

RENESAS RZ FAMILY

PRODUCT PART NUMBER GUIDE

OCTOBER 2024 (VERSION 1.0)

MPU PRODUCT MARKETING DEPARTMENT,
EMBEDDED PROCESSING 1ST BUSINESS DIVISION,
EMBEDDED PROCESSING PRODUCT GROUP
RENESAS ELECTRONICS CORPORATION

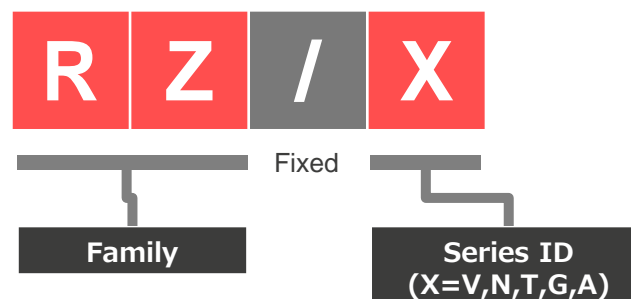


NOMENCLATURE OVERVIEW

- **Family Name:** RZ - Renesas Zenith
 - 32-bit & 64-bit high-performance MPUs

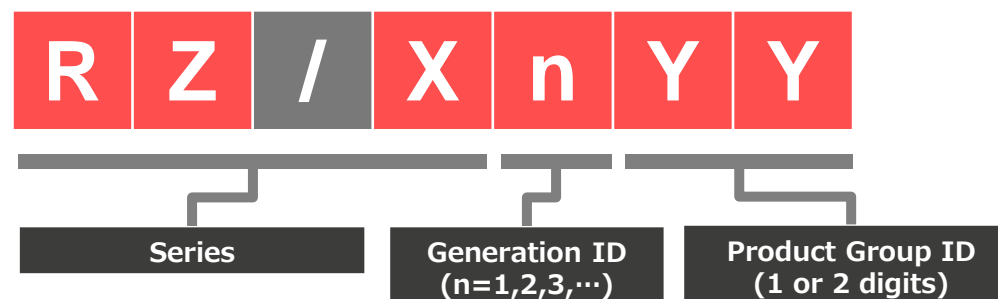
- **Series Name:** (RZ + "/" + 1 digit)

- RZ/V : Vision-AI MPU
- RZ/N : industrial Network MPU
- RZ/T : real-Time control MPU
- RZ/G : Graphics MPU for HMI*
- RZ/A : general Application MPU



- **Group Name:** (RZ + "/" + 3 or 4 digits)

- Examples:
 - RZ/G2L Group
 - RZ/A3UL Group

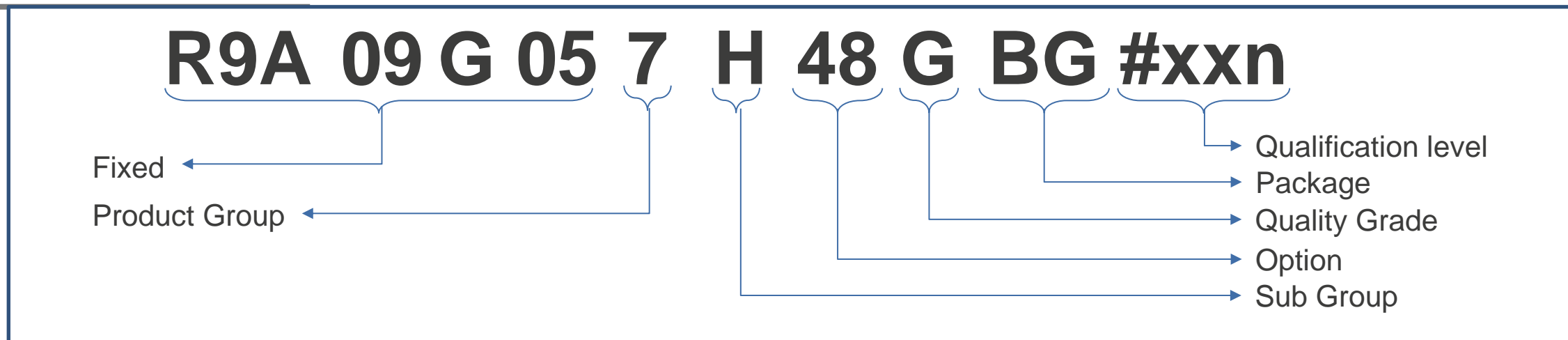


Series	YY	Meaning	
RZ/V	H	High-end	
	M	Mid-range	
	MA	Mid for Accelerator app	
	L	Low-end	
RZ/N	D	Dual main core	
	S	Single main core	
	L	Low-end	
RZ/T	M	Mid-range	
	L	Low-end	
RZ/G	H	High-end	
	M	Mid-Range-1	
	N	Mid-Range-2 (Narrow)	
	E	Mid-Range-3 (Entry)	
	L	Low-end	
	LC	Low-end Compact	
	UL	Ultra Low-end	
	Five*	RISC-V (*exception)	
	S	IoT Line (Secure, w/o GPU)	
	RZ/A	H	High-end
		M	Mid-range
LU		Low upper	
L		Low-end	
UL		Ultra Low-end	

*RZ/G is originally for graphics application but now expands to IoT Edge application w/o graphics.

RZ/V SERIES

RZ/V2H GROUP



Product Group

7	High-end
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Sub Group

H	High-end
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Option (*3)

	Quad Core + Realtime CPU		(RFU)
48	ISP and GPU, Secure		
47	(RFU)		
46	GPU only, Secure		
45	no ISP/GPU, Secure		
44	ISP and GPU, non-secure		
43	(RFU)		
42	GPU only, non-secure		
41	no ISP/GPU, non-secure		

Quality

G	Standard Q2A,Q2B
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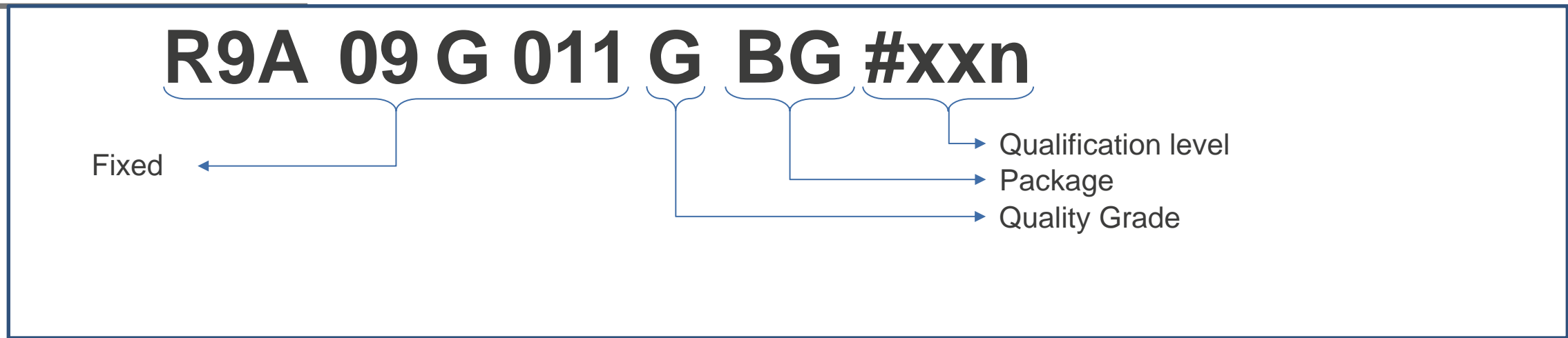
Package

BG	BGA
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Qualification level

#YJn	WS
#YKn	ES
#YBn	CS
#ACn	MP (Tray)
#BCn	MP (full-carton)

