

TachoSoft

Tachosoft Online

Quick Start Guide

Airbag Computer Repair



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Tachosoft Online – Quick Start Guide

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www.tachosoftonline.com Airbag Resetter

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Thank you for your interest in using the TachosoftOnline.com service for resetting Crash Data stored in Airbag modules. The following steps are detailed to help guide you through the resetting process and to help avoid common mistakes first time users make.

Introduction:

First of all, I will start with a brief explanation of the TachosoftOnline product application, and explain why we have made it. The TachosoftOnline.com airbag resetter has been developed to focus primarily on resetting airbag 'Crash Data'.

What is Crash Data?

Crash Data is simply a type of 'Fault' code stored in the airbag memory, unlike regular 'fault codes' or DTC's (Diagnostic Trouble Codes) a 'Crash Data' code is a 'Permanent' stored code that cannot be cleared or reset using conventional diagnostic equipment. This is because the manufacturers design airbag modules to operate once only in a crash/impact event, and then become 'Spent' – i.e. Crash Data Stored. As an example, the Mk2 Renault Clio was prone to detonating the side/seat airbags if the car was bumped up a kerb stone at the side of the road while parking, storing a 'Crash Event' and giving the Permanent Fault code of "Airbag Computer Permanent Fault – Replace computer" which could not be reset and would require a new airbag module to be fitted. The same is true of event data stored due to seat belt pyrotechnic pre-tensioners being activated. In a lot of cases, the Permanent Crash Data fault code can become stored in an airbag module without the vehicle ever suffering a crash, so the term 'Crash Data' is a generic term which describes a fault code stored to the airbag module which is not a diagnostic trouble code (DTC) but instead a 'Permanent Recorded Fault Code' that cannot be erased conventionally.. UNTIL NOW.. With TachosoftOnline, You can reset these Permanent Fault Codes!

Below I have listed some of the common terminology you will see using our products:

- HEX = Viewer data seen in the programmer data editor
- BINARY = Also known as 'BIN' is the File Format we use. (It is also industry standard, your programmer 'WILL' support saving read data as .BIN)
- Crash Data = Permanent fault codes stored in the Airbag module after a Crash/Impact event
- DUMP = Data content retrieved from an I.C. EPROM Memory (Data)
- EEPROM = Electrically Erasable Programmable Read Only Memory
- MCU = MicroController or Micro Computer Unit (an I.C. integrating a Computer Processor, Memory and a Peripheral Input/Output device in a single I.C. package)
- PACKAGE = The encapsulation of the microchip into its production packaging/casing
- DIL-8 = Dual In-Line I.C. with 8 legs, 4 each side. (Serial EEPROM)
- SOIC8 = Small Outline I.C. with 8 legs, 4 each side. (SERIAL EEPROM)
- QFP64 = Quad Flat Package with 64 legs, 16 legs per side. (MCU)

Step.1 – Obtaining the crash ‘data’ from the Airbag module.

Before you open the airbag module, navigate your web browser to our page: www.tachosoftware.com and search your vehicle airbag Make and Model. Once you have found the correct part listed in the TachosoftwareOnline database, our database shows the correct ‘memory’ identification that stores the crash data memory content. (E.G: FIAT PUNTO – Part number “46768868” – Memory contained in “68HC05B16”)

Note: Serial EPROM Memory (Fig.04) is normally identified as: 24C0x / 25Cxx / 95xxx (Where ‘x’ relates to memory size) MCU based EPROM memory – Microcontroller where the memory is integral to the main processor, these MCU’s are larger microchips with many legs on each side. Usually Identified by a ‘MASK ID’ such as “0D60J” on the 3rd line printed on the MCU (Fig.05). Occasionally the device I.D. may be printed in full on the MCU package (Fig.06).

