

PRODUCT / PROCESS CHANGE NOTIFICATION

1. PCN basic data

1.1 Company		STMicroelectronics International N.V
1.2 PCN No.	MDG/19/11628	
1.3 Title of PCN	ST Muar (Malaysia) HD line capacity extension STM8 & STM32 LQFP 10x10 64L additional products	
1.4 Product Category	STM8 & STM32 LQFP 10x10 64L listed products	
1.5 Issue date	2019-07-02	

2. PCN Team

2.1 Contact supplier	
2.1.1 Name	ROBERTSON HEATHER
2.1.2 Phone	+1 8475853058
2.1.3 Email	heather.robertson@st.com
2.2 Change responsibility	
2.2.1 Product Manager	Ricardo Antonio DE SA EARP
2.2.2 Marketing Manager	Veronique BARLATIER
2.2.3 Quality Manager	Pascal NARCHE

3. Change

3.1 Category	3.2 Type of change	3.3 Manufacturing Location
Materials	New direct material part number (same supplier, different supplier or new supplier), Bond wire material, diameter	ST Muar (Malaysia)

4. Description of change

	Old	New
4.1 Description	Back-end sources: - Stats ChipPAC JSCC Jiangyin China - ST Muar Malaysia (existing capacity line) - Amkor ATP Philippines - ASE Kaohsiung Taiwan	Back-end sources: - Stats ChipPAC JSCC Jiangyin China - ST Muar Malaysia (existing capacity line) - Amkor ATP Philippines - ASE Kaohsiung Taiwan - ST Muar Malaysia (extended capacity line)
4.2 Anticipated Impact on form, fit, function, quality, reliability or processability?	SS marking is inserted. Pin1 identifier remains in the same corner but might change in terms of form and positioning. Package darkness changes depending on molding compound.	

5. Reason / motivation for change

5.1 Motivation	Due to the success on the market of STM8 and STM32 devices, ST Microcontrollers Division decided to qualify an additional back-end site to maintain state of the art service level to our customers thanks to extra capacity.
5.2 Customer Benefit	CAPACITY INCREASE

6. Marking of parts / traceability of change

6.1 Description	Change is visible in the marking. Please refer to PCN 11628 – Additional information attached document.
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7. Timing / schedule

7.1 Date of qualification results	2019-06-17
7.2 Intended start of delivery	2019-07-17
7.3 Qualification sample available?	Upon Request

8. Qualification / Validation

8.1 Description	11628 MDG-MCD-RER1910 PCN11330-11628 ST MUAR HD line capacity extension STM8 & STM32 LQFP 10x10 64L.pdf
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8.2 Qualification report and qualification results	Available (see attachment)	Issue Date	2019-07-02
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9. Attachments (additional documentations)
11628 Public product.pdf 11628 MDG-MCD-RER1910 PCN11330-11628 ST MUAR HD line capacity extension STM8 & STM32 LQFP 10x10 64L.pdf 11628 PCN11628_Additional information.pdf

10. Affected parts		
10. 1 Current		10.2 New (if applicable)
10.1.1 Customer Part No	10.1.2 Supplier Part No	10.1.2 Supplier Part No
	STM32F030R8T6	
	STM32F030R8T6TR	
	STM32F030RCT6	
	STM32F030RCT6TR	
	STM32F051R4T6	
	STM32F051R4T6TR	
	STM32F051R6T6	
	STM32F051R6T6TR	
	STM32F051R6T7TR	
	STM32F051R8T6	
	STM32F051R8T6TR	
	STM32F051R8T7	
	STM32F051R8T7TR	
	STM32F058R8T6	
	STM32F070RBT6	
	STM32F070RBT6TR	
	STM32F071RBT6	
	STM32F071RBT6TR	
	STM32F071RBT7TR	
	STM32F072R8T6	
	STM32F072R8T6TR	
	STM32F072RBT6	
	STM32F072RBT6TR	
	STM32F072RBT7	
	STM32F072RBT7TR	
	STM32F078RBT6	
	STM32F091RBT6	
	STM32F091RCT6	
	STM32F091RCT6J	
	STM32F091RCT6TR	
	STM32F091RCT7	
	STM32F098RCT6	
	STM32F100R4T6B	
	STM32F100R4T6BTR	
	STM32F100R6T6B	
	STM32F100R6T6BTR	
	STM32F100R8T6B	
	STM32F100R8T6BTR	
	STM32F100R8T7B	
	STM32F100R8T7BTR	
	STM32F100RBT6B	