RZ/V2M GROUP

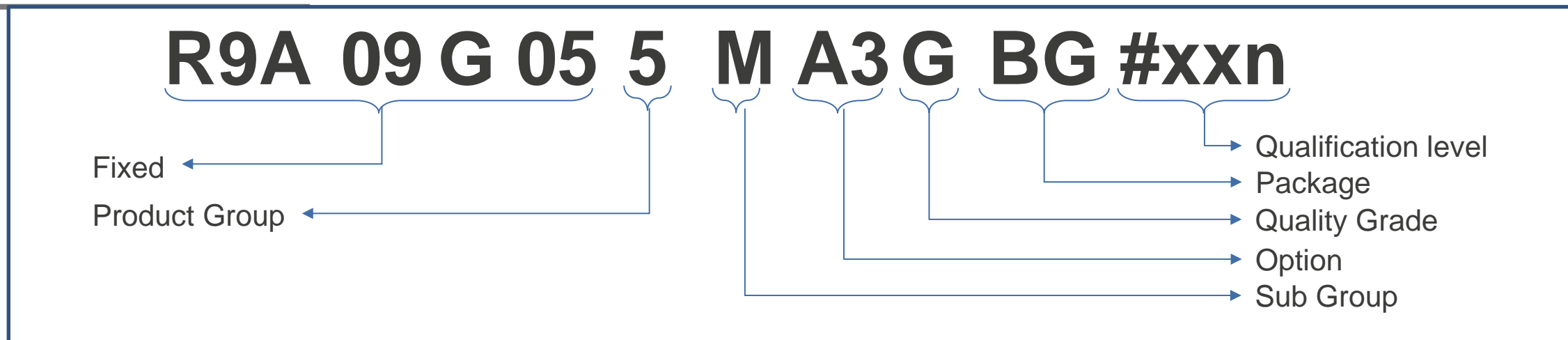


Quality	
G	Standard Q2A, Q2B

Package	
BG	BGA

Qualification level	
#YJn	WS
#YKn	ES
#YBn	CS
#ACn	MP (Tray)
#BCn	MP (full-carton)

RZ/V2MA GROUP



Product Group

5	Mid-Range
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Sub Group

M	Mid-Range
---	-----------

Option (*3)

Dual Core			
A3	full-spec, non-secure		

Quality

G	Standard Q2A,Q2B
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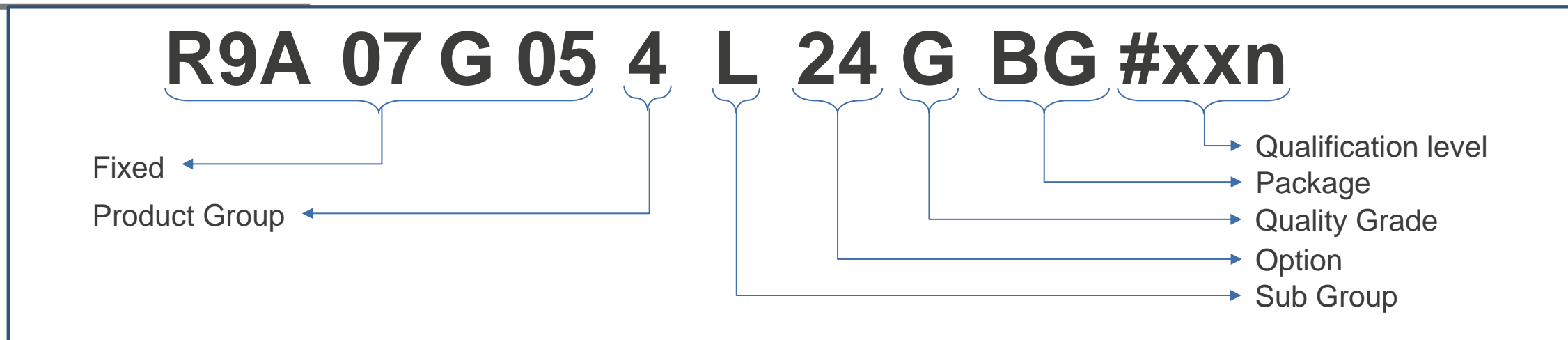
Package

BG	BGA
----	-----

Qualification level

#YJn	WS
#YKn	ES
#YBn	CS
#ACn	MP (Tray)
#BCn	MP (full-carton)

RZ/V2L GROUP



Product Group

4	Low-end
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Sub Group

L	Low-end
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Option (*3)

Dual Core + sub-CPU		Single Core + sub-CPU	
28	Full-pin pkg, Secure	18	Full-pin pkg, Secure
27	Reduced-pin, Secure	17	Reduced-pin, Secure
26	(RFU)	16	(RFU)
25	(RFU)	15	(RFU)
24	Full-pin pkg, non-Secure	14	Full-pin pkg, non-Secure
23	Reduced-pin, non-Secure	13	Reduced-pin, non-Secure
22	(RFU)	12	(RFU)
21	(RFU)	11	(RFU)

Quality

G	Standard Q2A,Q2B
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Package

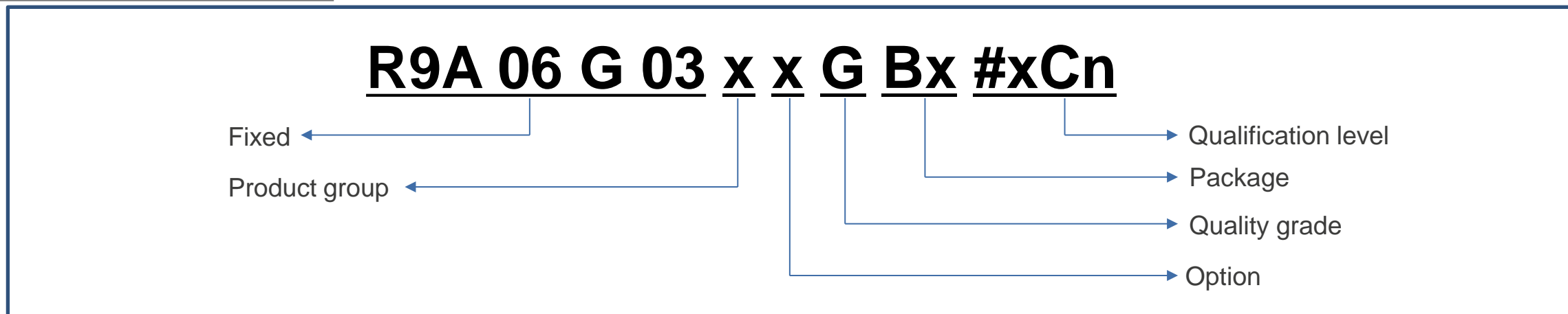
BG	BGA
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Qualification level

#YJn	WS
#YKn	ES
#YBn	CS
#ACn	MP (Tray)
#BCn	MP (full-carton)

RZ/N SERIES

RZ/N1 GROUP



Product group

2	RZ/N1D
3	RZ/N1S
4	RZ/N1L

Option

P	Secure, HRP/PRP
E	Secure
N	non-Secure, HPR/PRP
V	non-Secure

Quality

G	Standard Q2A
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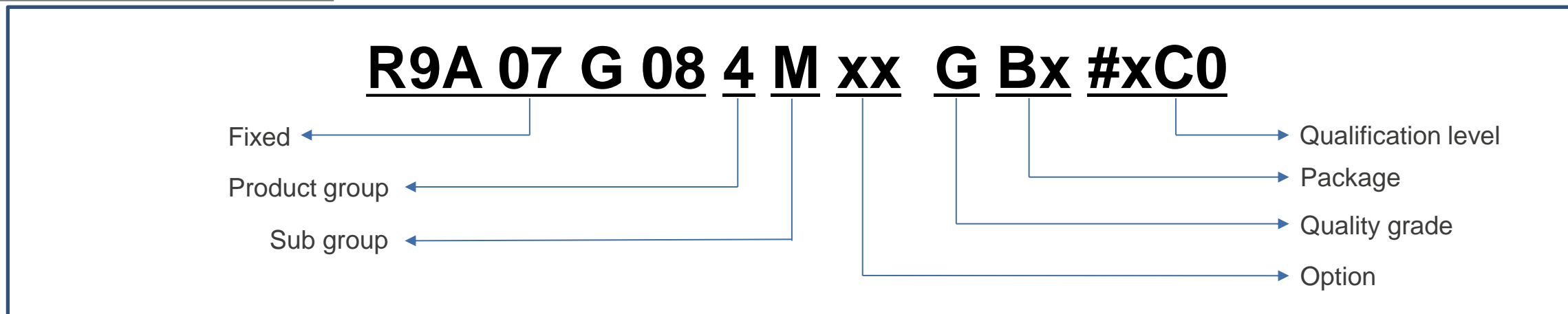
Package

