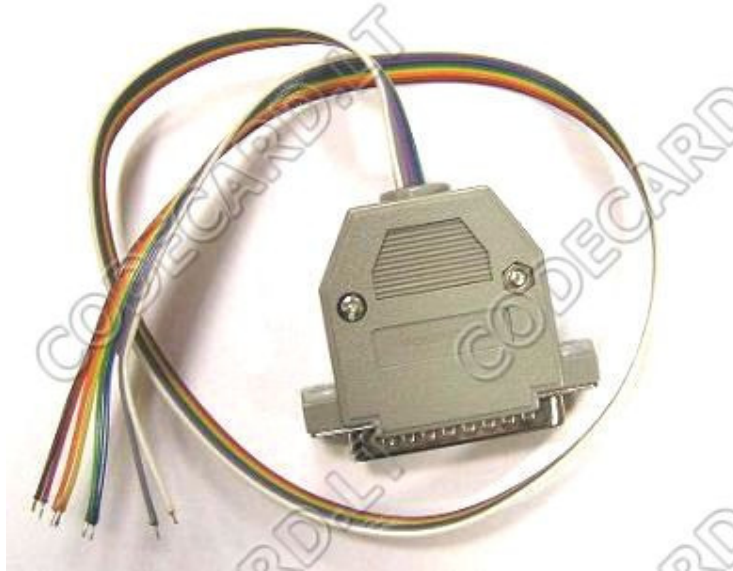


S4.4 CarProg Motorola HC912 and 9S12 Programmer manual

For Motorola MPU HC12 series programming use A10 cable.



You can recognize Motorola (Freescale) MPU by maskset:

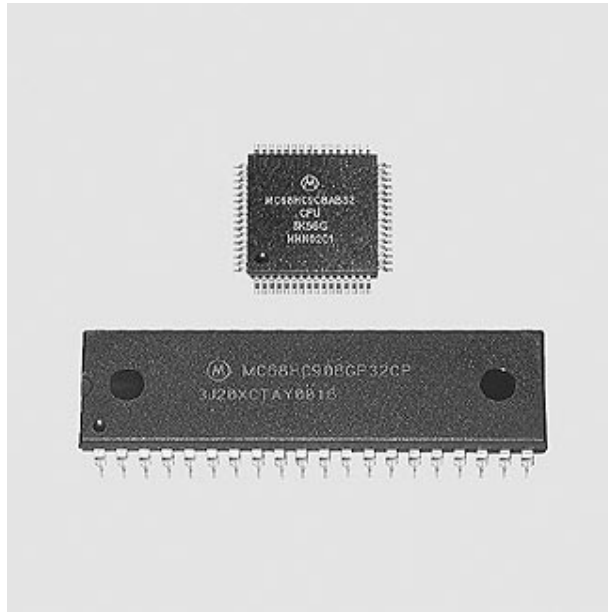


This MPU maskset is 4C11W.

- First digit "4" is mask series number, in practice can be 0, 1, 2, 3, 4 or 5, but for programming is not important.

- Second 4 symbols is always letter + digit + digit + letter: this is processor maskset or encrypted processor type. All processor marking can be custom made, like "FORD S2234234" or SC2323454 but always you can find maskset on Motorola or Freescale processors.

Before programming always select right processor type according maskset.