	STM32F100RBT6BTR	
	STM32F100RCT6	
	STM32F100RCT6B	
	STM32F100RCT6BTR	
	STM32F100RCT6TR	
	STM32F100RCT7B	
	STM32F100RDT6B	
	STM32F100RDT6BTR	
	STM32F100RDT7B	
	STM32F100RET6B	
	STM32F100RET6BTR	
	STM32F101R4T6A	
	STM32F101R6T6A	
	STM32F101R6T6ATR	
	STM32F101R8T6	
	STM32F101R8T6TR	
	STM32F101RBT6	
	STM32F101RBT6TR	
	STM32F101RCT6	
	STM32F101RCT6TR	
	STM32F101RDT6	
	STM32F101RDT6TR	
	STM32F101RET6	
	STM32F101RET6TR	
	STM32F101RFT6	
	STM32F101RFT6TR	
	STM32F101RGT6	
	STM32F102R4T6A	
	STM32F102R6T6A	
	STM32F102R8T6	
	STM32F102RBT6	
	STM32F102RBT6TR	
	STM32F103R4T6A	
	STM32F103R6T6A	
	STM32F103R6T6ATR	
	STM32F103R6T7A	
	STM32F103R8T6	
	STM32F103R8T6TR	
	STM32F103R8T7	
	STM32F103RBT6	
	STM32F103RBT6TR	
	STM32F103RBT7	
	STM32F103RBT7TR	
	STM32F103RCT6	
	STM32F103RCT6TR	
	STM32F103RCT7	
	STM32F103RCT7TR	
	STM32F103RDT6	
	STM32F103RDT6TR	
	STM32F103RET6	
	STM32F103RET6TR	

	STM32F103RET7	
	STM32F103RFT6	
	STM32F103RFT6TR	
	STM32F103RGT6	
	STM32F103RGT6TR	
	STM32F103RGT7	
	STM32F105R8T6	
	STM32F105R8T6TR	
	STM32F105R8T7	
	STM32F105RBT6	
	STM32F105RBT6TR	
	STM32F105RCT6	
	STM32F105RCT6TR	
	STM32F105RCT6V	
	STM32F105RCT7	
	STM32F107RBT6	
	STM32F107RCT6	
	STM32F107RCT6TR	
	STM32F107RCT7	
	STM32F301R6T6	
	STM32F301R8T6	
	STM32F302R6T6	
	STM32F302R6T6TR	
	STM32F302R8T6	
	STM32F302R8T6TR	
	STM32F302R8T7	
	STM32F302RBT6	
	STM32F302RBT6TR	
	STM32F302RBT7	
	STM32F302RBT7TR	
	STM32F302RCT6	
	STM32F302RCT6TR	
	STM32F302RCT7	
	STM32F302RCT7TR	
	STM32F302RDT6	
	STM32F302RDT7	
	STM32F302RET6	
	STM32F302RET6TR	
	STM32F303R6T6	
	STM32F303R8T6	
	STM32F303R8T6TR	
	STM32F303R8T7	
	STM32F303RBT6	
	STM32F303RBT6TR	
	STM32F303RBT7	
	STM32F303RBT7TR	
	STM32F303RCT6	
	STM32F303RCT6TR	
	STM32F303RCT7	
	STM32F303RDT6	
	STM32F303RDT7	