	RZ/N1D	RZ/N1S	RZ/N1L
BG	400 LFBGA	324 LFBGA	196 LFBGA
BA	324 LFBGA	196 LFBGA	196 LFBGA
BB	400 LFBGA	324 LFBGA	(RFU)
BC	324 LFBGA	196 LFBGA	(RFU)

Qualification level

#ACn	Tray, bulk
#BCn	Tray, full carton

RZ/N2L GROUP



Product group

7	High-end
5	Mid-range
4	Low-end

Sub group

M	2 nd Generation
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Option

09	(RFU)
08	Secure
07	(RFU)
06	(RFU)
05	(RFU)
04	non-Secure
03	(RFU)
02	(RFU)
01	(RFU)
00	(RFU)

Quality

G	Standard Q2A
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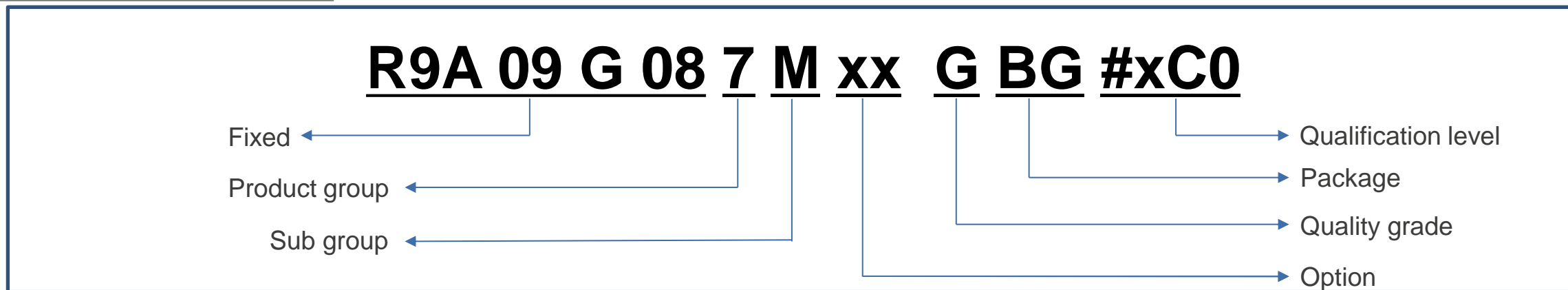
Package

BG	225 BGA
BA	121 BGA

Qualification level

#AC0	Tray, bulk
#BC0	Tray, full carton

RZ/N2H GROUP



Product group

7	High-end
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Sub group

M	2 nd Generation
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Option

Cortex-A55 quad cores		Cortex-A55 dual cores		Cortex-A55 single core	
49	(RFU)	29	(RFU)	09	(RFU)
48	Secure	28	Secure	08	Secure
47	(RFU)	27	(RFU)	07	(RFU)
46	(RFU)	26	(RFU)	06	(RFU)
45	(RFU)	25	(RFU)	05	(RFU)
44	non-Secure	24	non-Secure	04	non-Secure
43	(RFU)	23	(RFU)	03	(RFU)
42	(RFU)	22	(RFU)	02	(RFU)
41	(RFU)	21	(RFU)	01	(RFU)
40	(RFU)	20	(RFU)	00	(RFU)

Quality

G	Standard Q2A
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Package

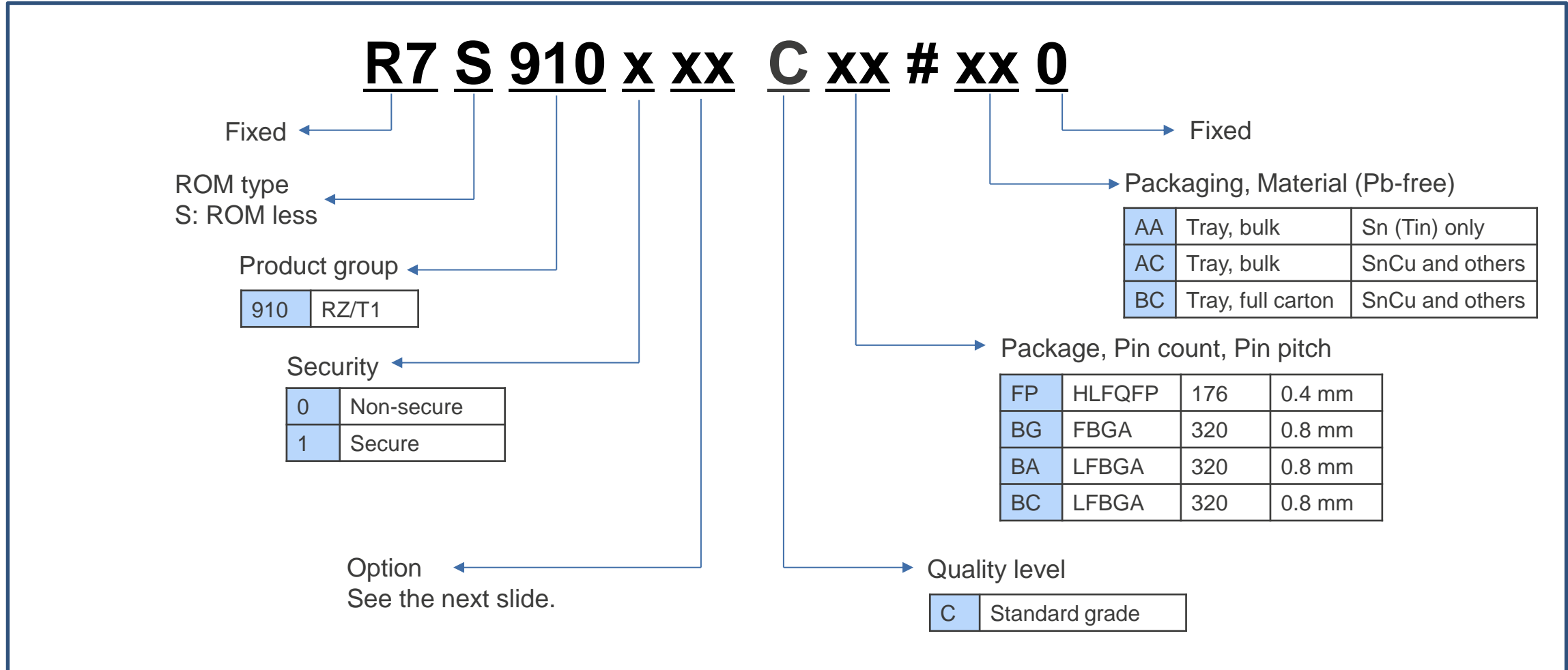
BG	576 FCBGA
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Qualification level

