

Product Change Notice (PCN)

件名: RH850/F1KM-S2, S4 および F1KH-D8 シリーズの生産拠点の追加および材料変更

発行日: 8/20/2025

出荷開始予定日: 3/2/2026

改版履歴: 初版

変更内容の説明:

RH850/F1KM-S2,F1KM-S4(BGA),F1KH-D8 の生産拠点を追加致します。

ウェハプロセス(WP)、ウェハテスト(WT) : 那珂工場を追加します。

WP 拠点:那珂工場 - 組立拠点:蘇州工場品はφ20umCu ワイヤ、φ20umCu ワイヤ用モールド樹脂を使用します。(ATJ 熊本、米沢工場品の材料変更はありません)

生産拠点及び材料変更点を下記に示します。

項目		現状				拠点追加			
		F1KM-S2	F1KH-D8	F1KH-D8	F1KM-S4	F1KM-S2	F1KH-D8	F1KH-D8	F1KM-S4
PKG	種類	LQFP		BGA		LQFP		BGA	
	Pin数	100,144,176pin	176pin	233,324pin	233,272pin	100,144,176pin	176pin	233,324pin	233,272pin
WP拠点		TSMC				那珂			
WT拠点		Ardentec (ADT)			Ardentec (ADT) TeraPower (TPW)	那珂			
組立拠点		ATJ	蘇州	蘇州	米沢	ATJ	蘇州	蘇州	米沢
ワイヤ		ATJ標準 Cuワイヤ	φ23um Cuワイヤ	φ23um Cuワイヤ	φ20um Cuワイヤ	ATJ標準 Cuワイヤ	φ20um Cuワイヤ	φ20um Cuワイヤ	φ20um Cuワイヤ
モールド樹脂		ATJ標準 樹脂	Cuワイヤ 用樹脂A	Cuワイヤ 用樹脂A	Cuワイヤ用樹脂B	ATJ標準 樹脂	Cuワイヤ 用樹脂B	Cuワイヤ 用樹脂B	Cuワイヤ用樹脂B

対象製品リスト: 付録欄“製品リスト”をご参照ください。

変更の理由: 製品の安定供給のため。

外形、実装、機能、品質、信頼性への影響:

本変更による外形、実装、機能、品質、信頼性への影響はありません。

製品の識別方法: マーク、ラベルにて識別可能です。詳細は、付録欄をご参照下さい。

信頼性データについて: 付録欄“Q100 Qualification Test Results”をご参照ください。

サンプル出荷予定日: 12/1/2025

サンプル提供は最大 50 個までとなりますので予めご了承ください。

製品/材料の化学物質データ: 弊社営業へお問合せください。

ご注意:

1. PCN をお客様にお渡しした後 30 日以内に受理の御連絡を頂けない場合は、変更内容を御承認頂いたものとみなして変更を実施させていただきます。
2. お客様が PCN を受理されて承認手続きのための条件が有る場合は、PCN をお客様にお渡しした後 90 日以内に御連絡をお願い致します。90 日以内に何の御連絡もない場合も御承認頂いたものとみなして変更を実施させていただきます。
3. 変更内容について御承認頂けない場合、最終注文数の御提示と御発注をお願い致します。

この通知に関するお問い合わせは、弊社営業、特約店までお願い致します。

RH850/F1KM-S2 シリーズ (組立拠点: ATJ 熊本)

R7F7017603AFD-C#AA1	R7F7017623AFD-C#KA1	R7F701A614AFD-C#BA2	R7F701A634AFD-C#AA1
R7F7017603AFD-C#AA2	R7F7017623AFD-C#KA2	R7F701A614AFD-C#KA1	R7F701A634AFD-C#AA2
R7F7017603AFD-C#BA1	R7F7017643AFD-C#BA1	R7F701A614AFD-C#KA2	R7F701A634AFD-C#BA1
R7F7017603AFD-C#BA2	R7F7017643AFD-C#BA2	R7F701A624AFD-C#AA1	R7F701A634AFD-C#BA2
R7F7017603AFD-C#KA1	R7F7017643AFD-C#TA1	R7F701A624AFD-C#AA2	R7F701A634AFD-C#TA1
R7F7017603AFD-C#KA2	R7F7017643AFD-C#TA2	R7F701A624AFD-C#BA1	R7F701A634AFD-C#TA2
R7F7017623AFD-C#AA1	R7F701A614AFD-C#AA1	R7F701A624AFD-C#BA2	
R7F7017623AFD-C#BA1	R7F701A614AFD-C#AA2	R7F701A624AFD-C#KA1	
R7F7017623AFD-C#BA2	R7F701A614AFD-C#BA1	R7F701A624AFD-C#KA2	