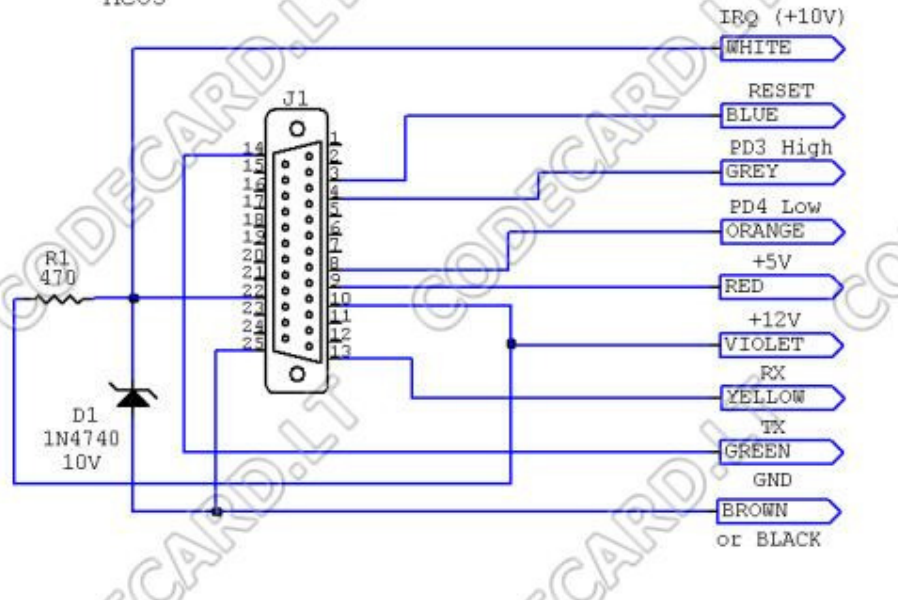


How to connect CarProg programmer:

For HC12 or 9S12 programming use A10 cable 6 color wires:

- BLUE** – Reset signal to MPU;
- BROWN** – GND (ground);
- GREY** – BKGD communication signal;
- RED** – switched +5V;
- VIOLET** - switched +12V;

A10 CARPROG Motorola MPU adapter for HC05



Troubleshooting:


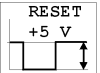
CarProg ERROR messages:

- **Communication error** - no communication between CarProg and Motorola processor - check MPU type, try to select quartz frequency manually.

To understand better onboard MPU programming problems, you can use table with right programming signals and voltages, described in table.

If you can't read or write MPU with CarProg, check:

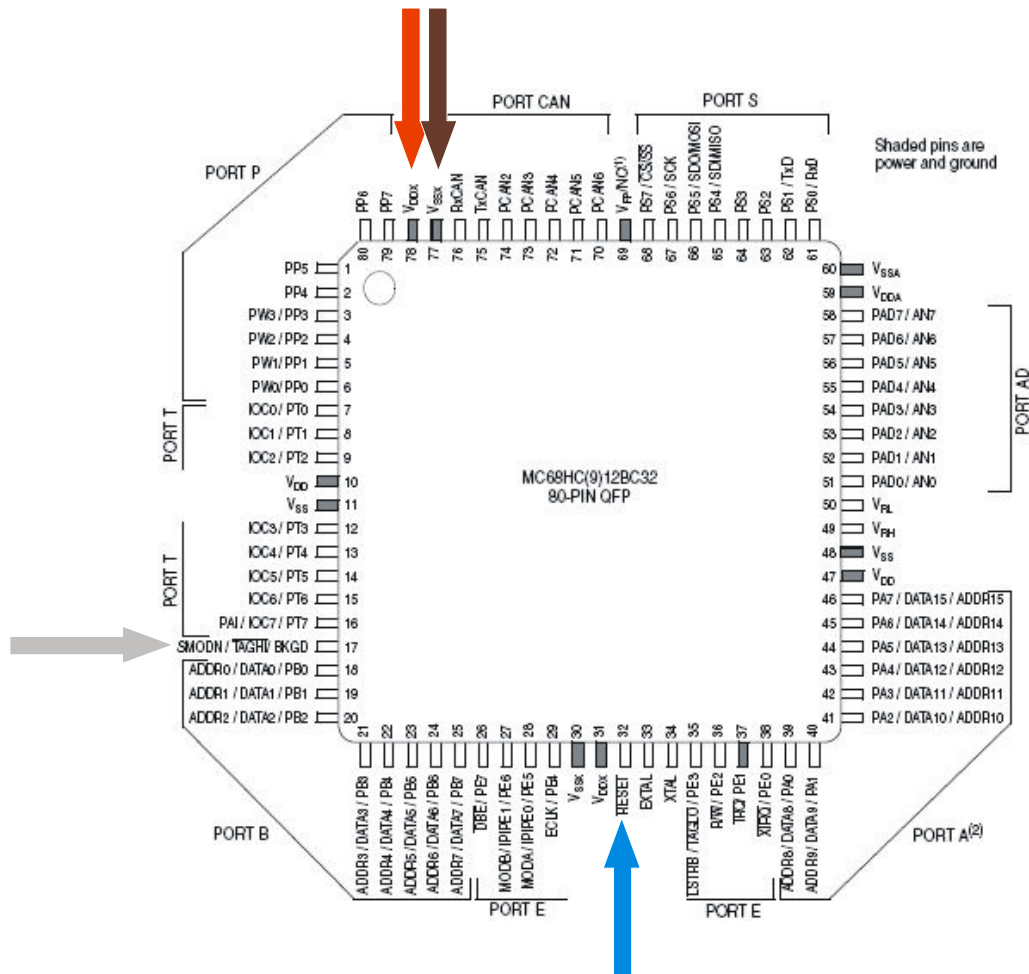
- did you was select right MPU type;
- did quartz resonator Q is the same in circuit board and in CarProg options;
- did all programming signals have right form and voltage;