#AC0	Tray, bulk
#BC0	Tray, full carton

RZ/T SERIES

RZ/T1 GROUP



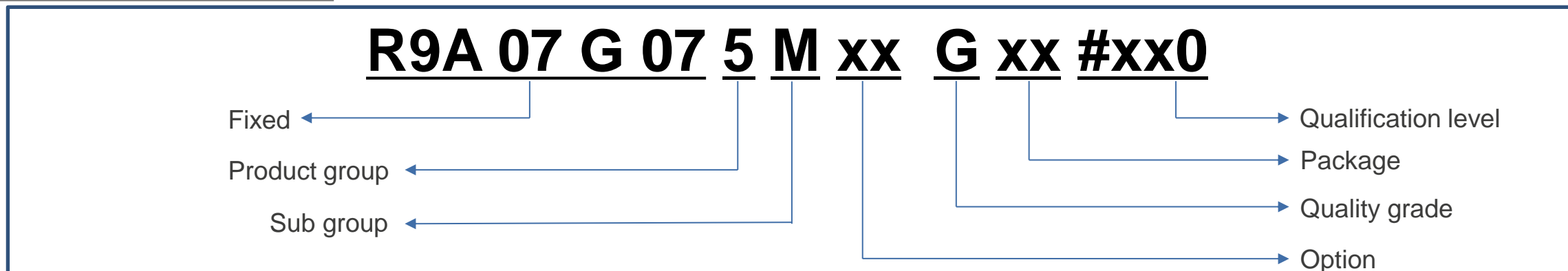
RZ/T1 GROUP (CONT'D)

OPTION CODE



CPU		TCM	Extended SRAM							
w/R-IN Engine	600 MHz + R-IN engine (150MHz)	512KB +32KB	- (1MB for R-IN)						17	18
	450 MHz + R-IN engine (150MHz)	512KB +32KB	- (1MB for R-IN)						15	16
Single core	600 MHz	512KB +32KB	1MB		07	13	27	28		
	450 MHz	512KB +32KB	1MB		06		25	26		
			0KB	01	02	11				
	300 MHz	512KB +32KB	0KB				35	36		
Package				176 QFP	320 BGA	320 BGA	320 BGA	320 BGA	320 BGA	320 BGA
Encoder Interface				-		Yes	-	Yes	-	Yes
Industrial Ethernet					- (Standard Ethernet)			EtherCAT		Multi protocol

RZ/T2M, T2ME GROUP



Product group

7	High-end
5	Mid-range
4	Low-end

Sub group

M	2 nd Generation
---	----------------------------

Option

Dual core		Single core	
29	CAN-FD, Secure, OTFD	09	(RFU)
28	CAN-FD, Secure	08	CAN-FD, Secure
27	CAN-FD, non-Ether, Secure	07	(RFU)
26	Classical CAN, Secure	06	Classical CAN, Secure
25	(RFU)	05	Classical CAN, non-Ether, Secure
24	CAN-FD, non-Secure	04	CAN-FD, non-Secure
23	(RFU)	03	(RFU)
22	Classical CAN, non-Secure	02	Classical CAN, non-secure
21	Classical CAN, non-Ether, non-Secure	01	Classical CAN, non-Ether, non-Secure
20	(RFU)	00	(RFU)

Quality

G	Standard Q2A
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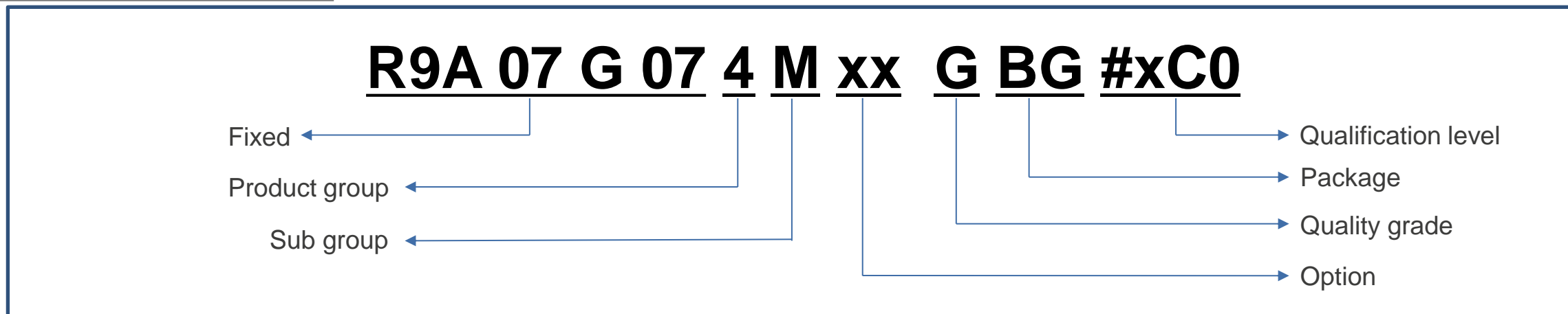
Package

BG	320 BGA
BA	225 BGA
FP	176 QFP
FA	128 QFP

Qualification level

#AA0	Tray, bulk
#AC0	Tray, bulk
#BA0	Tray, full carton
#BC0	Tray, full carton

RZ/T2L GROUP



Product group

7	High-end
5	Mid-range
4	Low-end

Sub group

M	2 nd Generation
---	----------------------------

Option

09	(RFU)
08	CAN-FD, EtherCAT, Secure
07	(RFU)
06	(RFU)
05	Classical CAN, non-EtherCAT, Secure
04	CAN-FD, EtherCAT, non-Secure
03	(RFU)
02	(RFU)
01	Classical CAN, non-EtherCAT, non-Secure
00	(RFU)

Quality

G	Standard Q2A
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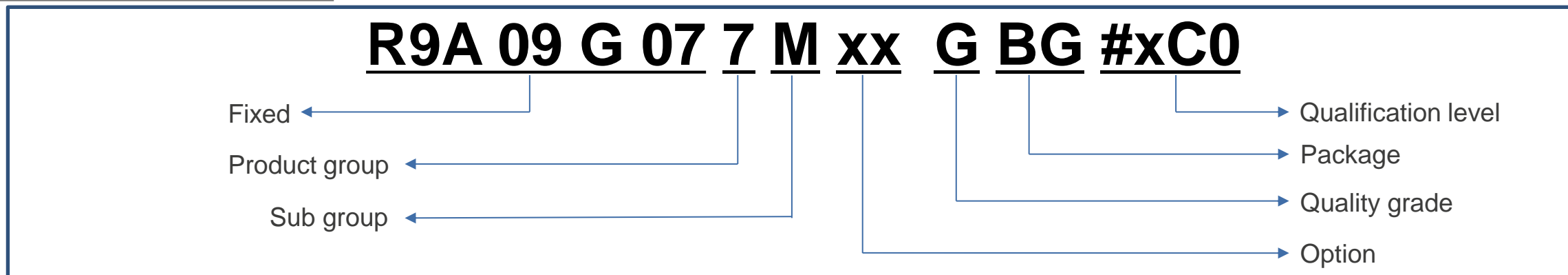
Package

BG	196 BGA
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Qualification level

#AC0	Tray, bulk
#BC0	Tray, full carton

RZ/T2H GROUP



Product group

7	High-end
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Sub group

M	2 nd Generation
---	----------------------------

Option

Cortex-A55 quad cores		Cortex-A55 dual cores		Cortex-A55 single core	
49	(RFU)	29	(RFU)	09	(RFU)
48	Secure	28	Secure	08	Secure
47	(RFU)	27	(RFU)	07	(RFU)
46	(RFU)	26	(RFU)	06	(RFU)
45	(RFU)	25	(RFU)	05	(RFU)
44	non-Secure	24	non-Secure	04	non-Secure
43	(RFU)	23	(RFU)	03	(RFU)
42	(RFU)	22	(RFU)	02	(RFU)
41	(RFU)	21	(RFU)	01	(RFU)
40	(RFU)	20	(RFU)	00	(RFU)

