

Product Change Notice (PCN)

Subject: Bond wire material change for RL78/F13, F14 Series 32pin QFN package products

Publication Date: 3/21/2025

Effective Date: 8/29/2025

Revision Description: Initial Release

Description of Change:

QFN products, F13, F14 series Cu wire change.

The Bonding wire material will be changed to copper.

The following materials are also changed. See below for details.

[Details of change]

No	Item	Alternate Cu wire HWQFN with Half-cut Wettable flank	Current Au wire HVQFN with Dimple Wettable flank
1	Bonding wire material change	Cu, ϕ 23um	Au, ϕ 20um
2	Lead frame change	Common lead frame	individual lead frame
3	Die attach material change	Renesas standard material (Ag paste)	Existing material (Ag paste)
4	Mold resin material change	Resin for Cu wire	Resin for Au wire
5	Exterior plating material specification change	Pure Sn	PPF
6	Marking specification change	There are differences (Refer to the Marking)	
7	Package outline	There are differences (Refer to the Package outline)	
8	Packing change	Common Tray	individual Tray

Affected Product List:

Refer to "Product List" in "Appendix".

Reason for Change:

For stable supply of products

Impact on Fit, Form, Function, Quality & Reliability:

The change will have no impact on the fitness, function, quality and reliability of the devices.

Package Outline: Please refer to the "Appendix".

Product Identification:

The Part number is different before and after the change.

Refer to "Part number specification" and "Product List"

Qualification Status:

4/10/2025 It will be available to provide.

Sample Availability Date:

7/18/2025 (Deadline for sample request 6/6/2025)

Device Material Declaration:

Available upon request.

Note:

1. Acknowledgement must be received by Renesas within 30 days or Renesas will consider the changes as approved.
2. If timely acknowledgement is provided by customers, then customers shall have 90 days from the date of receipt of this PCN to make any objections to this PCN. If customers fail to make objections to this PCN within 90 days of the receipt of the PCN then Renesas will consider the PCN changes as approved.
3. If customer cannot accept the PCN then customers must provide Renesas with the last order quantity and purchase order.

For additional information regarding this notice, please contact your Renesas sales representative.

Appendix 1

■Part number specification

The code "C" representing Cu wire is inserted in part number of Cu wire products for distinguishing from Au wire products wire products and Au wire products have different suffixes. See below for table.

		Body	Suffix(Packing type)		
			Tray (Full carton)	Tray	T/R
Current	Au wire	R5F1xxxx	G5	U5	W5
Alternative	Cu wire	R5F1xxxxC	15	35	55
Points to changes		9桁目に"C"追加 "C" is added to the 9th digit.	末尾から2桁目が変更(末尾"Q"の時は末尾から3桁目が変更) The second digit from the end of the Suffix change. (If "Q" at the end of Suffix, the third digit from the end change.)		

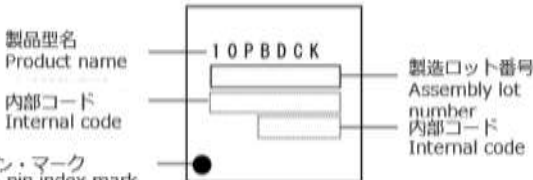
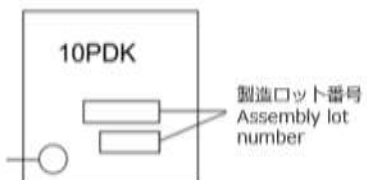
Ex) Cu wire: R5F10PBDCKNA#15

Au wire: R5F10PBDKNA#G5

■Marking specification

Marking specifications will be changed as follows.

Marking Specification

Cu wire Alternate	Au wire Current
RL78/F14 R5F10PBDCKNA#15 	RL78/F14 R5F10PBDKNA#G5 

■Explanation of changes

No	Material change	Explanation of changes
1	Bonding wire material	It is a proven material for automotive Cu wire products.
2	Lead frame	It is a proven material for automotive Cu wire products.
3	Die attach material	It is a proven material for automotive Cu wire products.
4	Mold resin material	It is a proven material for automotive Cu wire products.
5	Exterior plating material specification	It is a proven material for automotive Cu wire products.