Now you have identified what memory you need to read/write, you can open the airbag module and connect the EPROM/MCU. (Fig.04/05) For DIL8 and SOIC8 Serial EPROM microchips, Pin1 of the Device is identified by a Chamfered Edge, Dot, Dimple and/or Manufacturers Logo (Fig.03)

Figure 01 - Yellow Arrow Identify Pin 1

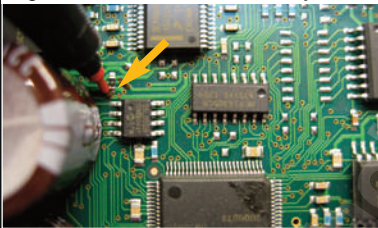


Figure 04 - Serial Eprom

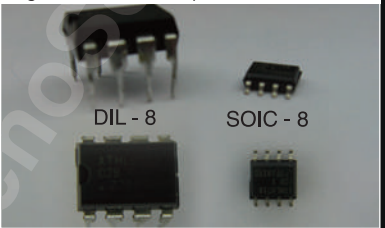


Figure 02 - Hot Air Rework Removal

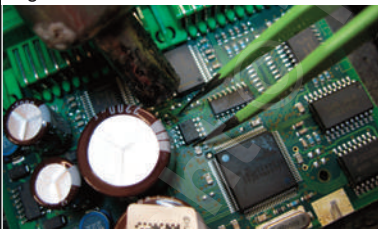


Figure 05 - MCU PLCC



Figure 03 - Serial EPROM Pin1

Dot / Dimple / Logo

Chamfer

pin1

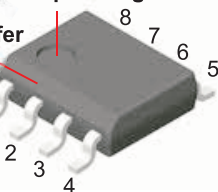


Figure 06 - MCU QFP



Step.2 – Reading the Crash Data

Now you're ready to read the EPROM data from the microchip. Select the correct memory type (Fig.07). **PLEASE NOTE – When reading MCU Microcontrollers, you must only select to read the EPROM content only, and not the full MCU memory content.** There is always an option to read FULL MCU or EPROM only in universal programmers (Fig.08). Once you have selected the correct memory microchip type, you can select the function to 'read' the EPROM. If your programmer has a Viewable HEX field, you will see data in the HEX field after the read is complete. If the HEX field data is all FFFF FFFF or all 0000 0000, your programmer has not correctly read the EPROM. Re-check connections and try again to read the EPROM. When correctly reading the EPROM you will be able to retrieve a field of random HEX data and then using the programmer 'VERIFY' function, confirm the data read from the EPROM is correct. The Verify function is used to compare the data stored in the EPROM being read by the programmer, with the data shown in the HEX field. Although similar to the 'Read' function, it will not populate the HEX field with the data read from the EPROM in Verify mode.

Figure 07

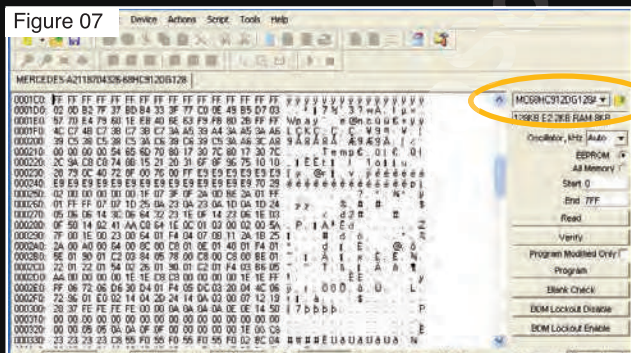
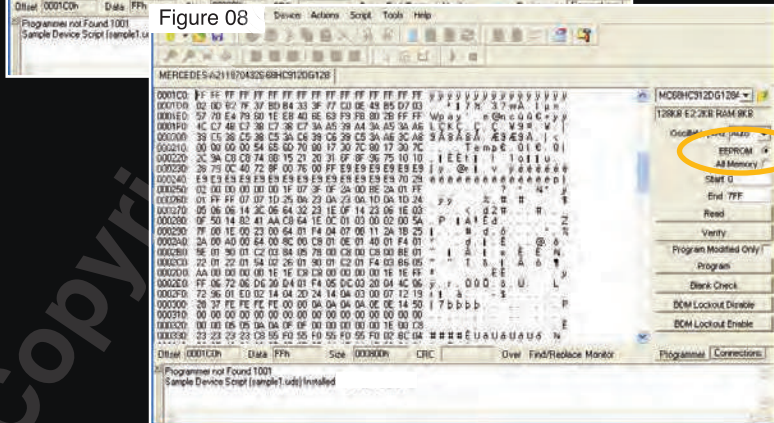