Quality

G	Standard Q2A
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Package

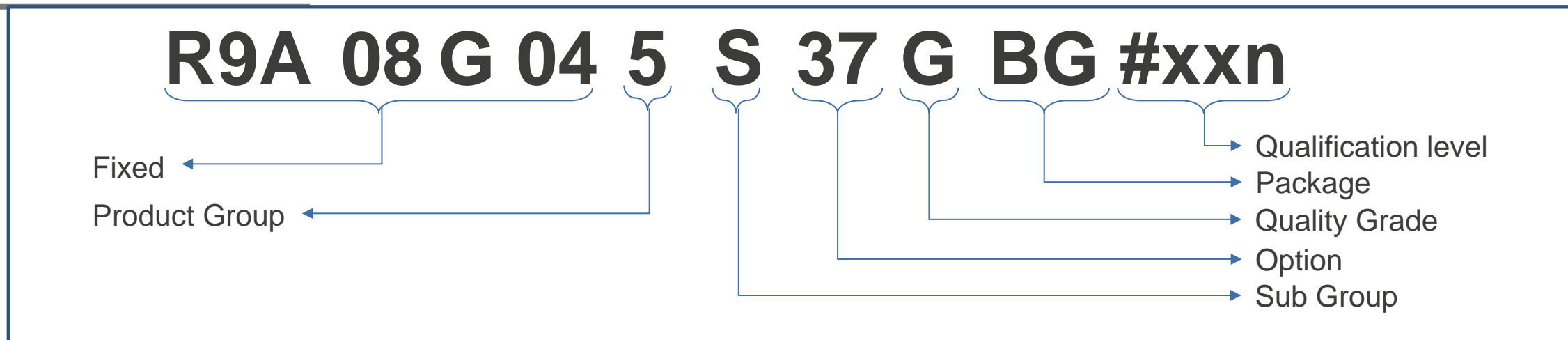
BG	729 FCBGA
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Qualification level

#AC0	Tray, bulk
#BC0	Tray, full carton

RZ/G SERIES

RZ/G3S GROUP



Product Group

5	RZ/G3Sx
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Sub Group

S	RZ/G3S
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Option (*3)

RZ/G3S		RZ/G3S	
37	Secure, PCIe, 2x Cortex-M33, 14mmBGA	17	Secure, PCIe, 1x Cortex-M33, 14mmBGA
36	(RFU)	16	(RFU)
35	Secure, 2x Cortex-M33, 13mmBGA	15	Secure, 1x Cortex-M33, 13mmBGA
34	(RFU)	14	(RFU)
33	Non-Secure, PCIe, 2x Cortex-M33, 14mmBGA	13	Non-Secure, PCIe, 1x Cortex-M33, 14mmBGA
32	(RFU)	12	(RFU)
31	Non-Secure, 2x Cortex-M33, 13mmBGA	11	Non-Secure, 1x Cortex-M33, 13mmBGA
30	(RFU)	10	(RFU)

Quality

G	Standard Q2A, Q2B
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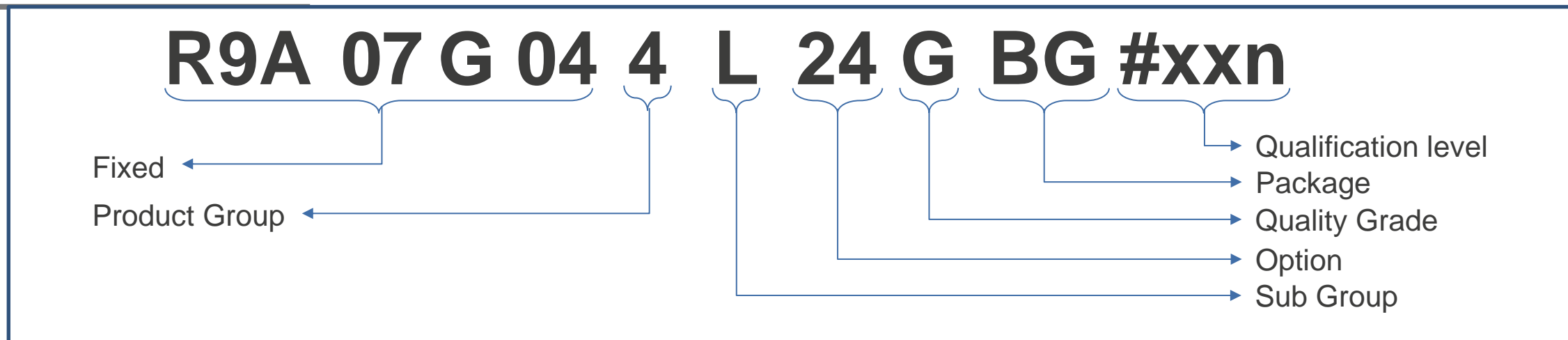
Package

BG	BGA
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Qualification level

#YJn	WS
#YKn	ES
#YBn	CS
#ACn	MP (Tray)
#BCn	MP (full-carton)

RZ/G2L GROUP



Product Group	
4	Low-end
3	Ultra Low-end

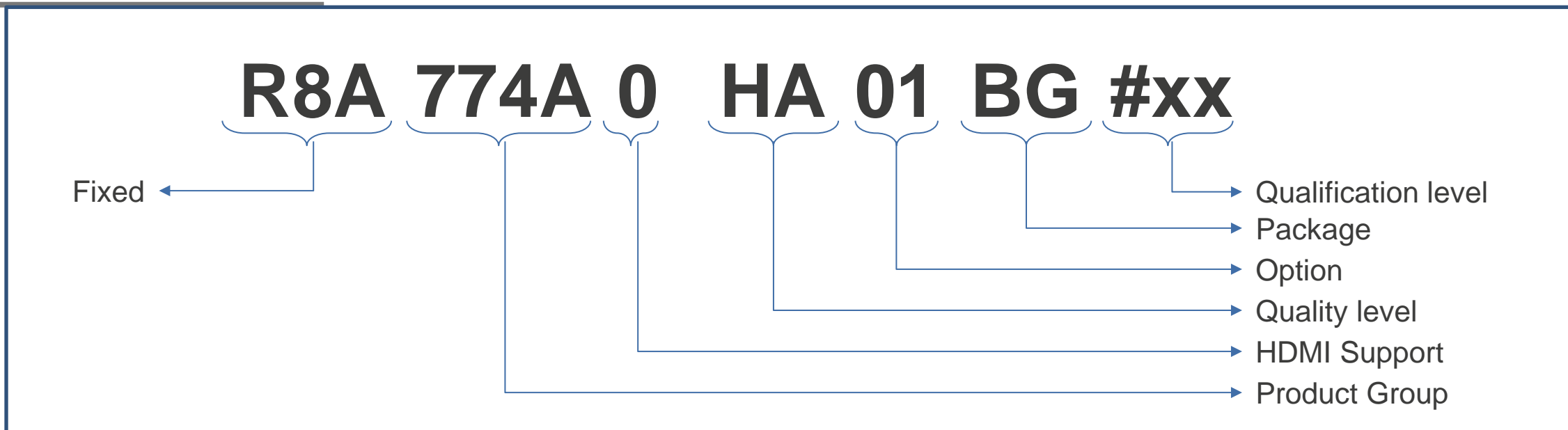
Sub Group	
L	G2L Standard
C	G2L Compact
U	G2UL Standard

Option (*3)					
Dual Core +subCPU		Single Core +subCPU		Single Core	
28	Full-pin pkg, Secure	18	(RFU)	08	(RFU)
27	Reduced-pin, Secure	17	(RFU)	07	(RFU)
26	Small pkg, Secure	16	(RFU)	06	(RFU)
25	(RFU)	15	Smaller pkg, Secure	05	Smaller pkg, Secure
24	Full-pin pkg, non-Secure	14	(RFU)	04	(RFU)
23	Reduced-pin, non-Secure	13	(RFU)	03	(RFU)
22	Small pkg, non-Secure	12	(RFU)	02	(RFU)
21	(RFU)	11	Smaller pkg, non-Secure	01	Smaller pkg, non-Secure

Quality		Qualification level	
G	Standard Q2A,Q2B	#YJn	WS
		#YKn	ES
		#YBn	CS
		#ACn	MP (Tray)
		#BCn	MP (full-carton)

