、粉塵吸入防止のため、溶接、研削等の作業においてはマスク等の個人保護具着用の必要がある。 めっきされた条の取り扱いについて、切断端、エッジは鋭利な刃物と同様のものとして切傷の原因となるので、十分注意する必要がある。
貯蔵	酸・アルカリと一緒に保管しないこと

8. 暴露防止及び保護措置

管理濃度	設定されていない
許容濃度 （暴露限界値、生物学的暴露指標 日本産業衛生学会（2005年版） ACGIH（2005年版）	設定されていない TLV-TWA 2 mg/m ³
設備対策	指定された防爆の電気・換気・照明機器を使用すること。 この物質を貯蔵ないし取扱う作業場には洗眼器と安全シャワーを設置すること。 空気中の濃度をばく露限度以下に保つために排気用の換気行なうこと。 高熱工程で粉じん、ヒュームが発生するときは、空気汚染物質を管理濃度以下に保つために換気装置を設置する。

保護具

呼吸器の保護具

手の保護具

眼の保護具

皮膚及び身体の保護具

衛生対策

指定された呼吸器保護具を着用すること。

適切な保護手袋を着用すること。

適切な眼の保護具を着用すること。

安全眼鏡を着用すること。撥ね飛び又は噴霧によって眼及び顔面接触が起こりうる時は、包括的な化学スプラッシュゴーグル、及び顔面シールドを着用すること。

適切な顔面用の保護具を着用すること。

適切な保護衣及び長靴を着用すること。

取扱い後はよく手を洗うこと。

9. 物理的及び化学的性質

物理的状態及び色

形状

臭い

pH及びその濃度

融点 ℃

分解温度

引火点

発火点

爆発特性

蒸気圧

蒸気温度（沸点）℃

密度 g/cm³

溶媒に対する溶解性

オクタノール／水分配計数

銀白色の固体

製品形状による

無臭

データなし

231.9

データなし

データなし

データなし

データなし

データなし

2507

7.3

データなし

データなし

10. 安定性及び反応性

安全性

常温・空气中で安定。

酸素との親和力は小さく、常温の乾燥した空气中で変色しない。

200℃以下では酸化しない。それ以上で表面にSnO₂皮膜を生じる。

経時や熱により銅またはニッケルと金属間化合物（拡散層）を生成する。

危険有害反応性可能性

強酸化剤、酸類、強塩基類、ハロゲン、硫黄等と反応する。

ハロゲンとは急激に反応し、ハロゲン化スズを生成する。

アルカリ類との反応は低温で徐々に、高温では急速にすすむ。

避けるべき条件

粉じんの拡散

混触危険物質

強酸化剤、酸類、強塩基類、ハロゲン、硫黄等

危険有害な分解生成物：

該当しない（元素）

11. 有害性情報

急性毒性

経口

経皮

吸入（粉塵）

情報なし

情報なし

情報なし

皮膚腐食性・刺激性

情報なし

眼に対する重篤な損傷・眼刺激性

確定できる情報なし

呼吸器感作性	情報なし
皮膚感作性	情報なし
生殖細胞変異原性	データなし
発がん性	確定できる情報なし
生殖毒性	情報なし
特定標的臓器／全身毒性 (単回暴露)	確定できる情報なし
特定標的臓器／全身毒性 (反復暴露)	金属すずを扱う労働者にじん肺症がみられた。 この物質の長期ばく露により、肺に良性じん肺症（錫肺）を引き起こすおそれがある。 長期又は反復ばく露による臓器の損傷（区分1）（肺） 長期又は繰り返しのばく露があると腎臓障害を起す。 長期又は繰り返しのばく露があると肺障害を起す。
吸引性呼吸器有害性	データなし

1 2. 環境影響情報

情報なし

1 3. 廃棄上の注意

産業廃棄物処理認定業者に委託して処理する。
資源再利用のため回収し、処理業者に委託する。

1 4. 輸送上の注意

＜国際規制＞	
海上規制情報 Marine Pollutant	非危険物 Not applicable
航空規制情報	非危険物
＜国内規制＞	
陸上規制情報	非該当
海上規制情報	非危険物
海洋汚染物質	非該当
航空規制情報	非危険物
＜特別の安全対策＞	転倒もしくは破損しないように積載すること。 容器等を著しく摩擦又は振動させないように運搬すること。 高温・多湿になる条件を避けて輸送すること。