| | Grey BKGD | Blue RESET |
|------------------|--|---|
| 912, 9S12 | Impulse 3.3-5V  | Reset  |

If all conditions are OK and still "no connection" ask support@codecard.lt

1. MC68HC912B32, MC68HC912BC32, MC68HC912BD32

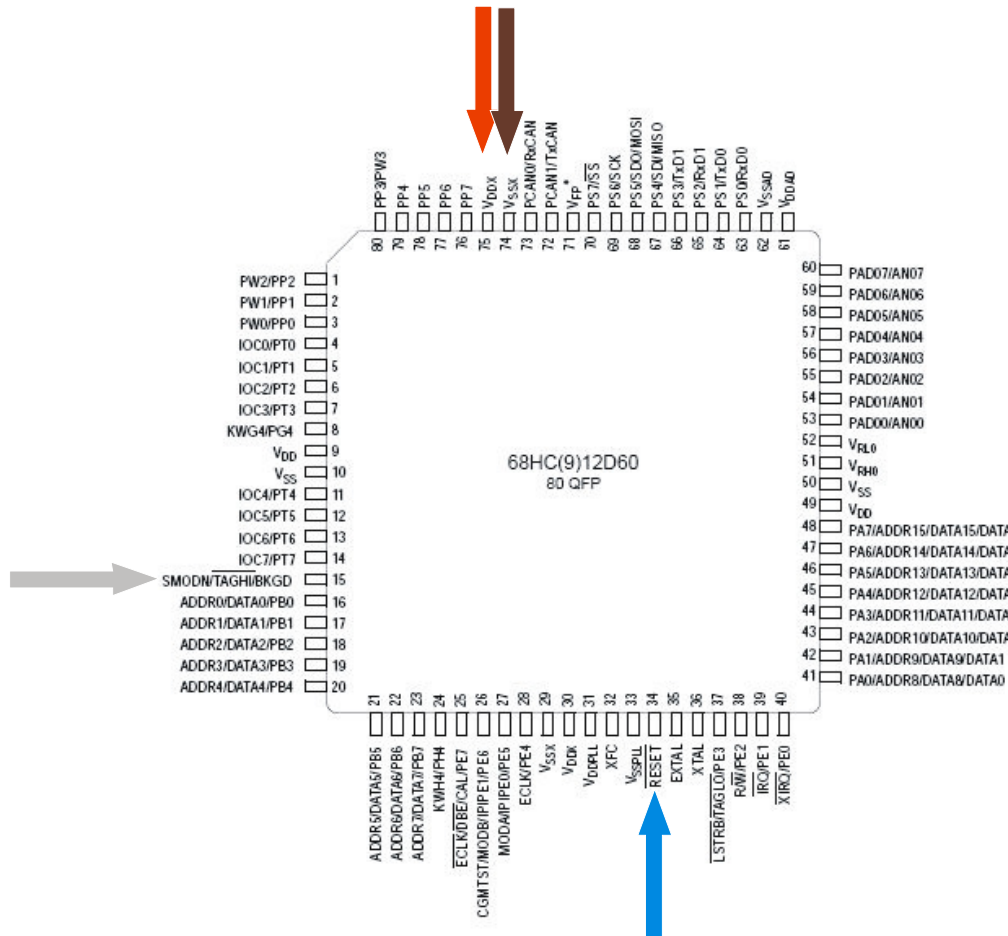
| MPU | Mask Set |
|---------------|----------|
| MC68HC912B32 | 9H91F |
| | 4J54E |
| | J64Y |
| MC68HC912BC32 | J15G |
| | K25E |
| MC68HC912BD32 | K29E |