	STM32F303RET6	
	STM32F303RET6TR	
	STM32F303RET7	
	STM32F334R6T6	
	STM32F334R8T6	
	STM32F334R8T7	
	STM32F373R8T6	
	STM32F373R8T6TR	
	STM32F373RBT6	
	STM32F373RCT6	
	STM32F373RCT6TR	
	STM32L100R8T6	
	STM32L100RBT6	
	STM32L100RBT6TR	
	STM32L151R6T6	
	STM32L151R8T6	
	STM32L151RBT6	
	STM32L151RCT6A	
	STM32L151RDT6	
	STM32L151RDT6TR	
	STM32L152R6T6	
	STM32L152R8T6	
	STM32L152RBT6	
	STM32L152RDT6	
	STM32L162RDT6	
	STM8L052R8T6	
	STM8L052R8T6TR	
	STM8L151R6T6	
	STM8L151R6T6TR	
	STM8L151R8T6	
	STM8L151R8T6TR	
	STM8L152R6T6	
	STM8L152R6T6TR	
	STM8L152R8T6	
	STM8L162R8T6	
	STM8S207R6T6	
	STM8S207R6T6TR	
	STM8S207R8T3	
	STM8S207R8T3TR	
	STM8S207R8T6	
	STM8S207R8T6TR	
	STM8S207RBT3	
	STM8S207RBT3TR	
	STM8S207RBT6	
	STM8S207RBT6TR	
	STM8S208R8T6	
	STM8S208RBT3	
	STM8S208RBT6	

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RER1910 for PCN 11330 & PCN 11628 ST Muar (Malaysia) HD line capacity extension STM8 & STM32 LQFP 10x10 64L listed products

Reliability Evaluation Plan

February 18th, 2019

MDG MCD Quality & Reliability Department

RER1910 ST Muar (Malaysia) HD line capacity extension - Package Test Vehicles & Strategy

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Test vehicles are selected by Change Review Board based on key parameters such as die size and volumes allowing to qualify the entire product family in LQFP.

Similarity strategy will be applied to cover all combinations of Diffusion Plant, Diffusion Process and LQFP package listed below:

- TSMC 0.18µm / Rousset R8 F9GO1 & F9GO2 diffusion process
- LQFP10x10 on the same assembly line and using same materials for bonding wires, die attach glue and mold compound

Package line	Assembly Line	Package	Device (Partial RawLine Code)	Diffusion Plants & Process	Number of Reliability Lots
LQFP	LQFP 10*10	64L	STM8 (5B*768)	Rousset F9GO2	1
			STM32 (5W*414)	TSMC 0.18	1
			STM32 (5W*420)	TSMC 0.18	1

RER1910 ST Muar (Malaysia) HD line capacity extension - Package Reliability Trials

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Reliability Trial & Standard		Test Conditions	Pass Criteria	Unit per Lot	Lot qty
PC	Pre Conditioning: Moisture Sensitivity Jedec Level 3 J-STD-020/ JESD22-A113	Bake (125°C / 24 hrs) Soak (30°C / 60% RH / 192 hrs) for level 3 Convection reflow: 3 passes	3 passes MSL3	231	1 per device
PPT (*)	Pressure Pot JESD22 A102	121°C, 100% RH, 2 Atm	96h	77	1 per device
TC (*)	Thermal Cycling JESD22 A104	-50°C, +150°C Or equivalent -65°C +150°C	1000Cy 500Cy	77	1 per device
THB (*)	Temperature Humidity Bias JESD22-A101	85°C, 85% RH, bias	1000h	77	1 per device
HTSL	High Temperature Storage Life JESD22 A103	150°C- no bias	1000h	77	1 per device
Construction analysis	JESD 22B102 JESDB100/B108			50	1 per device
ESD	ESD Charge Device Model ANSI/ESD STM5.3.1	Aligned with device datasheet	250V to 500V	3	1 per device

(*) tests performed after preconditioning

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PRODUCT/PROCESS CHANGE NOTIFICATION PCN 11628 – Additional information

ST Muar (Malaysia) HD line capacity extension STM8 & STM32 LQFP 10x10 64L additional products

MDG - Microcontrollers Division (MCD)

What are the changes?

LQFP 10x10 packages change is limited to wire bonding material only.

	Existing back-end lines				Added back-end line
Assembly site	Stats ChipPAC JSCC Jiangyin China	ST Muar Malaysia	ASE Kaohsiung Taiwan	Amkor ATP Philippines	ST Muar Malaysia
Resin (1)	Sumitomo G631SHQ	Sumitomo G700LS	Sumitomo EME-G631SH	Sumitomo G631HQ	Sumitomo G700LS
Glue	Ablestik 3230	Hitachi EN4900GC	Sumitomo CRM 1076WA	Evertch AP4200	Hitachi EN4900GC
Wire	Silver 96.5% 0.8mil	Gold 0.8mil	Gold 0.8mil	Gold 0.8mil	Silver 96.5% 0.8mil
Enhanced Traceability in marking	2 digits	No digit	2 digits	No digit	2 digits

(1) Package darkness changes depending on molding compound.