1 5. 適用法令

労働安全衛生法	名称等を通知すべき有害物 (法第57条の2、施行令第18条の2別表第9) (政令番号 第322号)
毒物劇物取締法	非該当
P R T R 法	非該当
消防法	非該当

16. その他の情報

本製品安全データシートの記載内容は、現時点で入手できた情報やメーカー所有の知見によるものですが、これらのデータや評価はいかなる保証をするものではありません。また全ての資料や文献を調査したものではないため情報漏れがある可能性があり、新しい知見の発表や従来の説の訂正により内容に変更が生じることがあります。

本製品安全データシートは通常取り扱いを対象としたものであり、本製品はこの製品安全データシートをご参照の上、使用者の責任において適正に取り扱って下さい。

PART SUBMISSION WARRANT



Part Name TER-WUS120FSAG		Cust. Part Number	
Shown on Drawing No. S- 107034		Org. Part Number 8240-0511	
Engineering Drawing Change Level 3		Dated 09.Jan.'16	
Additional Engineering Changes N/A		Dated N/A	
Safety and/or Government Regulation ☐ Yes ☒ No	Purchase Order No. N/A	Weight 0.0002 kg	
Checking Aid No. N/A	Checking Aid Engineering Change Level N/A	Dated N/A	
ORGANIZATION MANUFACTURING INFORMATION		CUSTOMER SUBMITTAL INFORMATION	
Organization Name & Supplier Sumitomo Wiring Systems,Ltd		Vendor Code N/A	
Street Address 2-SHOSEN-CHO		Customer Name/Division	
City Yokkaichi	Region Mie	Postal Code 510-0867	Country Japan
Buyer/Buyer Code		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 466582113			
Are polymeric parts identified with appropriate ISO marking codes? ☐ Yes ☐ No ☒ n/a			
REASON FOR SUBMISSION (Check at least one)			
☒ Initial Submission		☐ Change to Optional Construction or Material	
☐ Engineering Change(s)		☐ Sub-Supplier or Material Source Change	
☐ Tooling: Transfer, Replacement, Refurbishment, or additional		☐ Change in Part Processing	
☐ Correction of Discrepancy		☐ Parts Produced at Additional Location	
☐ Tooling Inactive >than 1 Year		☐ 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 measurements ☒ material and functional tests ☐ appearance criteria ☐ statistical process package			
These results meet all drawing and specification requirements: ☒ Yes ☐ No (If "NO" - Explanation Required)			
Mold/cavity/Production Process		Mold: SZ1	Cavity: 1(SZ1) Production Process: Stamping
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 153,600 / 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 K. Ota		Dated 31.Jan.'17	
Print Name Katsuyuki Ota		Phone No. 81-593-45-8216	Fax 81-593-45-8247
Title Components Gr. QA Dep. Deputy General Manager		E-mail katsuyuki-oota@gate.sws.co.jp	
FOR CUSTOMER USE ONLY (IF APPLICABLE)			
Part warrant disposition: ☐ Approved ☐ Rejected ☐ Other			
Customer Signature		Dated	
Print Name		Customer tracking number (optional)	