RH850/F1KM-S2 シリーズ (組立拠点: 蘇州工場)

R7F7017603AFP-C#AA1	R7F7017643AFP-C#BA1	R7F701A624AFP-C#KA1	R7F701A773AFP-C#AA1
R7F7017603AFP-C#BA1	R7F7017643AFP-C#TA1	R7F701A634AFP-C#AA1	R7F701A773AFP-C#BA1
R7F7017603AFP-C#KA1	R7F701A614AFP-C#AA1	R7F701A634AFP-C#BA1	R7F701A773AFP-C#KA1
R7F7017623AFP-C#AA1	R7F701A614AFP-C#BA1	R7F701A634AFP-C#TA1	R7F701A783AFP-C#AA1
R7F7017623AFP-C#BA1	R7F701A614AFP-C#KA1	R7F701A763AFP-C#AA1	R7F701A783AFP-C#BA1
R7F7017623AFP-C#KA1	R7F701A624AFP-C#AA1	R7F701A763AFP-C#BA1	R7F701A783AFP-C#KA1
R7F7017643AFP-C#AA1	R7F701A624AFP-C#BA1	R7F701A763AFP-C#TA1	

RH850/F1KH-D8 シリーズ (組立拠点: 蘇州工場)

R7F7017083AFP-C#AA1	R7F7017083AFP-C#TA1	R7F7017093AFP-C#BA1	R7F7017093AFP-C#TA1
R7F7017083AFP-C#BA1	R7F7017093AFP-C#AA1		

RH850/F1KH-D8 シリーズ (組立拠点: 米沢工場)

R7F7017103ABG-C#AC1	R7F7017113ABG-C#AC1	R7F7017143ABG-C#AC1	R7F7017153ABG-C#AC1
R7F7017103ABG-C#BC1	R7F7017113ABG-C#BC1	R7F7017143ABG-C#BC1	R7F7017153ABG-C#BC1
R7F7017103ABG-C#HC1	R7F7017113ABG-C#HC1	R7F7017143ABG-C#HC1	R7F7017153ABG-C#HC1
R7F7017104ABG-C#AC1	R7F7017114ABG-C#AC1	R7F7017144ABG-C#AC1	R7F7017154ABG-C#AC1
R7F7017104ABG-C#BC1	R7F7017114ABG-C#BC1	R7F7017144ABG-C#BC1	R7F7017154ABG-C#BC1
R7F7017104ABG-C#HC1	R7F7017114ABG-C#HC1	R7F7017144ABG-C#HC1	R7F7017154ABG-C#HC1

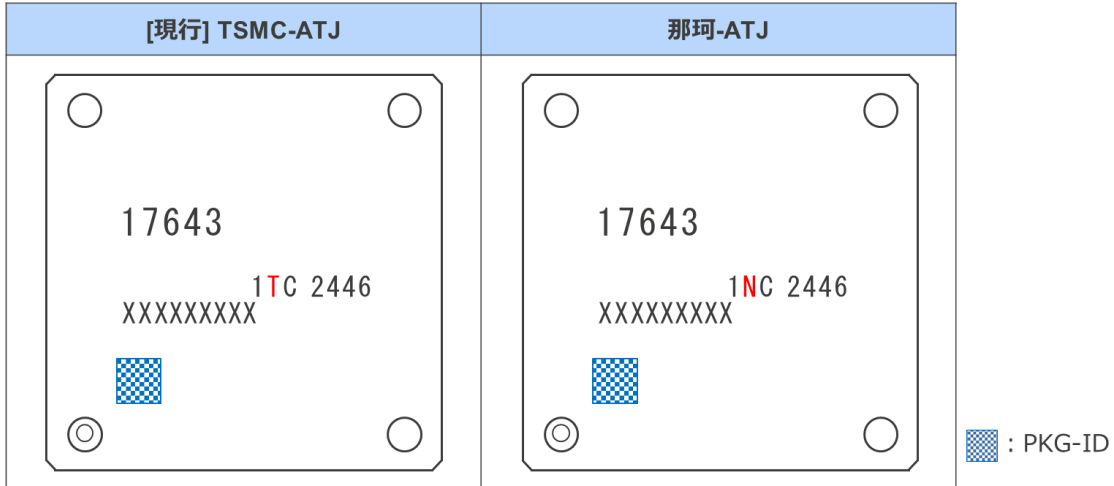
RH850/F1KM-S4 シリーズ (組立拠点: 米沢工場)