Pin1 identifier can change in terms of form and positioning.
Marking position and size could be different upon assembly site, without any loss of information.

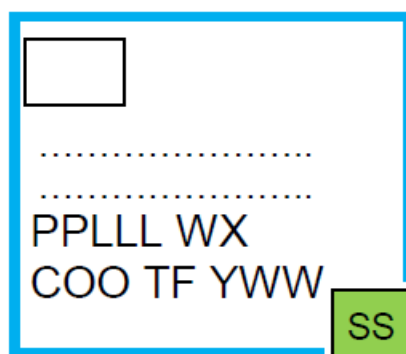
How can the change be seen?

PP code indicates the Assembly traceability plant code.

Existing		Additional	
PP code	Fab	PP code	Fab
GQ	Stats ChipPAC JSCC Jiangyin China	99	ST Muar Malaysia
99	ST Muar Malaysia		
7B	Amkor ATP Philippines		
AA	ASE Kaohsiung Taiwan		

In case parts **PP** code is 99 then check Enhanced traceability in marking (**SS** marking)
 Products from existing ST Muar Malaysia assembly line doesn't have SS marking while
 products from extended capacity line will have SS marking.

SS marking is inserted at the bottom right corner and indicates the subplot assembly traceability information.

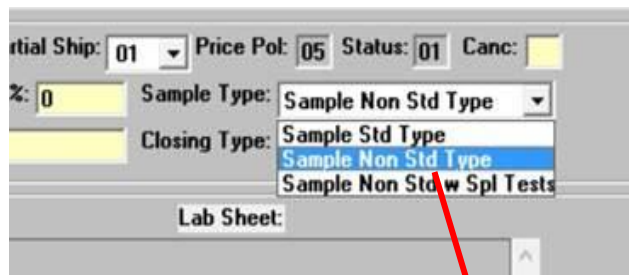
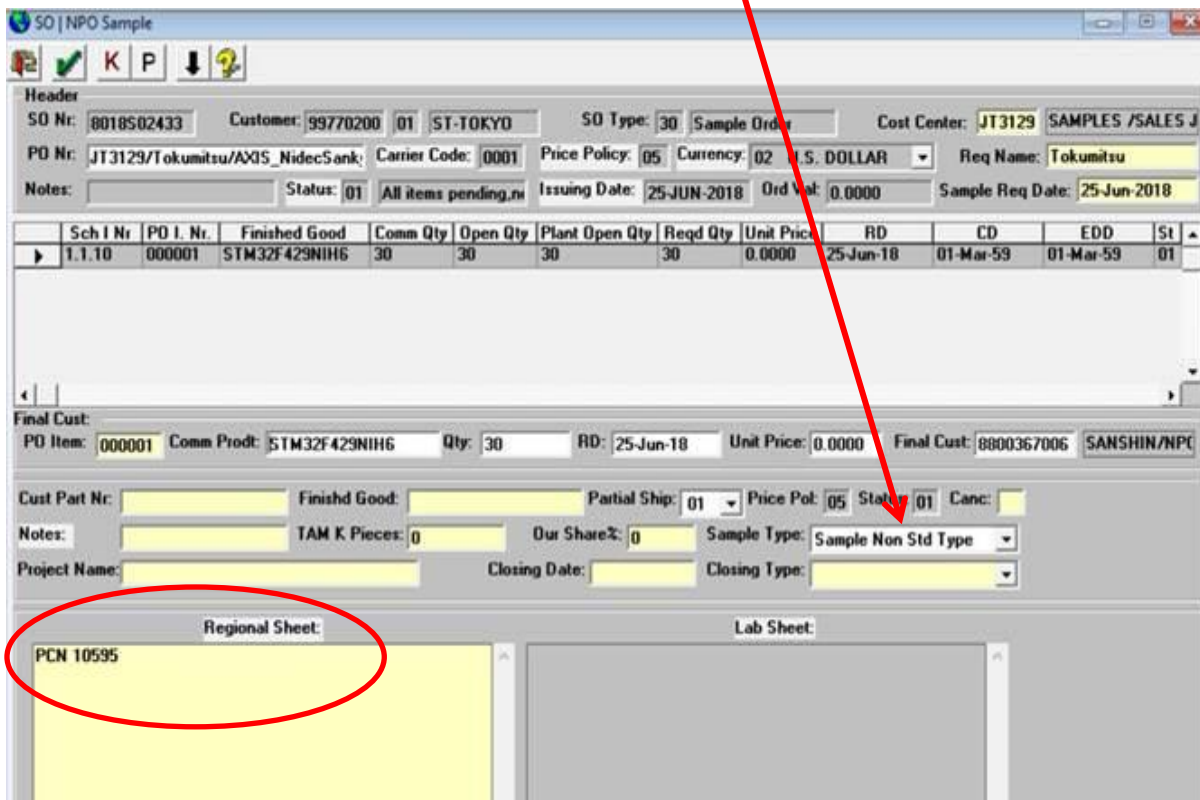