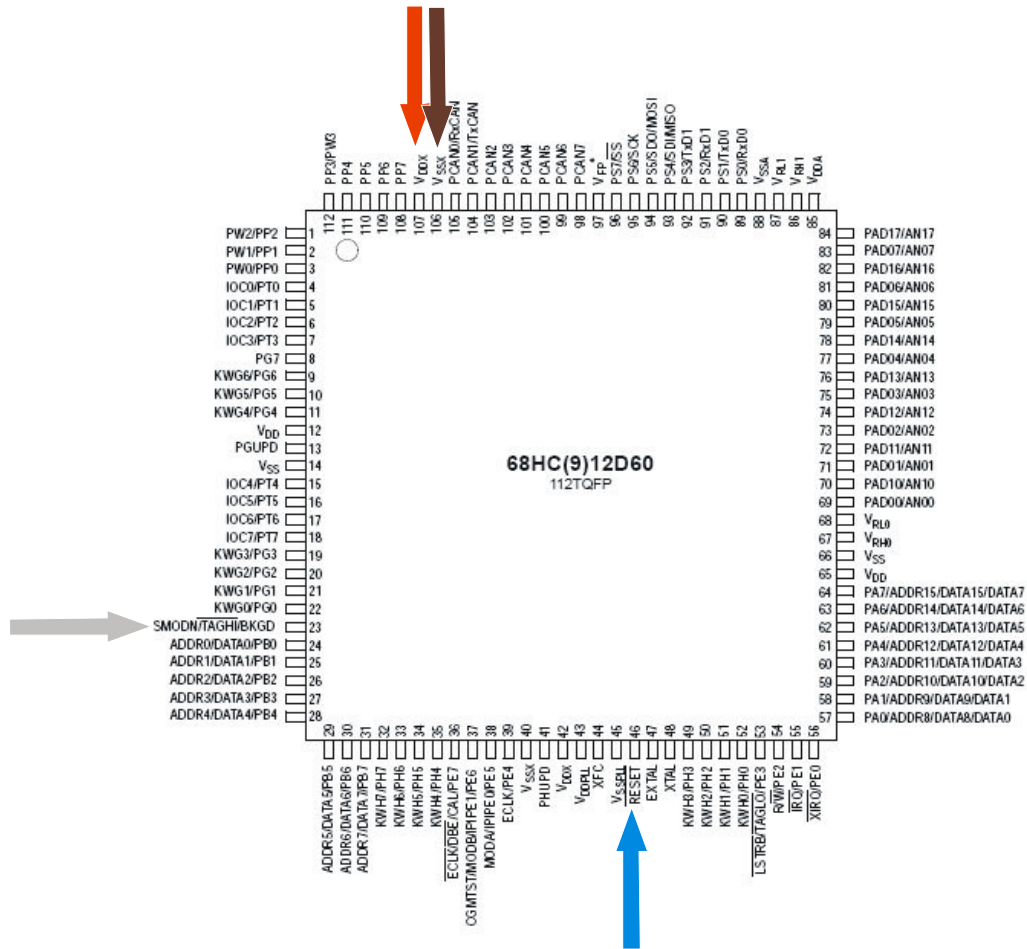


2. MC68HC912D60,

| MPU | Mask Set |
|--------------|----------|
| MC68HC912D60 | F68K |
| | 4F73K |