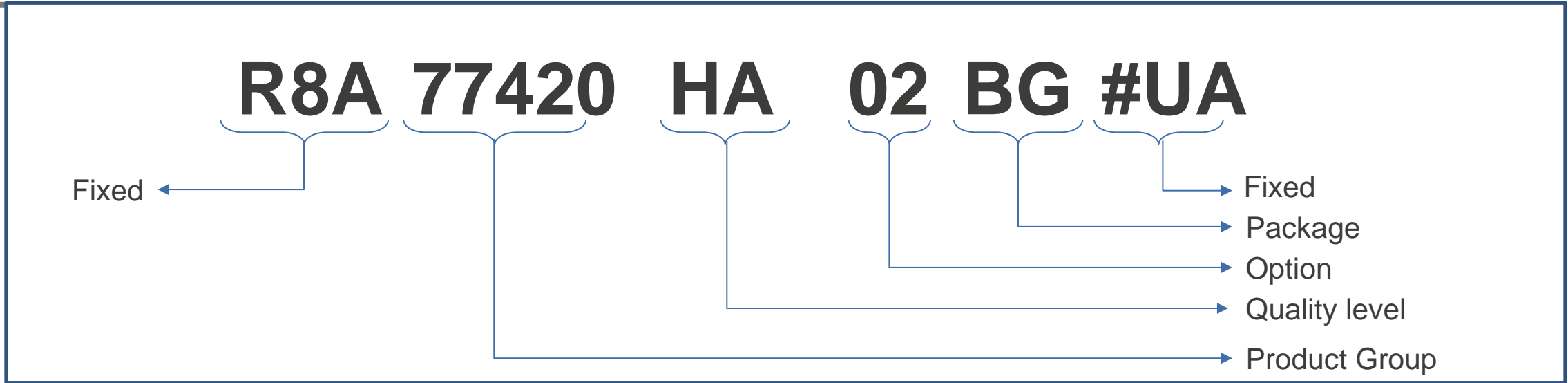
Package	
BG	BGA

RZ/G2 GROUP



Product Group		HDMI Support		Quality level		Option		Package		Qualification level	
774E	RZ/G2H	0	HDMI OFF	HA	Industrial grade	01	Standard	BG	FCBGA	#YJx	WS
774A	RZ/G2M	1	HDMI ON			02	Option1	BN	FCBGA With LID	#YKx	ES
774B	RZ/G2N	2	HDMI OFF			#YBx	CS				
774C	RZ/G2E	3	HDMI ON			#Ux	MP(Bulk, MOQ=1)				
									#Gx	MP(Full Carton)	