Figure 08



Step.3 – Saving the Binary Crash File (CrashData.BIN)

Now that you have completed your read of the EPROM (EPROM Data area ONLY for MCU devices) you are ready to save your Crash Data File as a Binary file. In your programmer, select the 'Save As' function usually in the FILE menu at the top of the programmer window. Type your file name so that you can correctly identify it later, i.e. "PUNTO-46768868-68HC05B16-CRASH" you will notice, we do not write the file extension .BIN but before we select save, we choose the option 'File Format or File Type' and select Save As 'BINARY FILE' (Fig.09/10) ..Now select save file! The file you have now created will have the file extension .BIN automatically by the programmer save function. (In some cases, the file Extension .BIN may not be made, this is ok providing the File Type/Format was selected to Binary before the save was made.) Our database engine only recognises the Binary file format, as this is the most common industry standard format and supported by all programmers. Other file formats are not supported, example of some common file formats NOT supported are: HEX, DEC, OCT, FLO, DOU, ETL, MOT, and so on. Now you understand the importance of saving your EPROM data or if you prefer 'EPROM DUMP' to a Binary Format file, you can continue to uploading your CrashData.bin file to the TachosoftOnline.com database for file regeneration.

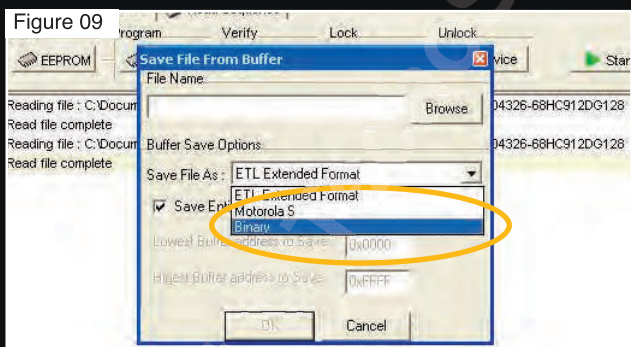
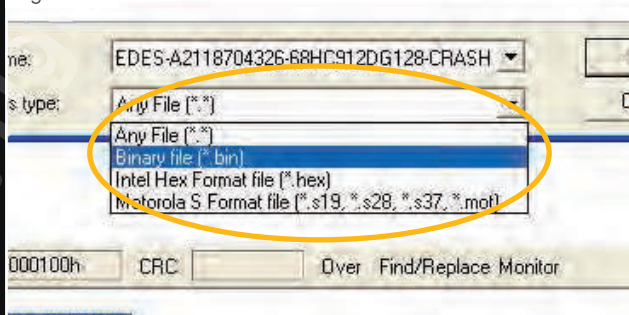


Figure 10



Step 4 – Uploading your CrashData.BIN file to the TachosoftOnline.com service

Now you're ready to upload your CrashData.BIN file, select the correct vehicle Make and Model, and confirm you have the correct Airbag part number and EPROM highlighted. Scroll to the bottom of the page and Click on the Browse button (Fig.11), an Open File window will appear and you can then find and select your CrashData.BIN file. Now Select the 'Proceed' button at the bottom of the page (Fig.12). The TachosoftOnline page will refresh, and the next Steps are to download the airbag CLEARdata.BIN file. (Do not press the 'Proceed' button several times! If the page freeze after pressing the 'Proceed' button, wait for approx 1 minute, if the page does not reload, close your browser and log in again. If the points have been deducted for the previous operation, you can download the new/clear file in the 'FILES TABLE' menu (See Step.5/Figure.14)