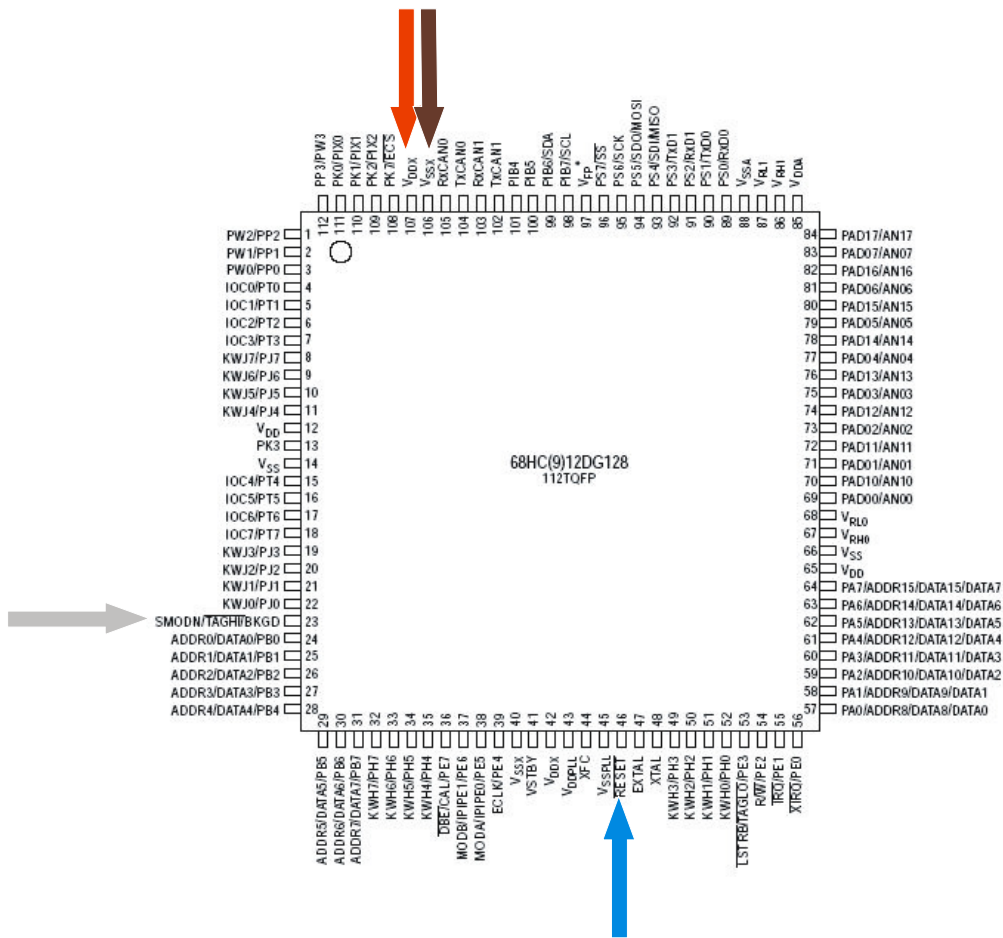
0K75F
0K13J
L26M
MC68HC912D60A 2K38K