R7F7016503ABG-C#AC1	R7F7016513ABG-C#AC1	R7F7016523ABG-C#AC1	R7F7016533ABG-C#AC1
R7F7016503ABG-C#BC1	R7F7016513ABG-C#BC1	R7F7016523ABG-C#BC1	R7F7016533ABG-C#BC1
R7F7016503ABG-C#HC1	R7F7016513ABG-C#HC1	R7F7016523ABG-C#HC1	R7F7016533ABG-C#HC1
R7F7016504ABG-C#AC1	R7F7016514ABG-C#AC1	R7F7016524ABG-C#AC1	R7F7016534ABG-C#AC1
R7F7016504ABG-C#BC1	R7F7016514ABG-C#BC1	R7F7016524ABG-C#BC1	R7F7016534ABG-C#BC1
R7F7016504ABG-C#HC1	R7F7016514ABG-C#HC1	R7F7016524ABG-C#HC1	R7F7016534ABG-C#HC1

マーク仕様

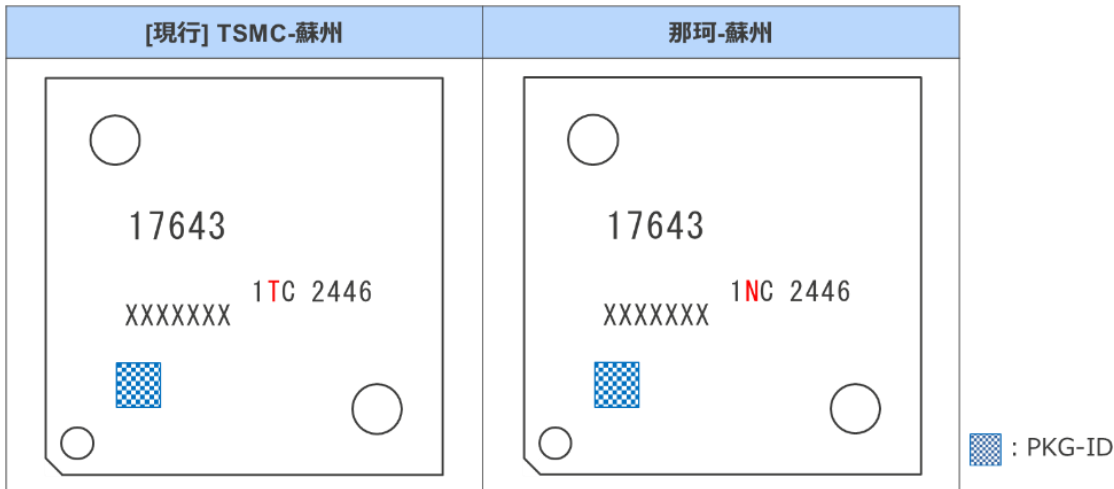
ATJ 熊本品 LQFP マーク印字例 : R7F7017643AFD-C#BA1 (F1KM-S2 176pin)

那珂品は赤文字部分が異なります。(TSMC 品:T, 那珂品:N)



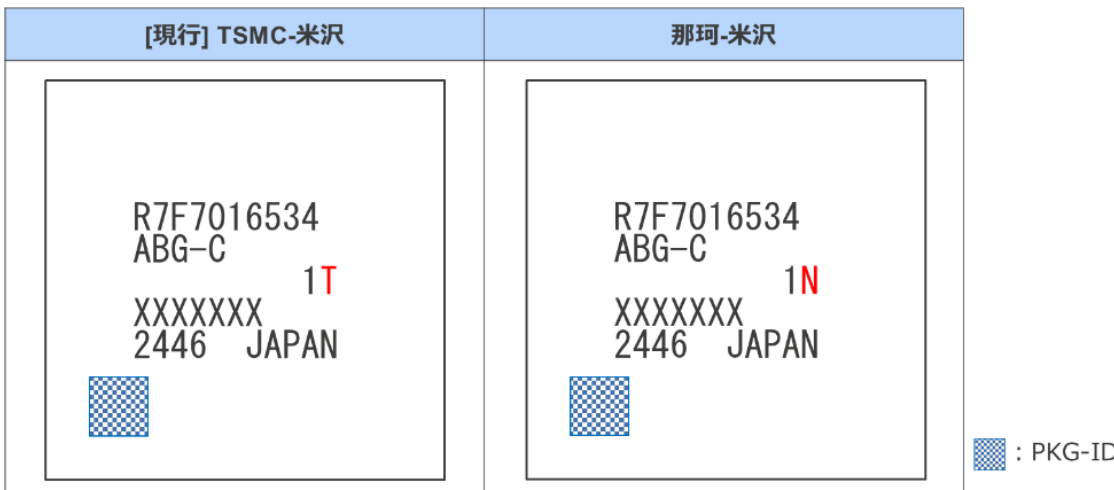
蘇州品 LQFP マーク印字例 : R7F7017643AFP-C#BA1 (F1KM-S2 176pin)