Figure 11

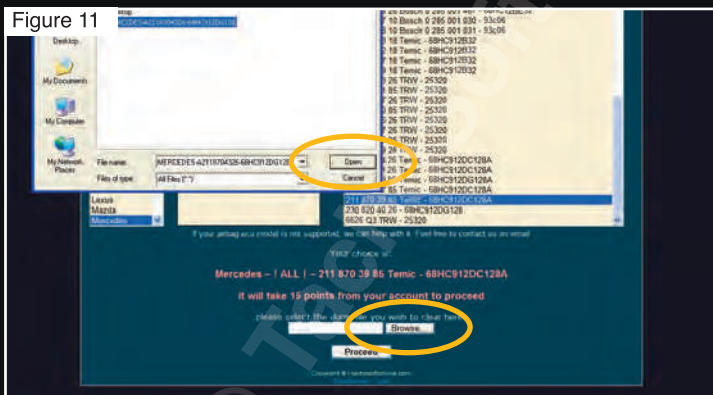
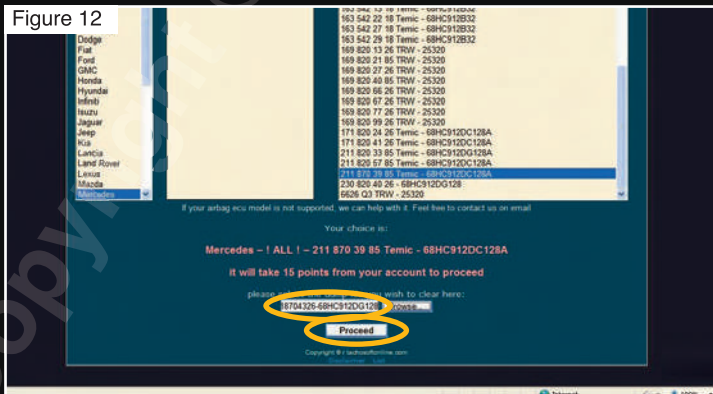


Figure 12



Step.6 – Programming the CLEARdata.BIN back to your EPROM.

Programming your CLEARdata.BIN file back to your EPROM is similar to the function of reading it, it is not uncommon for the programming process to take longer.. So if your programmer seems to be running slowly, this is normal for programming. Once you have programmed the CLEARdata.BIN file back to your EPROM, using the Verify function again, confirm the data in the EPROM matches that of the data from the CLEARdata.BIN file loaded into your programmers displayed HEX field. VERIFY – OK... remove your programmer's connections to the EPROM. You have now successfully completed the Crash Data Removal Process using the TachosoftOnline.com database.

Service Notes:

TachosoftOnline.com is constantly being updated, as it is 'live' on the internet, you get the new updates instantly as we release them. (Updates are free!) TachosoftOnline.com accounts do not have an expiry time, if you do not use your account for 12 months, your points will still be valid next time you log in

- FREE SUPPORT FOR MODULES NOT LISTED ON THE WEBSITE, CONTACT US

Support Team available via 'My Support' in your Tachosoft.Net account area

we require the following information:

1. Unit label photo (with readable text on it)
 2. Internal Photo (Circuit board)
 3. Binary dump file
 4. Car model
 5. Memory chip type (i.e. st95160 – soic8)
 6. After receiving the new file, it is important to us we have your feedback on the test result, so that we can continue to improve the online service database of TachosoftOnline.com
- It is responsibility of the user to confirm the correctness of the EPROM content prior to upload. Tachosoft cannot return points used by improper use of the service:
 1. Uploading multiple copies of the same CrashData.BIN file
 2. Uploading 'BAD' read files contain corrupt data or no data
 3. Uploading Incorrect File Size (i.e. Entire MCU memory, and not MCU EPROM only memory)