RZ/G1 GROUP



Product Group	
77420	RZ/G1H
77430	RZ/G1M
77440	RZ/G1N
77450	RZ/G1E
77470	RZ/G1C

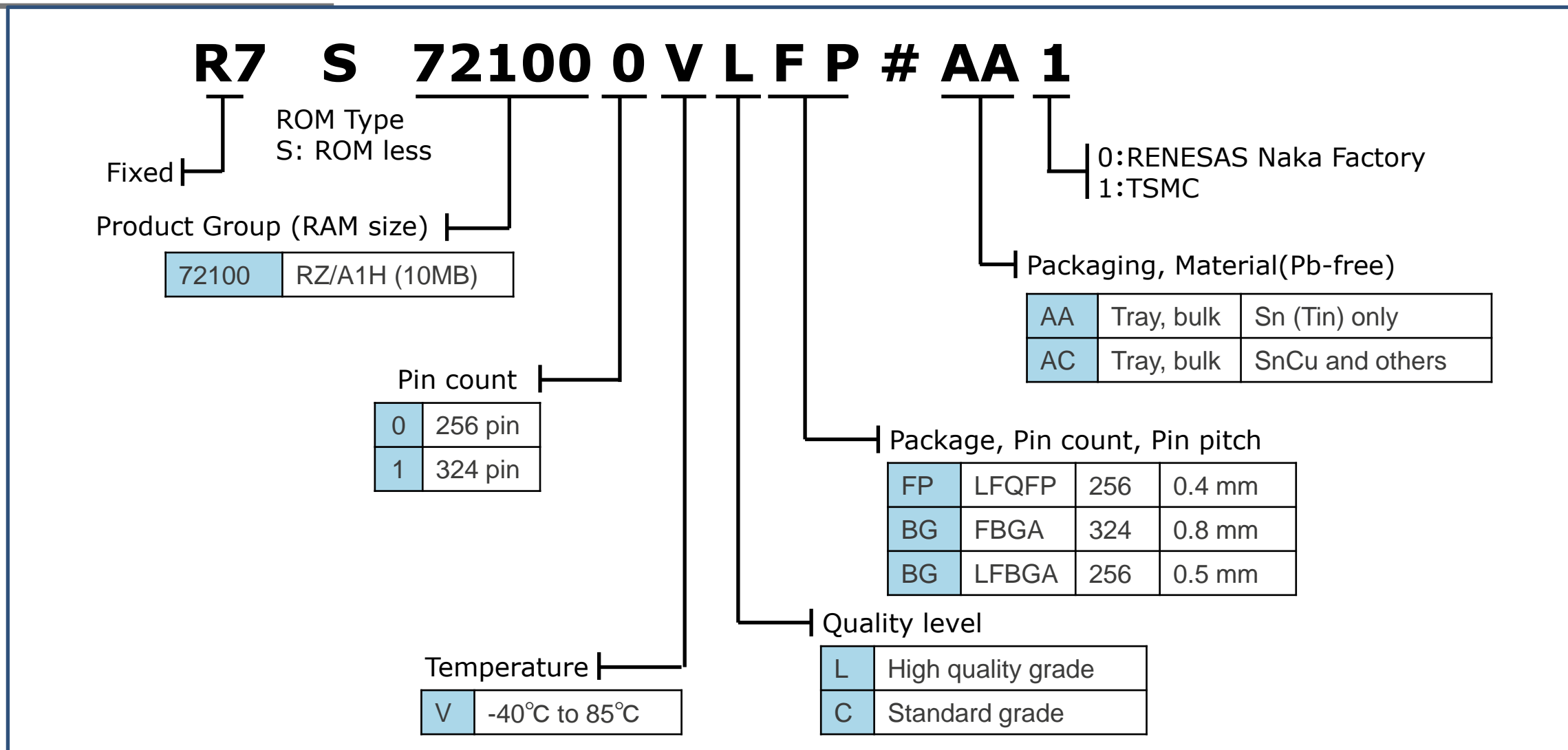
Quality level	
HA	Industrial grade

Option	
02	Platform Support

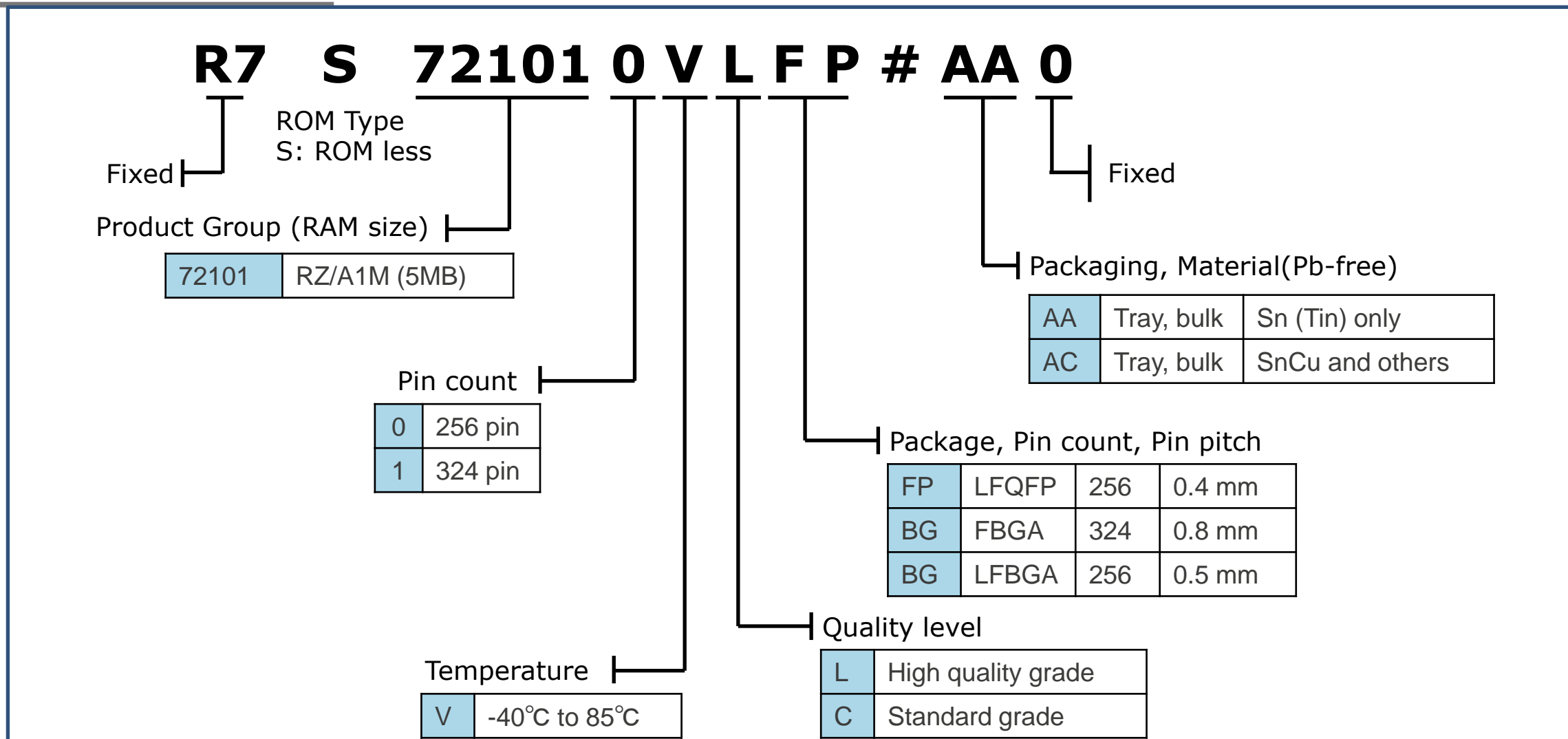
Package	
BG	FCBGA

RZ/A SERIES

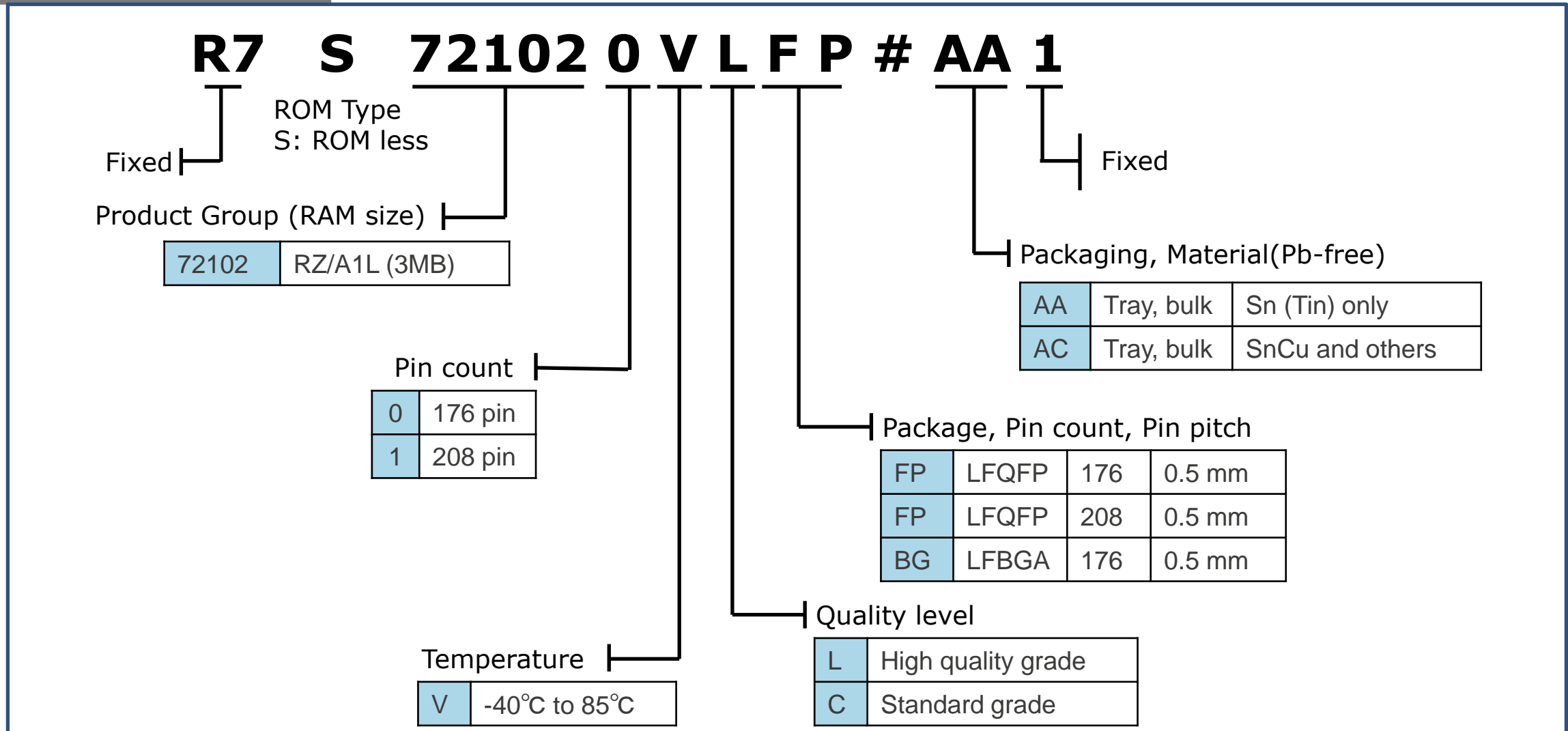
RZ/A1H GROUP



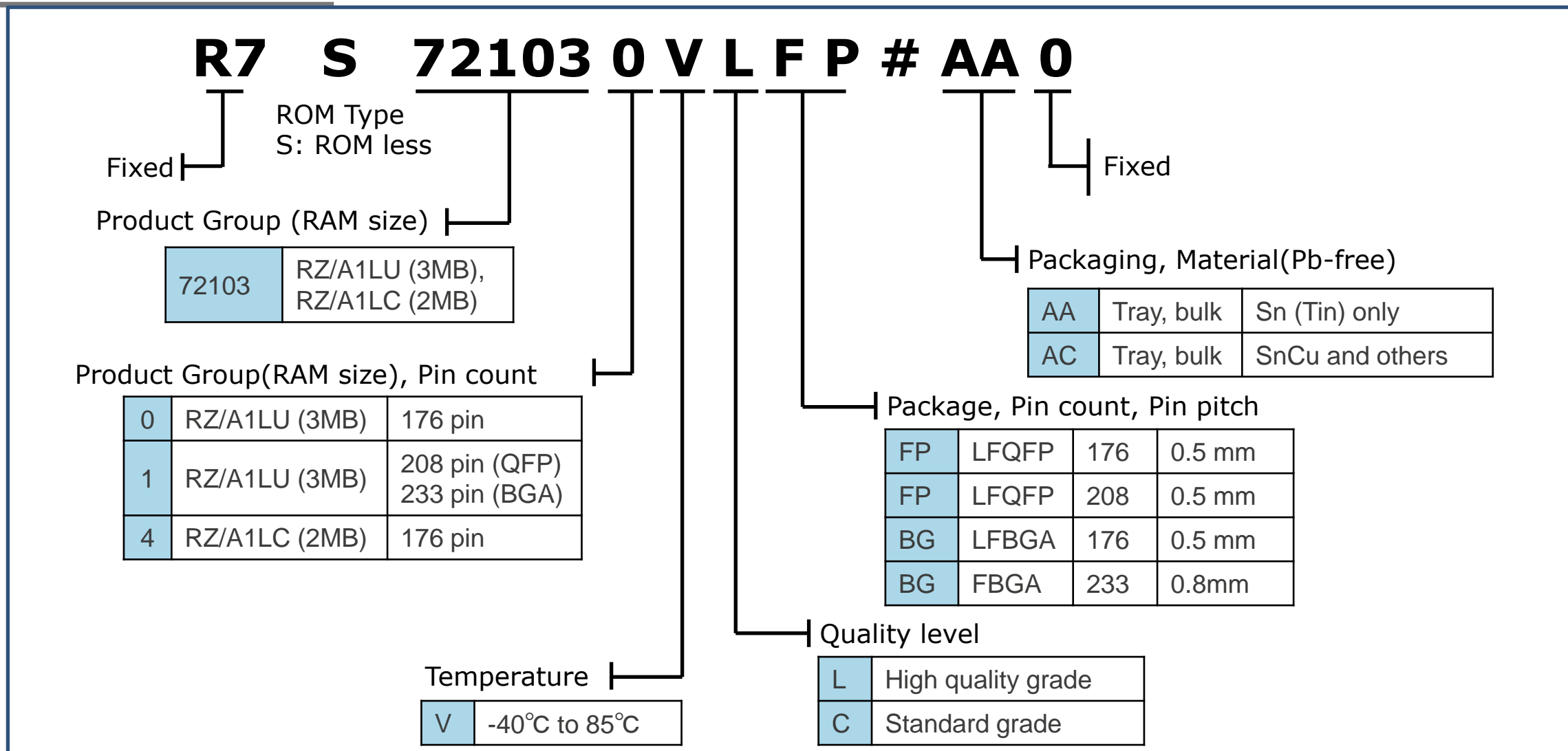
RZ/A1M GROUP