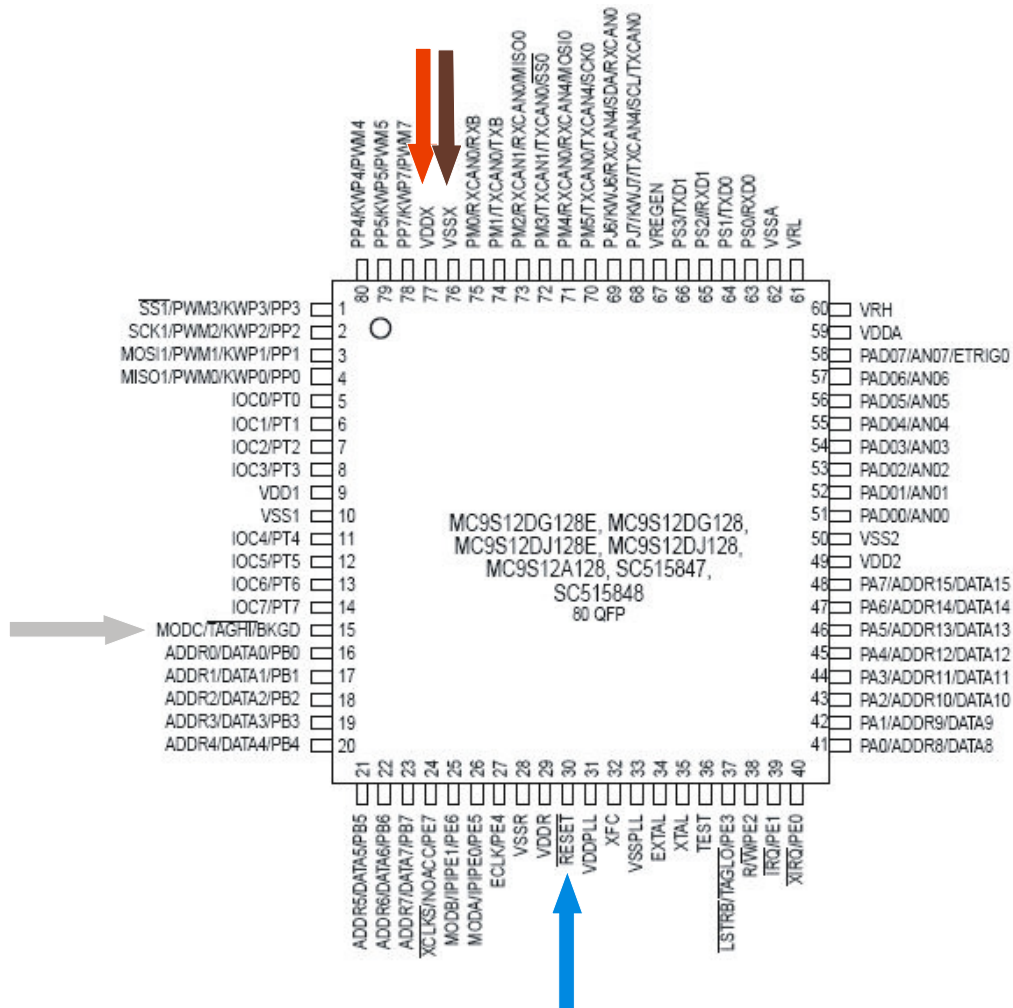
2. MC68HC912DG128 (A), MC68HC912DC128 (A), MC68HC912DT128