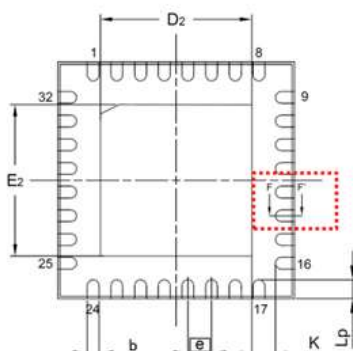
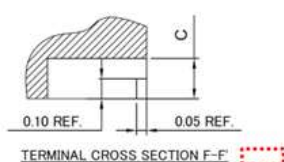
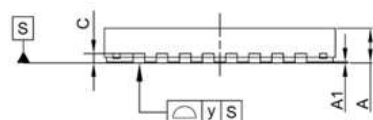
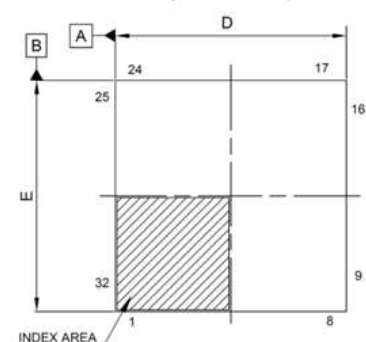
■Package Outline (1/2)

HWQFN with Half-cut Wettable flank

Alternate Cu wire

Package Drawing (Renesas Semiconductor KL Sdn.Bhd.)

Renesas  PWQN0032KH-A



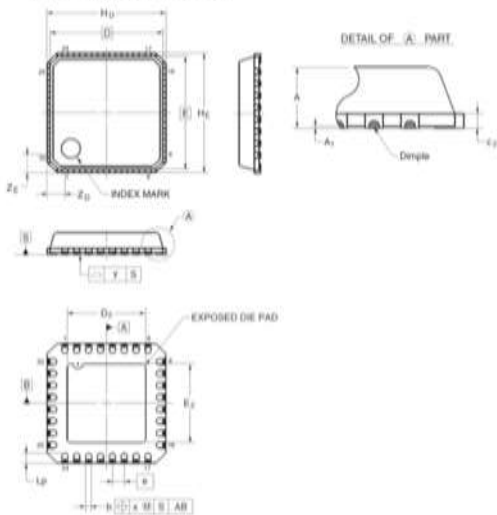
Reference Symbol	Dimension in Millimeters		
	Min.	Nom.	Max.
D	4.85	5.00	5.15
E	4.85	5.00	5.15
A	—	—	0.80
A ₁	0.00	—	0.05
b	0.18	0.25	0.30
e	0.50 BSC		
L _p	0.35	0.40	0.45
y	—	—	0.08
c	—	0.20	—
K	0.20	—	—
D ₂	—	3.20	—
E ₂	—	3.20	—

■Package Outline (2/2)

HVQFN with Dimple Wettable flank
Current Au wire

Package Drawing (Renesas Semiconductor KL Sdn.Bhd.)

Renesasコード PVQN0032KD-A



Reference Symbol	Dimension in Millimeters		
	Min	Nom	Max
D	—	4.75	—
E	—	4.75	—
A	—	—	0.90
A1	0.00	—	—
b	0.20	0.25	0.30
e	—	0.50	—
Lp	0.30	0.40	0.50
x	—	—	0.10
y	—	—	0.05
HD	4.95	5.00	5.05
HE	4.95	5.00	5.05
ZD	—	0.75	—
ZE	—	0.75	—
c2	0.19	0.20	0.21
D2	—	3.30	—
E2	—	3.30	—

Package Drawing (Dimension comparison)