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Motorola-Freescale MCU Mask ID

*A20T MC68HC705S3 ?
*A38P MC68HC11A8
*A46E MC68705R3CS
*A49N MC68HC11A8
*A75H MC68HC811A2
*B16B MC68HC805C4
*B19C MC68HC811E2
*B35F MC68HC11A0
*B36T MC68HC805B6
*B46E MC68HC11A8
*B60R MC68HC11E9
*B65H MC68HC11A8
*B76T MC68HC11A8 ??
*B77M MC68HC11F1
*B83T MC68HC05B8
*B84N MC68HC11A1
*B84T MC68HC11A1
*B91T MC68HC05B6
*B95T MC68HC11A8
*B96D MC68HC11A8
*B96T MC68HC05C8 ??
*C10C MC68HC05M4
*C11W MC68HC11A1
*C12R MC68882FN20A
*C15J MC68HC11F1
*C13W MC68HC11L6
*C14H MC68HC05B6
*C16J MC68HC811E2
*C16W MC68HC705C8
*C17F MC68HC11D3 ??
*C25T MC68HC05E1
*C27B MC68HC11E1
*C27T MC68HC05P8
*C28M MC68HC11G5FN1
*C28W MC68HC05P9
*C35N MC68HC05B16 ??
*C40H MC68HC05J1
*C45A XC68HC711D3
*C46A MC68HC811A8
*C47M MC68HC711E9
C61A MC68HC05P ??
*C75G ?? SOIC28
*C83W MC68HC11E9
*C85W XC68HC711L6
*C90T MC68HC05P8
*C91F MC68HC11E1
*C92K MC68HC05C12A
*C93W MC68HC711K4
*C94R MC68HC11F1
*C95K MC68HC05E0
*C96K MC68HC11E9
*C96N MC68HC11A1,A8
*C99K MC68HC05B4
*D10J MC68HC705B5
*D12A MC68B09EP
*D15G MC68HC05E1
*D17E MC68HC05T3
*D18E MC68HC05P4 ??
*D20J MC68HC05B16
*D25A MC68HC05P4
*D26E MC68HC11A1
*D28J MC68HC705B16
*D28N MC68HC05E6 ??
*D28T MC68HC705F6B
*D32N MC68HC05E1, MC68HC705E1
*D33J MC68HC705B16 ??
*D35E MC68HC11E9
*D37R MC68HC05C12A
*D40J MC68HC705B32
*D40J MC68HC705X32
*D41V XC68HC705BE12
*D43F MC68HC11K4
*D43R MC68HC711E20
*D45R MC68HC11ED0
*D46J MC68HC11EA9
*D47J MC68HC11EA9
*D48A MC68HC05H2
*D48J MC68HC11PH8
*D51D MC68HC05P8
*D53J MC68HC05X32
*D54E MC68HC705P9
*D54J MC68HC05B8
*D56G MC68HC705P6A