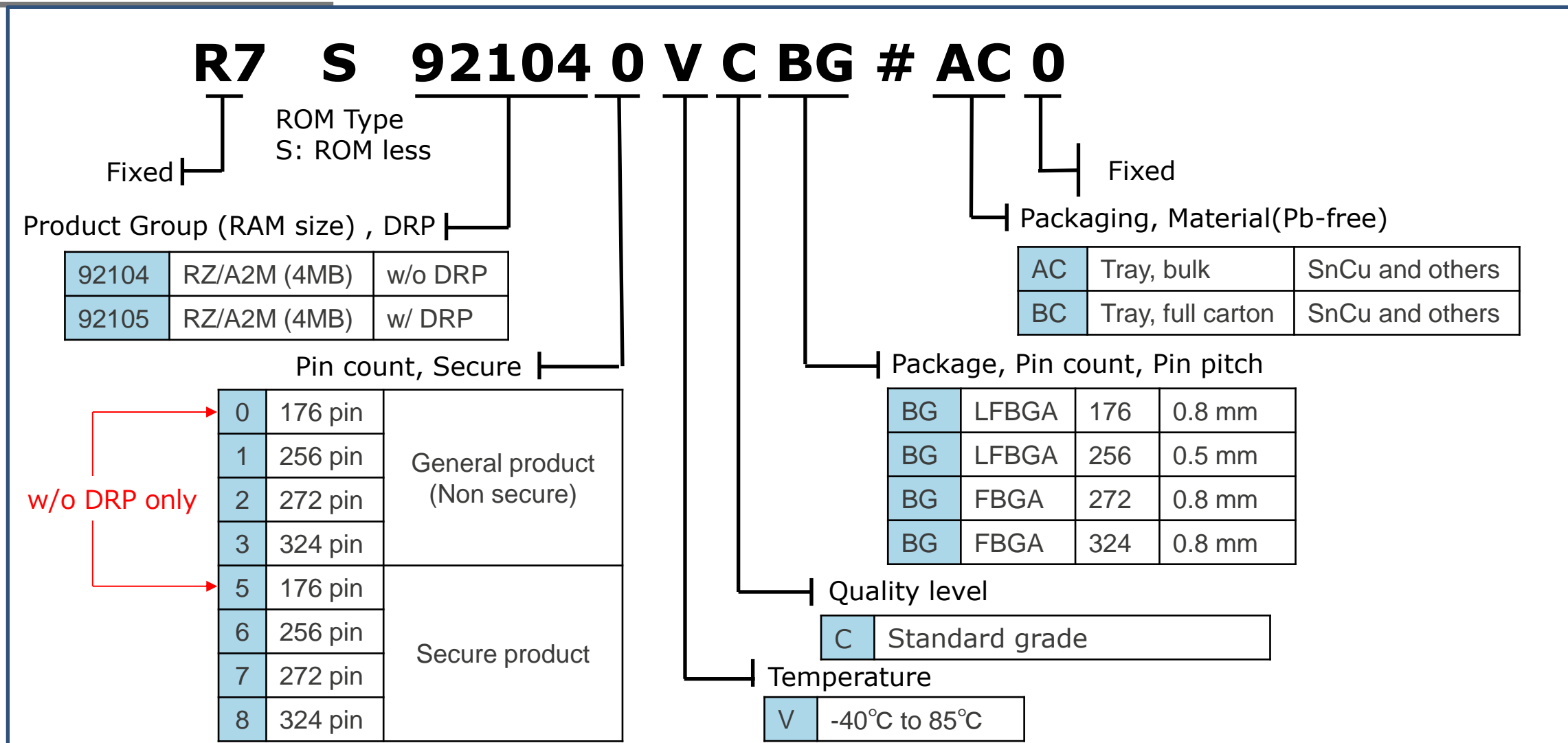
RZ/A1L GROUP



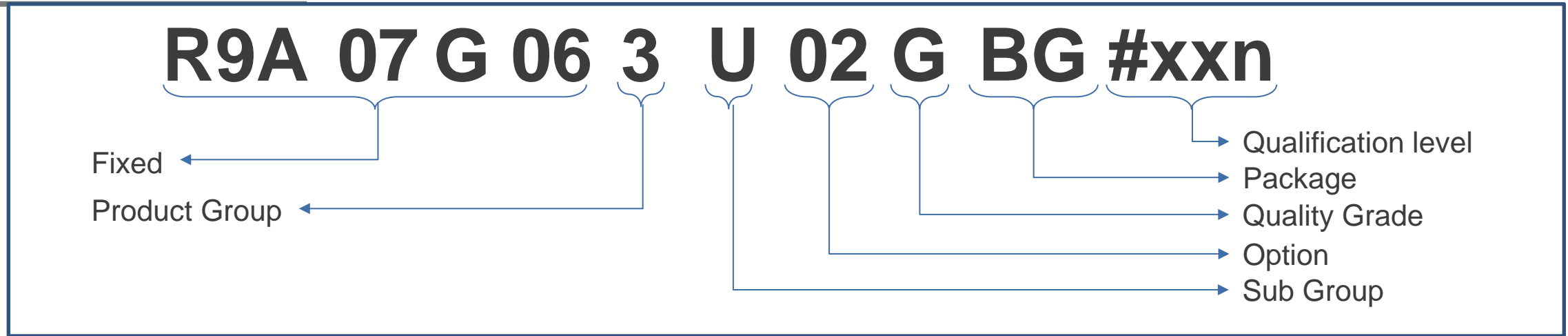
RZ/A1LU GROUP, RZ/A1LC GROUP



RZ/A2M GROUP



RZ/A3UL GROUP



Product Group	
3	RZ/A3UL

Sub Gr (*4)	
U	Ultra Low-end

Option	
02	DDR I/F
01	No DRAM I/F

Quality	
G	Standard Q2A,Q2B

Package	
BG	BGA

Qualification level	
#YJn	WS
#YKn	ES
#YBn	CS
#ACn	MP (Tray)
#BCn	MP (full-carton)

[Renesas.com](https://www.renesas.com)