那珂品は赤文字部分が異なります。(TSMC 品:T, 那珂品:N)



米沢品 BGA マーク印字例 : R7F7016534ABG-C#BC1 (F1KM-S4 272pin)

那珂品は赤文字部分が異なります。(TSMC 品:T, 那珂品:N)



Q100 Qualification Test Results

AEC-Q100-REV-H

[Note : Qualification tests were performed using a representative product with the same wafer process and the same package structure, and also using generic data.]

Test	#	Reference	Test Conditions	Lots	S.S.	Total	Results (Fail of Total)	Comments: (N/A =Not Applicable)
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TEST GROUP A – ACCELERATED ENVIRONMENT STRESS TESTS

PC	A1	JESD22 A113 J-STD-020	Preconditioning: (Test @ Rm) SMD only; Moisture Preconditioning for THB/HAST, AC/UHST, TC, &PTC ; Peak Reflow Temp=260°C	Min.MSL=3			MSL=3	-
THB or HAST	A2	JESD22 A101	Temperature Humidity Bias: (Test @ Rm/Hot) Ta=85°C, RH=85%, 1000hrs	3	77	231	0 of 231	-
AC or UHST or TH	A3	JESD22 A118	Unbiased Highly Accelerated Stree Test: (Test @ Rm) Ta=110°C, 85% RH, 264h	3	77	231	0 of 231	-
TC	A4	JESD22 A104	Temperature Cycle: (Test @ Hot) Ta=-55°C to 150°C, 1000cyc	3	77	231	0 of 231 0 Fails after TC (WBP)	-
PTC	A5	JESD22 A105	Power Temperature Cycle: (Test @ Rm/Hot) -	-	-	-	-	N/A
HTSL	A6	JESD22 A103	High Temperature Storage Life: (Test @ Rm/Hot) Ta=175°C, 500hrs	1	45	45	0 of 45	-

TEST GROUP B – ACCELERATED LIFETIME SIMULATION TESTS

HTOL	B1	JESD22 A108	High Temp Operating Life: (Test @ Rm/Cold/Hot) Ta=150°C, 1000hrs	3	77	231	0 of 231	-	
ELFR	B2	AEC-Q100-008	Early Life Failure Rate: (Test @ Rm/Hot) Ta=125°C, 48hrs	3	800	2400	0 of 2400	-	
EDR	B3	AEC-Q100-005	NVM Endurance & Data Retention Test: (Test @ Rm/Hot)	For HTOL	3	77	231	0 of 231	-
				For HTSL	1	45	45	0 of 45	-

TEST GROUP C – PACKAGE ASSEMBLY INTEGRITY TESTS

WBS	C1	AEC-Q100-001 AEC-Q003	Wire Bond Shear Test: (Cpk > 1.67)	30 bonds	5 parts Min.	30 bonds	0 of 30bonds	Cpk>1.67
WBP	C2	Mil-STD-883 Method 2011 AEC-Q003	Wire Bond Pull: (Cpk > 1.67); Each bonder used	30 bonds	5 parts Min.	30 bonds	0 of 30bonds	Cpk>1.67
SD	C3	JESD22 B102 JSTD-002D	Solderability: (>95% coverage) 8 hr steam aging prior to testing	1	15	15	0 of 15	LQFP results BGA : N/A
PD	C4	JESD22 B100, JESD22 B108 AEC-Q003	Physical Dimensions: (Cpk > 1.67)	3	10	30	0 of 30	Cpk>1.67
SBS	C5	AEC-Q100-010 AEC-Q003	Solder Ball Shear: (Cpk > 1.67); 5 balls from min. of 10 devices	3	50balls	150	0 of 150	BGA results LQFP : N/A
LI	C6	JESD22 B105	Lead Integrity: (No lead cracking or breaking); Through-hole only; 10 leads from each of 5 devices	-	-	-	-	N/A