*D58J MC68HC11PA8
 *D58N MC68HC11K1
 *D59J MC68HC705B32
 *D59J MC68HC705X32
 *D60J MC68HC05B16
 *D61N XC68HC711KA4
 *D62C MC68030FE20B
 *D62J MC68HC05X16
 *D64J MC68HC11P2 11PH8 ?
 *D67F MC68HC711K4
 *D68C MC68HC705C5
 *D69F PC68HC711N4
 *D69J MC68HC05X32
 *D73W MC68HC705G10
 *D82R MC68HC11E9
 *D84M MC68HC05H2
 *D85F MC86HC711D3
 *D86B MC68HC705J2
 *D99H MC68HC711P2
 *E11P MC68HC16Z2
 *E20T MC68HC705C4A
 *E20Y MC68HC705P6CP
 *E22B MC68HC11E20
 *E25B MC68HC05P3
 *E28B MC68HC11E9 old
 4E28B MC68HCP11E1
 *E30A MC68HC05K1
 *E31A MC68HC05K0
 *E31M MC68HC705K1
 *E32B MC68HC05C8
 *E32A MC68HC705P6
 *E36F MC68HC05C8 ??
 *E38B MC68HC05J3
 *E40A MC68HC705C5
 *E41C PC68HC916Y1
 *E50H MC68HC05B6
 *E50W MC68HC711E9
 *E53M MC68HC711P2
 *E54F MC68HC16Z1
 *E57S MC68HC11KA4,
 MC68HC11KS4
 *E59B MC68HC11KA4
 *E61H MC68HC11F1
 *E61R MC68HC705C8
 *E61W MC68HC705F8
 *E62H MC68HC11K4
 *E62W MC68HC16Z1
 *E69W MC68HC16Z1
 *E74J MC68HC11P2
 *E74H MC68HC11A1FN
 *E75J MC68HC11K4
 *E75N MC68HC05C8A ??
 *E78C MC68HC05J1A
 *E79R MC68HC705C4A, C8A
 *E82K MC68HC11E20
 *E87J MC68HC11F1
 *E88N MC68HC711KA2
 *E98K MC68HC705P6
 *F10V MC68HC05B6
 *F10W MC68HC705SR3
 *F11N MC68HC11L6
 *F12A MC68HC05J1A
 *F15H MC68HC05B4 ???
 *F17V MC68HC11F1B4
 *F19C MC68EC030CFE25C
 *F21S MC68HC705MC4
 *F23H MC68HC05P4A
 *F28B MC68HC05E6
 *F29K MC68HC11MA8
 *F33P PC68HC16V1
 *F36W MC68HC11E9
 *F37E MC68HC11F1
 *F41E MC68HC05L28
 *F41J MC68HC05L28
 *F44T MC68HC705J1A
 *F47V MC68HC705P3 ?
 *F49K MC68HC705C8A
 *F52E MC68HC11E32
 *F52W MC68HC05P18 (28 pins)
 *F53E MC68HC11KG4
 *F56K MC68HC705B16
 *F60M MC68HC11KA4,
 MC68HC11KS4
 *F62A MC68HC05C8

*F62J MC68HC05B16
 *F63J MC68HC705C9A
 *F67V MC68HC16Z1
 *F68K MC68HC912D60
 *F71L MC68HC05C8 or 705C8
 *F73K MC68HC912D60
 *F73T MC68HC16Z1
 *F74B MC68HC05X4
 0F74K MC68376 ???
 *F75B MC68HC705P3
 *F80B MC68HC705P6
 *F82B MC68HC05E6 (SO28) ?
 *F82W MC68HC705V8
 *F88B MC68HC705X4
 *F92J MC68HCP11A1
 *F96J MC68HC11E9
 *F97J MC68HC11E9
 *F98Y MC68HC708AS48
 *G10V MC68HC(7)11P2
 *G11D MC68HC16Z2
 *G23V MC68HC08AZ32
 *G26C MC68HC16Z3
 *G28F MC68HC05B16
 *G32V MC68HC11KG4
 *G33P MC68HC705P6ACP
 *G35N MC68HC05B16
 *G39Y MC68HC08AS20
 *G40G MC68HC805K3
 *G41V MC68HC705B32
 *G44P MC68HC705RC16..17
 *G47V MC68HC705X32
 *G49V MC68HC08AZ32
 *G53F MC68HC05J1A
 *G54K MC68HC05TB
 3G56P MC68HC705BD7P
 *G58C MC68HC705JP7
 *G58F MC68HC705J1A
 *G58T MC68HC705JJ7 or JP7
 *G59F MC68HC711E20
 *G62K MC68HC708AS48
 *G63P MC68HC705J1A
 *G64R MC68HC805P18
 *G72G MC68HC05E6 ?
 *G78M MC68HC705V12
 *G96A MC68HC705B32
 *G96Y MC68HC705V12
 *H14A MC68HC708AS48
 *H19S MC68HC711E20
 *H24A MC68HC11A8 ???
 *H24M MC68HC05V12
 *H27B MC68HC11KS2
 *H30R MC68HC711PH8 ?
 *H32S MC68HC705JB4
 *H42K MC68HC705C8A
 *H42D MC68HC05V12
 *H44H MC68HC805P18 ???
 *H48T MC68CM16Z1
 *H50F MC68HC812AV4
 *H50W MC68HC711E9
 *H51A MC68HC705E6
 *H52A MC68HC05X32 ?
 *H52P MC68HC705V12
 3H54K MC68HC11FLOPU1
 *H54T MC68HC12BE32
 *H55B MC68HC705BD9
 *H55F MC68HC805K3
 *H55W MC68HC912DG128, DA128
 *H56A MC68HC08AZ32
 *H57A MC68HC05H12
 *H62A MC68HC908AS60 or AZ60
 8H62A MC68HC708AZ60
 *H62P MC68HC908AT32
 *H70H MC68HC705SJ7 or JJ7 or
 JP7 or SP7
 *H72J MC68HC705C8A
 *H73K MC68HC812AV4
 *H74Y MC68HC08AZ60A ?
 *H75A MC68HC705P6
 *H77A MC68HC705C9A
 *H86A MC68HC711KG2
 *H86X MC68HC(7)11KG2 ??
 *H89E MC68HC11E20
 *H91F MC68HC912B32
 *H94K MC68HC08AS20