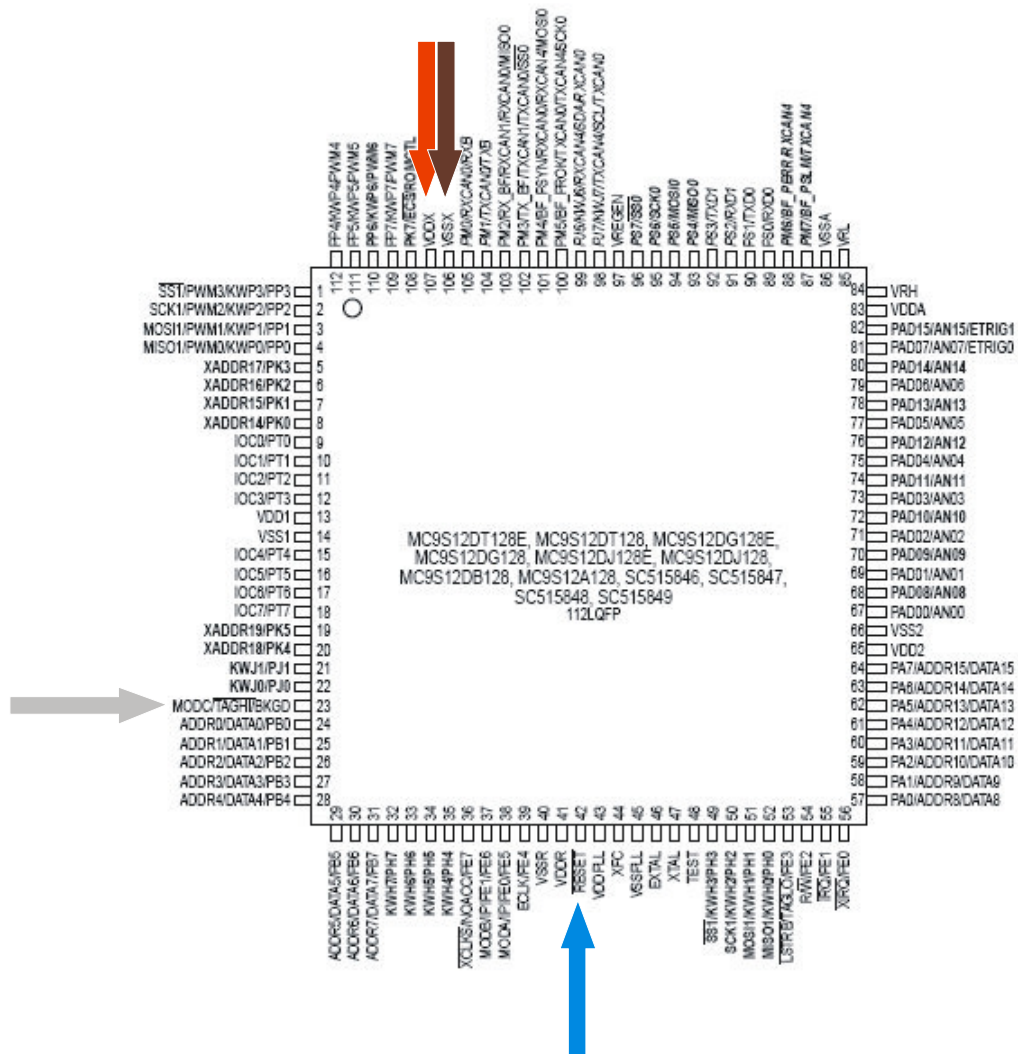
| MPU | Mask Set |
|-----------------|----------|
| MC68HC912DG128 | 3K91D |
| | 5H55W |
| MC68HC912DC128A | L27M |
| | 3K91D |
| MC68HC912DC128 | 5H55W |
| | 0K50E |
| MC68HC912DG128A | K31D |



3. 9S12DG, DC, DT family:

| MPU | Mask Set |
|------------|-----------------|
| 9S12D64 | L86D |
| 9S12DG64 | L43P |
| | M89C |
| 9S12DT128 | L59W |
| | L94R |
| | L86D |
| | 3L40K |
| 9S12DT128B | 0L85D |
| | 1L85D |
| 9S12DG128B | 0L85D |
| 9S12A128B | 0L85D |
| 9S12DB128B | 0L85D |
| 9S12DP256 | L91N |
| | L01Y |
| 9S12DG256C | 2K79X |
| 9S12DT256C | 2K79X |
| 9S12DP512 | 1L00M |