RSKL package symbols complied to JEITA
RSKL Symbol はJEITA基準に準拠

RSKL Symbol New Cu wire	5x5mm 32pin HWQFN PWQN0032KH-A			RSKL Symbol Current Au wire	5x5mm 32pin HWQFN PVQN0032KD-A		
	Dimension in Millimeters				Dimension in Millimeters		
	Min	Nom	Max		Min	Nom	Max
D	4.85	5.00	5.15		-	4.75	-
E	4.85	5.00	5.15		-	4.75	-
A	-	-	0.80	A	-	-	0.90
A1	0.00	-	0.05	A1	0.00	-	-
b	0.18	0.25	0.30	b	0.20	0.25	0.30
	0.50 BSC				-	0.50	-
Lp	0.35	0.40	0.45	Lp	0.30	0.40	0.50
x	-	-	0.80	x	-	-	0.10
y	-	-	0.80	y	-	-	0.05
HD	-	-	-	HD	4.95	5.00	5.05
HE	-	-	-	HE	4.95	5.00	5.05
ZD	-	-	-	ZD	-	0.75	-
ZE	-	-	-	ZE	-	0.75	-
c	-	0.20	-	C2	0.19	0.20	0.21
K	0.20	-	-	K	-	-	-
D2	-	3.20	-	D2	-	3.30	-
E2	-	3.20	-	E2	-	3.30	-

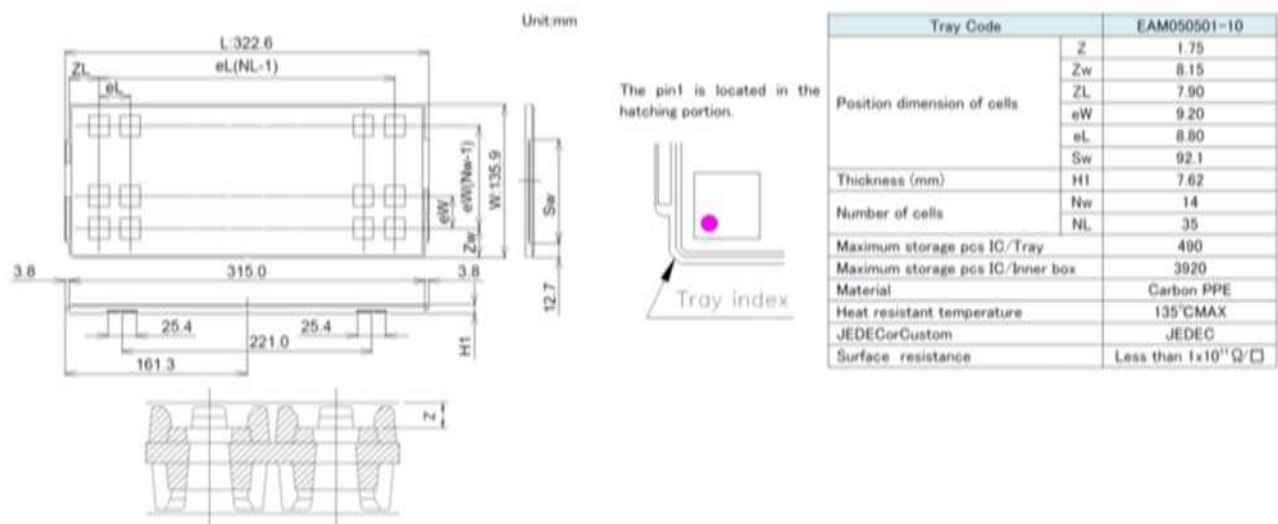
■ Packing change (1/2)

There are no tape & reel changes.

The tray will be changed as follows.