*H95B
 MC68HC(7)11K4,MC68HC11KS2 ??
 *H96J MC68HC05JJ6, JP6
 *H96P MC68HC711KS8
 *H98X MC68HC11KS8
 *J15G MC68HC912BC32
 *J20X MC68HC908GP32
 *J26H MC68HC08AS20
 *J26R MC68HC08AS20
 *J27F MC68HC08AS32
 *J34P MC68HC12BE32
 *J35D MC68HC08AZ60
 *J37F MC68HC908MR24
 *J38M MC68HC12BE32
 *J41C MC68HC05SU3A
 *J43F MC68HC705V12 ??
 *J43H MC68HC705V12
 *J53W MC68HRC705JP7
 *J54E MC68HC912B32
 *J54W MC68HRC705JP7
 *J61D MC68HC908AS60
 *J64Y MC68HC912B32
 *J66D MC68HC08AZ32
 *J66H MC68HC705J1A
 *J73R MC68HC705C8A
 *J74J MC68HC908AZ60
 *J74Y MC68HC908AS60
 *J79Y MC68HC908BD48
 *J88Y MC68HC908JK3
 *K00J MC68HC908RK2
 *K00W MC68HC11K4
 *K02S MC68HC05P4A
 *K03B MC68HC705C9A
 *K05W MC68HC711D3
 *K07B MC68HC705P6
 *K07E MC68HC11KS2
 *K08B MC68HC705C8A
 *K08S MC68HC908GP32
 *K08W MC68HC711KS2
 *K11N MC68HC908LD64
 *K13J MC68HC12D60
 *K17X MC68HC908GP32CFB
 *K20C MC68HC705B32
 *K20R MC68HC05PV8A
 *K25E MC68HC912BC32
 *K29E MC68HC912BD32
 *K31D MC68HC912DG128A
 *K36N MC9S12DP256
 *K38K M68HC912D60
 *K39K MC68HC908SR12
 *K45D MC68HC908KX8, KX2
 *K45H MC68HC908JB8
 *K50E MC68HC912DG128, DA128
 *K54X MC68HC711K4
 *K56G MC68HC908AB32
 *K59D MC68HC08JB8 or
 MC68HC711K4 ???
 *K59H PC527283MFU
 *K71E MC68HC908AS60 ? (PLCC52)
 *K75F MC68HC912D60
 *K76A MC68HC12DA128
 *K78X MC9S12H256
 *K79X MC9S12DP256/A256,
 MSE9S12D256B
 *K81H MC68HC711E9
 *K82H MC68HC11E20
 *K85K MC68HC908AZ60A/AS60A
 *K85V MC68HC908AZ60A
 *K91D MC68HC912DG128
 *K92R MC68HC908GP32CFB
 *L00M MC9S12DP512,
 MSE9S12DP512
 0L01Y MSE9S12DT256
 *L02H M68HC912D60
 *L02M MC68HC08AZ48A
 *L05H M68HC912DT128
 *L06H MC68HC908SR12
 *L07H MC68HC908AB32
 0L08M MSE9S12E128
 *L09H MC68HC908KX8/KX2
 *L09S MSE9S12C128
 3L11Y MSE9S08GB60A
 *L15P MSE9S12E128
 *L15Y MC9S12XDP512V2,