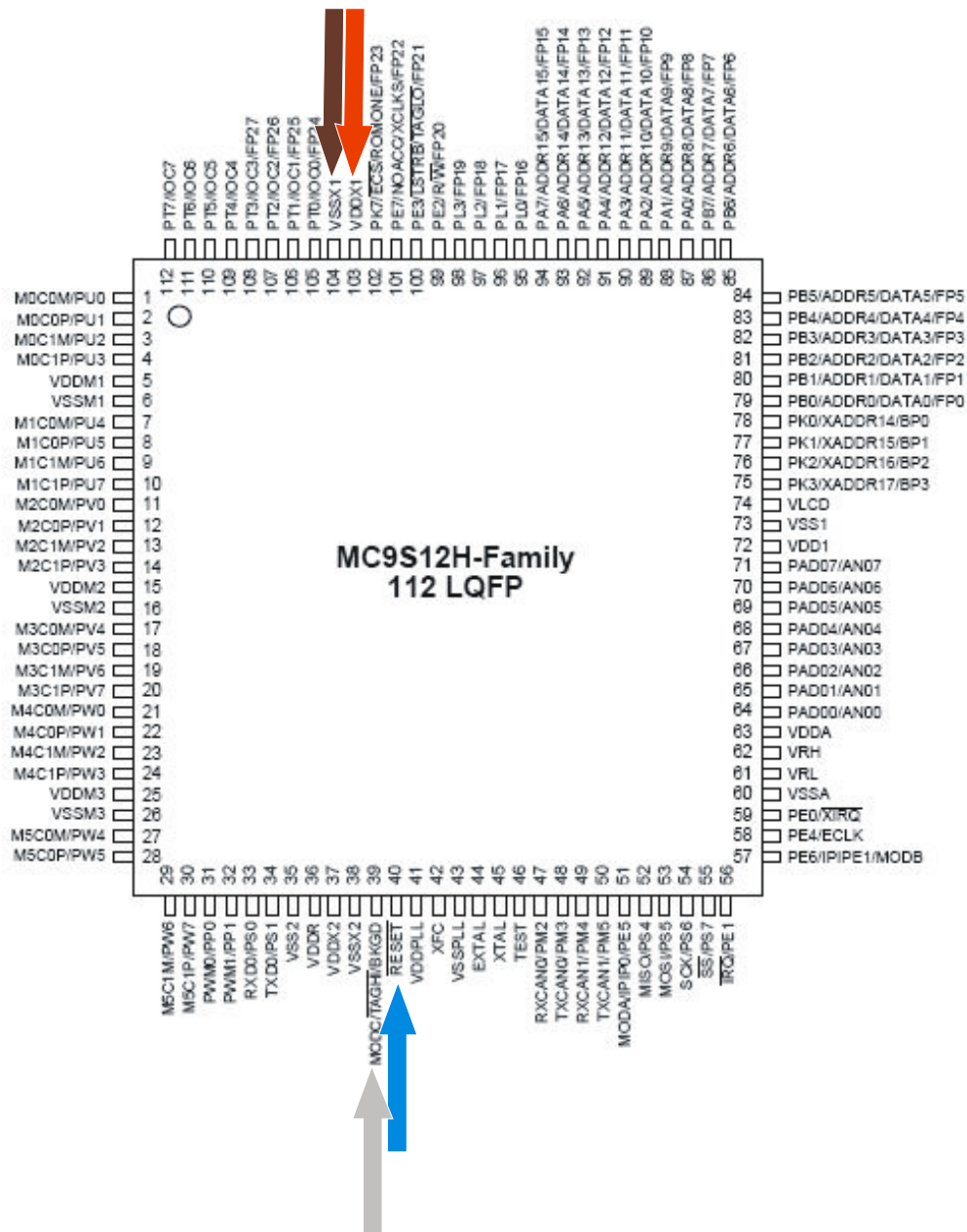




3. 9S12H family:

MPU
9S12H128

Mask Set
1K78X





3. 9S12XD family:

MPU
9S12H128

Mask Set
0L15Y
0M42E
1M42E