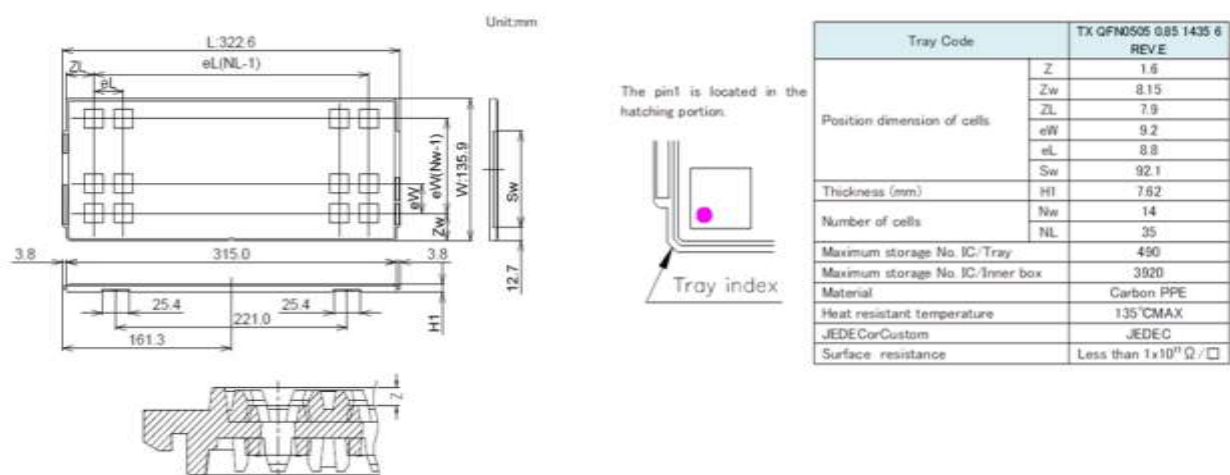
Alternate Cu wire

Tray Outline Drawing (Renesas Semiconductor KL Sdn.Bhd.)



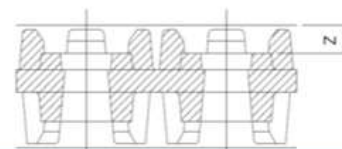
Current Au wire

Tray Outline Drawing (Renesas Semiconductor KL Sdn.Bhd.)



■ Packing change (2/2)

Tray Outline Drawing (Dimension comparison)



Alternate Cu wire RSKL RL78/F13. F14			Current Au wire RSKL RL78/F13. F14		
Tray Code		EAM050501-10	Tray Code		TX QFN0505 0.85 1435 6 REV.E
Position dimension of cells	Z	1.75	Position dimension of cells	Z	1.6
	Zw	8.15		Zw	8.15
	ZL	7.90		ZL	7.9
	eW	9.20		eW	9.2
	eL	8.80		eL	8.8
	Sw	92.1		Sw	92.1
Thickness (mm)	H1	7.62	Thickness (mm)	H1	7.62
Number of cells	Nw	14	Number of cells	Nw	14
	NL	35		NL	35
Maximum storage pcs IC/Tray		490	Maximum storage No. IC/Tray		490
Maximum storage pcs IC/Inner box		3920	Maximum storage No. IC/Inner box		3920
Material		Carbon PPE	Material		Carbon PPE
Heat resistant temperature		135°C MAX	Heat resistant temperature		135°C MAX
JEDEC or Custom		JEDEC	JEDEC or Custom		JEDEC
Surface resistance		Less than $1 \times 10^{11} \Omega / \square$	Surface resistance		Less than $1 \times 10^{11} \Omega / \square$
EAM050501-10			TX QFN0505 0.85 1435 6 REV.E		

■ 4M changing points

Item	Check Result	Judgement
Machine	We use the same level of equipment as Au wire products to bond Cu wire products. With the switch to Cu wire products, we have applied an atmosphere that is resistant to oxidation as a countermeasure against the participation of Cu wire. In addition, we have a track record of Cu wire application products even for similar products, and we have confirmed that there are no problems when starting construction of this product.	○ No risk
Method	They are joined by the same bonding method as Au wire products.	○ No risk
Man	Authorized workers at the plant will be engaged.	○ No risk
Material	Only approved Cu wire materials are used. We apply certified materials that correspond to Cu wire products. In addition, we have also conducted reliability tests on finished products equivalent to those of current products (Au wire products) to confirm that there are no problems.	○ No risk

Appendix 2 Product List

RL78/F13(LIN) series:

Before (Au wire)	After (Cu wire)	Packing
R5F10ABAKNA#G5	R5F10ABACKNA#15	Full Carton (Tray)
R5F10ABAKNA#G5Q	R5F10ABACKNA#15Q	Full Carton (Tray)
R5F10ABAKNA#U5	R5F10ABACKNA#35	Bulk (Tray)
R5F10ABAKNA#W5	R5F10ABACKNA#55	Tape&Reel
R5F10ABAKNA#W5Q	R5F10ABACKNA#55Q	Tape&Reel
R5F10ABALNA#G5	R5F10ABACLNA#15	Full Carton (Tray)
R5F10ABALNA#G5Q	R5F10ABACLNA#15Q	Full Carton (Tray)
R5F10ABALNA#U5	R5F10ABACLNA#35	Bulk (Tray)
R5F10ABALNA#W5	R5F10ABACLNA#55	Tape&Reel
R5F10ABALNA#W5Q	R5F10ABACLNA#55Q	Tape&Reel
R5F10ABAYNA#G5	R5F10ABACYNA#15	Full Carton (Tray)
R5F10ABAYNA#G5Q	R5F10ABACYNA#15Q	Full Carton (Tray)
R5F10ABAYNA#U5	R5F10ABACYNA#35	Bulk (Tray)
R5F10ABAYNA#W5	R5F10ABACYNA#55	Tape&Reel
R5F10ABAYNA#W5Q	R5F10ABACYNA#55Q	Tape&Reel
R5F10ABCKNA#G5	R5F10ABCCCKNA#15	Full Carton (Tray)
R5F10ABCKNA#G5Q	R5F10ABCCCKNA#15Q	Full Carton (Tray)
R5F10ABCKNA#U5	R5F10ABCCCKNA#35	Bulk (Tray)
R5F10ABCKNA#W5	R5F10ABCCCKNA#55	Tape&Reel
R5F10ABCKNA#W5Q	R5F10ABCCCKNA#55Q	Tape&Reel
R5F10ABCLNA#G5	R5F10ABCCCLNA#15	Full Carton (Tray)
R5F10ABCLNA#G5Q	R5F10ABCCCLNA#15Q	Full Carton (Tray)
R5F10ABCLNA#U5	R5F10ABCCCLNA#35	Bulk (Tray)
R5F10ABCLNA#W5	R5F10ABCCCLNA#55	Tape&Reel
R5F10ABCLNA#W5Q	R5F10ABCCCLNA#55Q	Tape&Reel
R5F10ABCYNA#G5	R5F10ABCCYNA#15	Full Carton (Tray)
R5F10ABCYNA#G5Q	R5F10ABCCYNA#15Q	Full Carton (Tray)
R5F10ABCYNA#U5	R5F10ABCCYNA#35	Bulk (Tray)
R5F10ABCYNA#W5	R5F10ABCCYNA#55	Tape&Reel
R5F10ABCYNA#W5Q	R5F10ABCCYNA#55Q	Tape&Reel