TEST GROUP D – DIE FABRICATION RELIABILITY TESTS

EM	D1	JESD61	Electromigration:	-	-	-	Pass	Confirmed by process TEG
TDDDB	D2	JESD35	Time Dependant Dielectric Breakdown:	-	-	-	Pass	Confirmed by process TEG
HCI	D3	JESD60 & 28	Hot Carrier Injection:	-	-	-	Pass	Confirmed by process TEG
NBTI	D4	JESD90	Negative Bias Temperature Instability:	-	-	-	Pass	Confirmed by process TEG
SM	D5	JESD61.87 & 202	Stress Migration:	-	-	-	Pass	Confirmed by process TEG

Test	#	Reference	Test Conditions	Lots	S.S.	Total	Results (Fail of Total)	Comments: (N/A =Not Applicable)
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TEST GROUP E- ELECTRICAL VERIFICATION

TEST	E1	User/Supplier Specification	Pre and Post Stress Electrical Test:	All	All	All	0 of All	-
HBM	E2	AEC-Q100-002	Electrostatic Discharge, Human Body Model: (Test @ Rm/Hot); (2KV HBM / Class 2 or better)	1	3	3	0 of 3 ESD Level=HBM:2	HBM>2KV
CDM	E3	AEC-Q100-011	Electrostatic Discharge, Charged Device Model: (Test @ Rm/Hot); (750V corner leads, 500V all other leads / Class C4B or better)	1	3	3	0 of 3 ESD Level=CDM:C4B	Corner leads: 750V Pass All other leads:500V Pass
LU	E4	AEC-Q100-004	Latch-Up: (Test @ Rm/Hot)	1	6	6	0 of 6	-
ED	E5	AEC-Q100-009 AEC-Q003	Electrical Distributions: (Test @ Rm/Hot/Cold) (where applicable, Cpk>1.67)	3	30	90	Cpk>1.67	-
FG	E6	AEC-Q100-007	Fault Grading:	-	-	-	>98%	-
CHAR	E7	AEC-Q003	Characterization: (Test @ Rm/Hot/Cold)	-	-	-	Pass	According to Renesas standard procedure
EMC	E9	SAE J1752/3	Electromagnetic Compatibility (Radiated Emissions)	1	1	1	0 of 1	-
SC	E10	AEC Q100-012	Short Circuit Characterization	-	-	-	-	N/A
SER	E11	JESD89-1 JESD89-2 JESD89-3	Soft Error Rate	1	3	3	Pass	-
LF	E12	AEC-Q005	Lead (Pb) Free: (see AEC-Q005)	-	-	-	Pass	LQFP results Solderability: See SD (C3) result. Solder heat resistance: N/A (Wave Solder is Not recommended.) Whisker: Performed on product TEG with test method based on JESD201. BGA : N/A

TEST GROUP F – DEFECT SCREENING TESTS

PAT	F1	AEC-Q001	Process Average Testing: (see AEC-Q001)	All	All	All	Reject units outside PAT limits	Apply to mass production according to Renesas standard procedure
SBA	F2	AEC-Q002	Statistical Bin/Yield Analysis: (see AEC-Q002)	All	All	All	Reject units outside criteria	Apply to mass production according to Renesas standard procedure

TEST GROUP G – CAVITY PACKAGE INTEGRITY TESTS (for Ceramic Package testing only)

MS	G1	JESD22 B104	Mechanical Shock: (Test @ Rm)	-	-	-	-	N/A
VFV	G2	JESD22 B103	Variable Frequency Vibration: (Test @ Rm)	-	-	-	-	N/A
CA	G3	MIL-STD-883 Method 2001	Constant Acceleration: (Test @ Rm)	-	-	-	-	N/A
GFL	G4	MIL-STD-883 Method 1014	Gross and Fine Leak:	-	-	-	-	N/A
DROP	G5	-----	Drop Test: (Test @ Rm) MEMS cavity parts only. Drop part on each of 6 axes once from a height of 1.2m onto a concrete surface.	-	-	-	-	N/A
LT	G6	MIL-STD-883 Method 2004	Lid Torque:	-	-	-	-	N/A
DS	G7	MIL-STD-883 Method 2019	Die Shear:	-	-	-	-	N/A
IWV	G8	MIL-STD-883 Method 1018	Internal Water Vapor:	-	-	-	-	N/A