MSE9S12XDP512
0L16X MSE9S08AW60
0L16Y MSE9S12HZ256
*L19E MC68HC908JL3
1L19S MSE9S12NE64
0L24K MSE9S12T64
0L24N MSE9S12UF32
*L26M MC68HC912D60
1L27M 68HC912DG128
*L28M MC68HC12D60
*L31K MC68HC08JL3E
*L31R MSE9S08GB60
*L31V MC68HC908AS60A/AZ60A
*L32X MC68HC08AZ32A
0L33R MSE9S08RG60
*L35K MC68HC08 ??
*L35X MC68HC08JL3E
*L36W MC68HC908JL3E
*L39J MC68HC908JL8
*L40K MC9S12DG128/DT128,
MSE9S12DT128
0L40V MSE9S12XDP512
*L40X MC68HC08AZ60A
0L42M MSE9S12T64
1L43M MC68HC912B32
0L43P MSE9S12D64/DG64
0L43X MSE9S12E256
*L45J MC9S12C32, MSE9S12C32
*L47P MC908AP32 ?
0L47P MSE908AP64
2L47P MSE908AP64
3L47P MSE908AP64
4L47P MSE908AP64A
*L51J M68HC912D60
*L51W MC68HC908SR12
*L52H MC68HC08AZ32A
*L53J MC68HC908GR8
*L54J MC68HC908MR32 or 16
*L59X MC68HC908AB32
1L59W MC9S12DT128
*L61N MC68HC08JL8
*L69J MC68HC908QT1-4 or QY1-4
*L69Y MC68HC08JL8
2L71Y MSE9S08RE16
0L72A MC68HC08AB16A
5L74N MSE9S12KG128
*L77N MC68HC908JL3E/JK3E/JK1E
0L78P MSE9S08RE16
0L80R MSE9S12B128
0L85D MSE9S12DT128
*L86C MSE9S12T64
*L86D
MSE9S12D64/DG64/DJ64/A64/D32/A32
3L87X MSE9S08QB8
*L85D MC9S12A128 or DTB128
*L86D MC9S12D64
*L87J MC68HC908AZ60A or AS60A
2L87X MSE908QB8
*L91N MC9S12DP256B/DT256
0L94R MSE9S12DT128
*L96S MC68HC908GP32CFB
0M11F MSE9S08RG60
0M15D MSE9S08QD4
0M20A MSE9S08RG60
1M21A MSE9S08RE16
0M25D MSE908AP64
1M25D MSE908AP64A
2M25D MSE908AP64
1M34C MSE9S12C32
0M42E MSE9S12XDG128
0M45H MSE90S08RE16
*M62B MSE908QB8
0M65G MSE9S12B128
0M66G MSE9S12C128
0M89C MSE9S12DG64
2M70C MSE9S08GT16A
0M75B MSE9S08AW60
1M75B MSE9S08AW60
3M75B MSE908EY16A
5M75B MSE9S08AW60
0M77B MSE9S08QG8
1M77B MSE908QG8
3M77B MSE9S08QG8
0M89C MSE9S12D64



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