R5F10ABDKNA#G5	R5F10ABDCKNA#15	Full Carton (Tray)
R5F10ABDKNA#G5Q	R5F10ABDCKNA#15Q	Full Carton (Tray)
R5F10ABDKNA#U5	R5F10ABDCKNA#35	Bulk (Tray)
R5F10ABDKNA#W5	R5F10ABDCKNA#55	Tape&Reel
R5F10ABDKNA#W5Q	R5F10ABDCKNA#55Q	Tape&Reel
R5F10ABDLNA#G5	R5F10ABDCLNA#15	Full Carton (Tray)
R5F10ABDLNA#G5Q	R5F10ABDCLNA#15Q	Full Carton (Tray)
R5F10ABDLNA#U5	R5F10ABDCLNA#35	Bulk (Tray)
R5F10ABDLNA#W5	R5F10ABDCLNA#55	Tape&Reel
R5F10ABDLNA#W5Q	R5F10ABDCLNA#55Q	Tape&Reel
R5F10ABDYNA#G5	R5F10ABDCYNA#15	Full Carton (Tray)
R5F10ABDYNA#G5Q	R5F10ABDCYNA#15Q	Full Carton (Tray)
R5F10ABDYNA#U5	R5F10ABDCYNA#35	Bulk (Tray)
R5F10ABDYNA#W5	R5F10ABDCYNA#55	Tape&Reel
R5F10ABDYNA#W5Q	R5F10ABDCYNA#55Q	Tape&Reel
R5F10ABEKNA#G5	R5F10ABECKNA#15	Full Carton (Tray)
R5F10ABEKNA#G5Q	R5F10ABECKNA#15Q	Full Carton (Tray)
R5F10ABEKNA#U5	R5F10ABECKNA#35	Bulk (Tray)
R5F10ABEKNA#W5	R5F10ABECKNA#55	Tape&Reel
R5F10ABEKNA#W5Q	R5F10ABECKNA#55Q	Tape&Reel
R5F10ABELNA#G5	R5F10ABECLNA#15	Full Carton (Tray)
R5F10ABELNA#G5Q	R5F10ABECLNA#15Q	Full Carton (Tray)
R5F10ABELNA#U5	R5F10ABECLNA#35	Bulk (Tray)
R5F10ABELNA#W5	R5F10ABECLNA#55	Tape&Reel
R5F10ABELNA#W5Q	R5F10ABECLNA#55Q	Tape&Reel
R5F10ABEYNA#G5	R5F10ABECYNA#15	Full Carton (Tray)
R5F10ABEYNA#G5Q	R5F10ABECYNA#15Q	Full Carton (Tray)
R5F10ABEYNA#U5	R5F10ABECYNA#35	Bulk (Tray)
R5F10ABEYNA#W5	R5F10ABECYNA#55	Tape&Reel
R5F10ABEYNA#W5Q	R5F10ABECYNA#55Q	Tape&Reel

RL78/F13(CAN&LIN) series:

Before (Au wire)	After (Cu wire)	Packing
R5F10BBCKNA#G5	R5F10BBCKNA#15	Full Carton (Tray)
R5F10BBCKNA#G5Q	R5F10BBCKNA#15Q	Full Carton (Tray)
R5F10BBCKNA#U5	R5F10BBCKNA#35	Bulk (Tray)
R5F10BBCKNA#W5	R5F10BBCKNA#55	Tape&Reel
R5F10BBCKNA#W5Q	R5F10BBCKNA#55Q	Tape&Reel
R5F10BBCLNA#G5	R5F10BBCLNA#15	Full Carton (Tray)
R5F10BBCLNA#G5Q	R5F10BBCLNA#15Q	Full Carton (Tray)
R5F10BBCLNA#U5	R5F10BBCLNA#35	Bulk (Tray)
R5F10BBCLNA#W5	R5F10BBCLNA#55	Tape&Reel
R5F10BBCLNA#W5Q	R5F10BBCLNA#55Q	Tape&Reel
R5F10BBCYNA#G5	R5F10BBCYNA#15	Full Carton (Tray)
R5F10BBCYNA#G5Q	R5F10BBCYNA#15Q	Full Carton (Tray)
R5F10BBCYNA#U5	R5F10BBCYNA#35	Bulk (Tray)
R5F10BBCYNA#W5	R5F10BBCYNA#55	Tape&Reel
R5F10BBCYNA#W5Q	R5F10BBCYNA#55Q	Tape&Reel
R5F10BBDKNA#G5	R5F10BBDCKNA#15	Full Carton (Tray)
R5F10BBDKNA#G5Q	R5F10BBDCKNA#15Q	Full Carton (Tray)
R5F10BBDKNA#U5	R5F10BBDCKNA#35	Bulk (Tray)
R5F10BBDKNA#W5	R5F10BBDCKNA#55	Tape&Reel
R5F10BBDKNA#W5Q	R5F10BBDCKNA#55Q	Tape&Reel
R5F10BBDLNA#G5	R5F10BBDCLNA#15	Full Carton (Tray)
R5F10BBDLNA#G5Q	R5F10BBDCLNA#15Q	Full Carton (Tray)
R5F10BBDLNA#U5	R5F10BBDCLNA#35	Bulk (Tray)
R5F10BBDLNA#W5	R5F10BBDCLNA#55	Tape&Reel
R5F10BBDLNA#W5Q	R5F10BBDCLNA#55Q	Tape&Reel
R5F10BBDYNA#G5	R5F10BBDYNA#15	Full Carton (Tray)
R5F10BBDYNA#G5Q	R5F10BBDYNA#15Q	Full Carton (Tray)
R5F10BBDYNA#U5	R5F10BBDYNA#35	Bulk (Tray)
R5F10BBDYNA#W5	R5F10BBDYNA#55	Tape&Reel
R5F10BBDYNA#W5Q	R5F10BBDYNA#55Q	Tape&Reel
R5F10BBEKNA#G5	R5F10BBECKNA#15	Full Carton (Tray)
R5F10BBEKNA#G5Q	R5F10BBECKNA#15Q	Full Carton (Tray)
R5F10BBEKNA#U5	R5F10BBECKNA#35	Bulk (Tray)
R5F10BBEKNA#W5	R5F10BBECKNA#55	Tape&Reel
R5F10BBEKNA#W5Q	R5F10BBECKNA#55Q	Tape&Reel
R5F10BBELNA#G5	R5F10BBELNA#15	Full Carton (Tray)