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PART SUBMISSION WARRANT



Part Name TER-WUS120FSAG		Cust. Part Number	
Shown on Drawing No. S- 107034		Org. Part Number 8240-0511	
Engineering Drawing Change Level 3		Dated 09.Jan.'16	
Additional Engineering Changes N/A		Dated N/A	
Safety and/or Government Regulation ☐ Yes ☒ No	Purchase Order No. N/A	Weight 0.0002 kg	
Checking Aid No. N/A	Checking Aid Engineering Change Level N/A	Dated N/A	
ORGANIZATION MANUFACTURING INFORMATION		CUSTOMER SUBMITTAL INFORMATION	
Organization Name & Supplier Sumitomo Wiring Systems,Ltd		Vendor Code N/A	
Street Address 2-SHOSEN-CHO		Customer Name/Division	
City Yokkaichi	Region Mie	Postal Code 510-0867	Country Japan
Buyer/Buyer Code		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 466582113			
Are polymeric parts identified with appropriate ISO marking codes? ☐ Yes ☐ No ☒ n/a			
REASON FOR SUBMISSION (Check at least one)			
☒ Initial Submission		☐ Change to Optional Construction or Material	
☐ Engineering Change(s)		☐ Sub-Supplier or Material Source Change	
☐ Tooling: Transfer, Replacement, Refurbishment, or additional		☐ Change in Part Processing	
☐ Correction of Discrepancy		☐ Parts Produced at Additional Location	
☐ Tooling Inactive >than 1 Year		☐ 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 measurements ☒ material and functional tests ☐ appearance criteria ☐ statistical process package			
These results meet all drawing and specification requirements: ☒ Yes ☐ No (If "NO" - Explanation Required)			
Mold/cavity/Production Process		Mold: SZ2 Cavity: 1(SZ2) Production Process: Stamping	
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 153,600 / 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 K. Ota		Dated 31.Jan.'17	
Print Name Katsuyuki Ota		Phone No. 81-593-45-8216	Fax 81-593-45-8247
Title Components Gr. QA Dep. Deputy General Manager		E-mail katsuyuki-oota@gate.sws.co.jp	
FOR CUSTOMER USE ONLY (IF APPLICABLE)			
Part warrant disposition: ☐ Approved ☐ Rejected ☐ Other			
Customer Signature		Dated	
Print Name		Customer tracking number (optional)	

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PART SUBMISSION WARRANT



Part Name TER-WUS120FSAG				Cust. Part Number	
Shown on Drawing No. S- 107034				Org. Part Number 8240-0511	
Engineering Drawing Change Level 3				Dated 09.Jan.'16	
Additional Engineering Changes N/A				Dated N/A	
Safety and/or Government Regulation ☐ Yes ☒ No		Purchase Order No. N/A		Weight 0.0002 kg	
Checking Aid No. N/A		Checking Aid Engineering Change Level N/A		Dated N/A	
ORGANIZATION MANUFACTURING INFORMATION				CUSTOMER SUBMITTAL INFORMATION	
Organization Name & Supplier Sumitomo Wiring Systems,Ltd			Vendor Code N/A	Customer Name/Division	
Street Address 2-SHOSEN-CHO				Buyer/Buyer Code	
City Yokkaichi	Region Mie	Postal Code 510-0867	Country Japan	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 466582113					
Are polymeric parts identified with appropriate ISO marking codes? ☐ Yes ☐ No ☒ n/a					
REASON FOR SUBMISSION (Check at least one)					
☒ Initial Submission		☐ Change to Optional Construction or Material			
☐ Engineering Change(s)		☐ Sub-Supplier or Material Source Change			
☐ Tooling: Transfer, Replacement, Refurbishment, or additional		☐ Change in Part Processing			
☐ Correction of Discrepancy		☐ Parts Produced at Additional Location			
☐ Tooling Inactive >than 1 Year		☐ 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 measurements ☒ material and functional tests ☐ appearance criteria ☐ statistical process package					
These results meet all drawing and specification requirements: ☒ Yes ☐ No (If "NO" - Explanation Required)					
Mold/cavity/Production Process		Mold: SZ3		Cavity: 1(SZ3) Production Process: Stamping	
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 153,600 / 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 K. Ota				Dated 31.Jan.'17	
Print Name Katsuyuki Ota			Phone No. 81-593-45-8216		Fax 81-593-45-8247
Title Components Gr. QA Dep. Deputy General Manager			E-mail katsuyuki-oota@gate.sws.co.jp		
FOR CUSTOMER USE ONLY (IF APPLICABLE)					
Part warrant disposition: ☐ Approved ☐ Rejected ☐ Other					
Customer Signature				Dated	
Print Name			Customer tracking number (optional)		

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