Please refer to the [DataSheet](#) for marking details.

How to order samples?

For all samples request linked to this PCN, please:

- place a **Non-standard** sample order (choose Sample Non Std Type from pull down menu)
- insert the PCN number “**PCN 11628**” into the NPO Electronic Sheet/**Regional Sheet**
- request sample(s) through Notice tool, indicating a single Commercial Product for each request

Header

SO Nr: 8018502433 Customer: 99770200 01 ST-TOKYO SO Type: 30 Sample Order Cost Center: JT3129 SAMPLES /SALES J

PO Nr: JT3129/Tokumitsu/AXIS_NidecSank Carrier Code: 0001 Price Policy: 05 Currency: 02 U.S. DOLLAR Req Name: Tokumitsu

Notes: Status: 01 All items pending,ni Issuing Date: 25-JUN-2018 Ord Val: 0.0000 Sample Req Date: 25-Jun-2018

Sch I Nr	PO I. Nr.	Finished Good	Comm Qty	Open Qty	Plant Open Qty	Reqd Qty	Unit Price	RD	CD	EDD	St
1.1.10	000001	STM32F429NIH6	30	30	30	30	0.0000	25-Jun-18	01-Mar-59	01-Mar-59	01

Final Cust: PO Item: 000001 Comm Prod: STM32F429NIH6 Qty: 30 RD: 25-Jun-18 Unit Price: 0.0000 Final Cust: 8800367006 SANSHIN/NPC

Cust Part Nr: Finished Good: Partial Ship: 01 Price Pol: 05 Status: 01 Canc:

Notes: TAM K Pieces: 0 Our Share: 0 Sample Type: Sample Non Std Type

Project Name: Closing Date: Closing Type:

Regional Sheet: PCN 10595

Lab Sheet:

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Public Products List

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PCN Title : ST Muar (Malaysia) HD line capacity extension STM8 & STM32 LQFP 10x10 64L additional products

PCN Reference : MDG/19/11628

Subject : Public Products List

Dear Customer,

Please find below the Standard Public Products List impacted by the change.