R5F10BBELNA#G5Q	R5F10BBECLNA#15Q	Full Carton (Tray)
R5F10BBELNA#U5	R5F10BBECLNA#35	Bulk (Tray)
R5F10BBELNA#W5	R5F10BBECLNA#55	Tape&Reel
R5F10BBELNA#W5Q	R5F10BBECLNA#55Q	Tape&Reel
R5F10BBEYNA#G5	R5F10BBECYNA#15	Full Carton (Tray)
R5F10BBEYNA#G5Q	R5F10BBECYNA#15Q	Full Carton (Tray)
R5F10BBEYNA#U5	R5F10BBECYNA#35	Bulk (Tray)
R5F10BBEYNA#W5	R5F10BBECYNA#55	Tape&Reel
R5F10BBEYNA#W5Q	R5F10BBECYNA#55Q	Tape&Reel
R5F10BBFKNA#G5	R5F10BBFCKNA#15	Full Carton (Tray)
R5F10BBFKNA#G5Q	R5F10BBFCKNA#15Q	Full Carton (Tray)
R5F10BBFKNA#U5	R5F10BBFCKNA#35	Bulk (Tray)
R5F10BBFKNA#W5	R5F10BBFCKNA#55	Tape&Reel
R5F10BBFKNA#W5Q	R5F10BBFCKNA#55Q	Tape&Reel
R5F10BBFLNA#G5	R5F10BBFCLNA#15	Full Carton (Tray)
R5F10BBFLNA#G5Q	R5F10BBFCLNA#15Q	Full Carton (Tray)
R5F10BBFLNA#U5	R5F10BBFCLNA#35	Bulk (Tray)
R5F10BBFLNA#W5	R5F10BBFCLNA#55	Tape&Reel
R5F10BBFLNA#W5Q	R5F10BBFCLNA#55Q	Tape&Reel
R5F10BBFYNA#G5	R5F10BBFCYNA#15	Full Carton (Tray)
R5F10BBFYNA#G5Q	R5F10BBFCYNA#15Q	Full Carton (Tray)
R5F10BBFYNA#U5	R5F10BBFCYNA#35	Bulk (Tray)
R5F10BBFYNA#W5	R5F10BBFCYNA#55	Tape&Reel
R5F10BBFYNA#W5Q	R5F10BBFCYNA#55Q	Tape&Reel
R5F10BBGKNA#G5	R5F10BBGCKNA#15	Full Carton (Tray)
R5F10BBGKNA#G5Q	R5F10BBGCKNA#15Q	Full Carton (Tray)
R5F10BBGKNA#U5	R5F10BBGCKNA#35	Bulk (Tray)
R5F10BBGKNA#W5	R5F10BBGCKNA#55	Tape&Reel
R5F10BBGKNA#W5Q	R5F10BBGCKNA#55Q	Tape&Reel
R5F10BBGLNA#G5	R5F10BBGCLNA#15	Full Carton (Tray)
R5F10BBGLNA#G5Q	R5F10BBGCLNA#15Q	Full Carton (Tray)
R5F10BBGLNA#U5	R5F10BBGCLNA#35	Bulk (Tray)
R5F10BBGLNA#W5	R5F10BBGCLNA#55	Tape&Reel
R5F10BBGLNA#W5Q	R5F10BBGCLNA#55Q	Tape&Reel
R5F10BBGYNA#G5	R5F10BBGCYNA#15	Full Carton (Tray)
R5F10BBGYNA#G5Q	R5F10BBGCYNA#15Q	Full Carton (Tray)
R5F10BBGYNA#U5	R5F10BBGCYNA#35	Bulk (Tray)
R5F10BBGYNA#W5	R5F10BBGCYNA#55	Tape&Reel
R5F10BBGYNA#W5Q	R5F10BBGCYNA#55Q	Tape&Reel

RL78/F14(CAN) series:

Before (Au wire)	After (Cu wire)	Packing
R5F10PBDKNA#G5	R5F10PBDCKNA#15	Full Carton (Tray)
R5F10PBDKNA#G5Q	R5F10PBDCKNA#15Q	Full Carton (Tray)
R5F10PBDKNA#U5	R5F10PBDCKNA#35	Bulk (Tray)
R5F10PBDKNA#W5	R5F10PBDCKNA#55	Tape&Reel
R5F10PBDKNA#W5Q	R5F10PBDCKNA#55Q	Tape&Reel
R5F10PBDLNA#G5	R5F10PBDCLNA#15	Full Carton (Tray)
R5F10PBDLNA#G5Q	R5F10PBDCLNA#15Q	Full Carton (Tray)
R5F10PBDLNA#U5	R5F10PBDCLNA#35	Bulk (Tray)
R5F10PBDLNA#W5	R5F10PBDCLNA#55	Tape&Reel
R5F10PBDLNA#W5Q	R5F10PBDCLNA#55Q	Tape&Reel
R5F10PBDYNA#G5	R5F10PBDCYNA#15	Full Carton (Tray)
R5F10PBDYNA#G5Q	R5F10PBDCYNA#15Q	Full Carton (Tray)
R5F10PBDYNA#U5	R5F10PBDCYNA#35	Bulk (Tray)
R5F10PBDYNA#W5	R5F10PBDCYNA#55	Tape&Reel
R5F10PBDYNA#W5Q	R5F10PBDCYNA#55Q	Tape&Reel
R5F10PBEKNA#G5	R5F10PBECKNA#15	Full Carton (Tray)
R5F10PBEKNA#G5Q	R5F10PBECKNA#15Q	Full Carton (Tray)
R5F10PBEKNA#U5	R5F10PBECKNA#35	Bulk (Tray)
R5F10PBEKNA#W5	R5F10PBECKNA#55	Tape&Reel
R5F10PBEKNA#W5Q	R5F10PBECKNA#55Q	Tape&Reel
R5F10PBELNA#G5	R5F10PBECLNA#15	Full Carton (Tray)
R5F10PBELNA#G5Q	R5F10PBECLNA#15Q	Full Carton (Tray)
R5F10PBELNA#U5	R5F10PBECLNA#35	Bulk (Tray)
R5F10PBELNA#W5	R5F10PBECLNA#55	Tape&Reel
R5F10PBELNA#W5Q	R5F10PBECLNA#55Q	Tape&Reel
R5F10PBEYNA#G5	R5F10PBECYNA#15	Full Carton (Tray)
R5F10PBEYNA#G5Q	R5F10PBECYNA#15Q	Full Carton (Tray)
R5F10PBEYNA#U5	R5F10PBECYNA#35	Bulk (Tray)
R5F10PBEYNA#W5	R5F10PBECYNA#55	Tape&Reel
R5F10PBEYNA#W5Q	R5F10PBECYNA#55Q	Tape&Reel