STM32F103RFT6JTR	STM32F302RET7	STM32F101R8T6TR
STM32F051R4T6	STM32F105RBT6TR	STM32F107RCT6
STM32F302RCT7	STM32F100RET6B	STM32F105RCT6V
STM32F101RGT6TR	STM32F303RBT7TR	STM32F101RFT6
STM32F100R8T6BTR	STM32F303RBT6TR	STM32F100RET7BTR
STM32F303R8T6	STM32F101RBT6TR	STM32F071RBT6
STM32F303RET6	STM32F051R6T7TR	STM8L052R8T6TR
STM32F051R8T7	STM32F378RCT6	STM32F051R8T6TR
STM32F091RCT6J	STM32L152RCT6A	STM32F070RBT6TR
STM32F373R8T6TR	STM32F102RBT6TR	STM32F103RBT6TR
STM32F102R6T6A	STM8S207R8T3	STM32F358RCT6
STM32F072R8T6TR	STM32F072RBT6	STM32F030R8T6TR
STM32L152RBT6	STM8S207RBT6	STM32F302RDT6TR
STM32F373RCT6TR	STM32F334R8T7TR	STM32F101RDT6TR
STM32F101R6T6A	STM32F103R6T6A	STM32F103RET6TR
STM32F302RDT6	STM32L100R8T6	STM32F101R8T6
STM32F030R8T6	STM32F302RET7TR	STM32L151R6T6
STM32L151RCT6ATR	STM32F105RCT6W	STM32F091RCT6TR
STM8L052R8T6	STM32F103R8T6TR	STM32F103RFT6
STM32F302RBT6TR	STM32F302RBT6	STM32F101RET6TR
STM32F058R8T6	STM32F071RBT6TR	STM32F103RET6
STM32L152R8T6TR	STM32F302RCT6TR	STM32F103R8T6
STM32F100R8T7B	STM32F107RBT6	STM32F072R8T6
STM32F070RBT6	STM32F072RBT7TR	STM32F334R8T6TR
STM32F071RBT7TR	STM32F072RBT6TR	STM32F373RCT6
STM8S207RBT6TR	STM8S208RBT6	STM32F100RDT7B
STM32F373R8T6	STM32F100R8T6B	STM32F098RCT6
STM32F051R4T6TR	STM32F303RCT7	STM32L100R8T6TR
STM32F102R8T6	STM32F103RCT6	STM32F334R8T6
STM32F091RBT6	STM32F101RCT6TR	STM32F303R6T6
STM32F303RDT7	STM32F100RBT6B	STM32F103RCT7
STM32L162RDT6	STM32F100R6T6BTR	STM32F051R6T6
STM32L100RBT6	STM32F030RCT6	STM8S207R8T3TR
STM32L151RCT6A	STM32F302R8T6	STM32L151RBT6TR
STM32F303RCT6TR	STM32F105RCT6TR	STM32L152R8T6
STM8L152R8T3	STM32F101R4T6A	STM32F051R8T6



Public Products List

STM32F103R8T7TR	STM32F078RBT6	STM32F103R6T7A
STM32F103RBT6	STM32F103RDT6TR	STM32F105R8T6TR
STM32F103RGT6TR	STM32F101R6T6ATR	STM32L151R6T6TR
STM32L152R6T6	STM32F100R6T6B	STM32F101RGT6
STM32F101RCT6	STM32F101RBT6	STM8L151R6T6TR
STM32F301R8T6	STM32F103RFT6TR	STM32F051R6T6TR
STM32F091RCT6	STM32F302RCT7TR	STM32L151RDT6TR
STM32F030RCT6TR	STM32F302RDT7	STM8L162R8T6
STM32F302RCT6	STM32F103RGT6	STM32F101RDT6
STM32F303RET7	STM32F302RET6	STM32F101RET6
STM32F102RBT6	STM32F302RET6TR	STM32F303RBT6
STM32F091RCT7	STM8S207RBT3	STM32F100R8T7BTR
STM8L151R6T6	STM32F103RGT6JTR	STM32F100RET6BTR
STM8S208RBT3	STM32F107RCT7	STM32F100RDT6B
STM32F107RBT6TR	STM32L152RDT6	STM32F103RDT6
STM32F103R8T7	STM8S207R6T6	STM32F103RCT6TR
STM8S208R8T6	STM8L152R8T6	STM32F103RET7
STM32F303RDT6	STM32F303RBT7	STM32F103RGT7
STM32F373RBT7	STM32L151RDT7	STM32F302R6T6TR
STM32L100RBT6TR	STM8S207R8T6TR	STM32F072RBT7
STM32F105RBT6	STM8L152R6T6TR	STM32F100R4T6B
STM32F100R4T6BTR	STM32L151RBT6	STM8L151R8T6TR
STM32F105R8T7	STM32F107RCT6TR	STM32F105RCT7
STM32L151R8T6	STM32F303RCT6	STM32F302RBT7
STM32F373RBT6	STM32F334R8T7	STM32F302R8T7
STM32F334R6T6	STM32L152R6T6TR	STM32F303RET6TR
STM32F103R4T6A	STM32F302R8T6TR	STM32F100RCT6BTR
STM32F105R8T6	STM32L162RDT6TR	STM8S207R8T6
STM32F100RBT6BTR	STM32F100RDT6BTR	STM8L151R8T3
STM32F105RCT6	STM8L151R8T6	STM32L162RCT6A
STM8S207R6T6TR	STM32F102R4T6A	STM32F301R6T6
STM32L151RDT6	STM8L152R6T6	STM32F302R6T6
STM32F103R6T6ATR	STM32F100RCT6B	



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