Non-Volatile Memory Products

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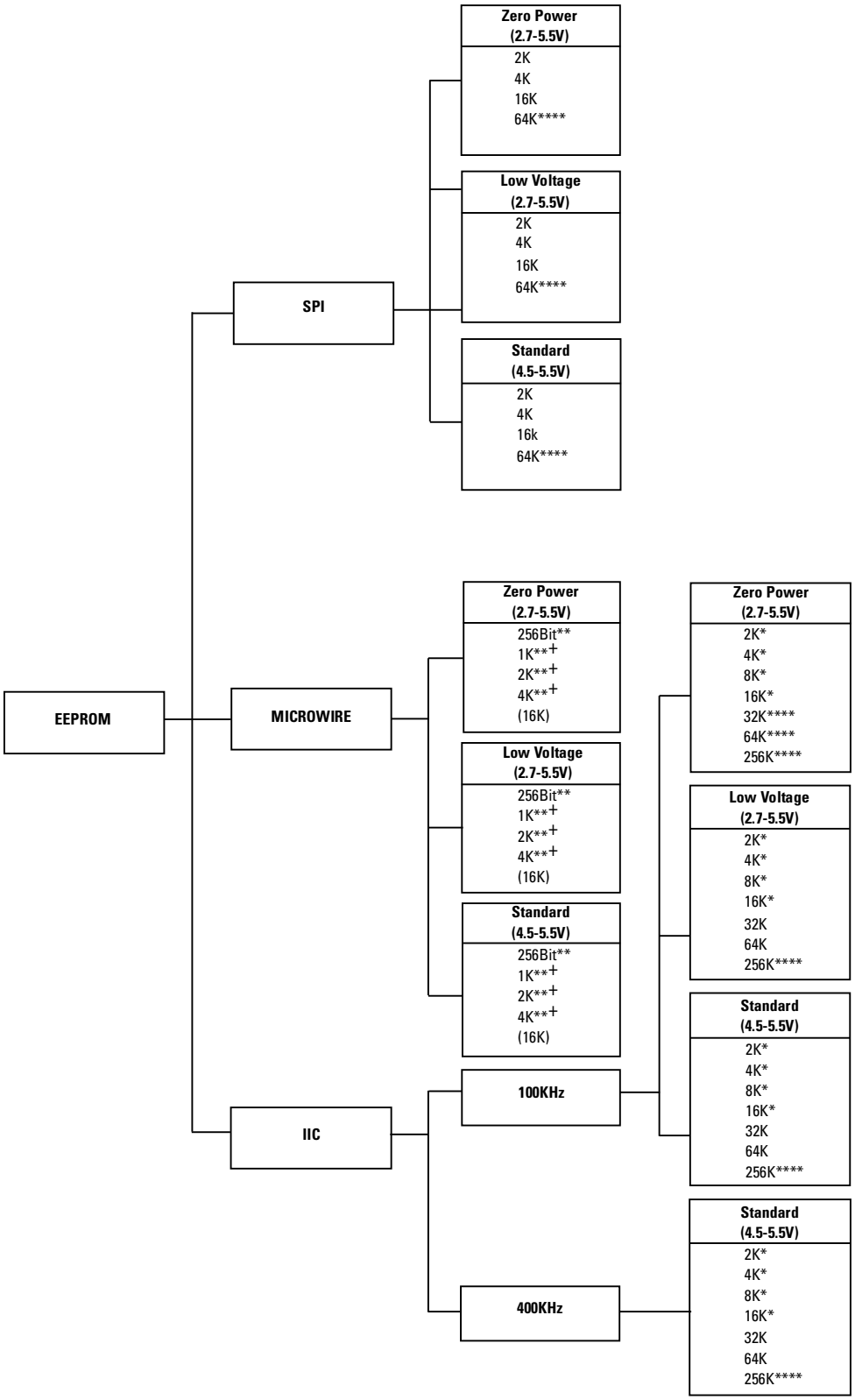
FAIRCHILD SEMICONDUCTOR™

EEPROM Standard Products Family



* Write protected parts available

** Data protected and sequential read parts available (CS)

\+ ORG (x8/x16) parts available (A)

( ) 16K available only as ORG (x8/x16)

*** Modes 0 and 1 supported (040, 041)

**** Under development

Package Dimensions (continued)

Fairchild Semiconductor offers a family of CMOS EEPROMs which share the following features: MICROWIRE Serial Interface, extended voltage (2.7V - 5.5V) R/W range or 5V R/W only, Directwrite, and self-timed programming cycle with programming status on the data-out pin. All of these devices are offered in compatible packages and pinouts.

There are also several features not shared by all family members, which separate the family into three groups. These features are operating voltage range, write protection, and sequential register read. Other differences are memory size, packaging, and operating temperature range. For the purpose of this selection guide, the family will not be separated by these differences, as each individual device is available with all of these value-added options.

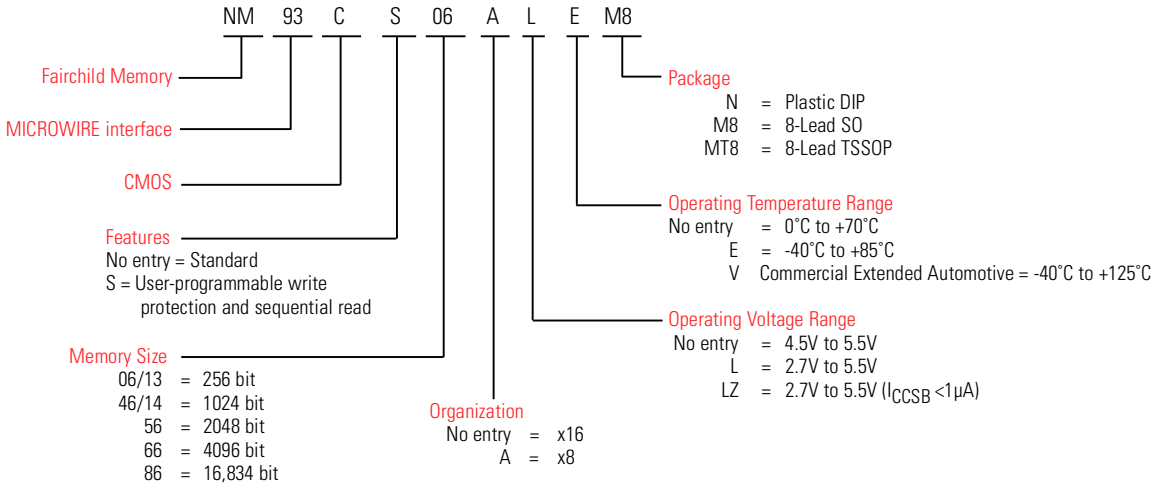
Features

- 40-years of data retention
- Extended voltage operation
- Endurance: 10^6 data changes
- Reliable CMOS floating gate technology
- Single voltage operation in all modes
- MICROWIRE compatible serial interface
- Directwrite, no erase cycles required
- Self-timed programming cycle
- Device status during programming mode
- Sequential Register Read*
- User-configurable write protection*

* Features available on NM93CS only

Part #	Density	Organization	Packages	Temperature	Standard Voltage 4.5-5.5V (1MHz)	Low Voltage 2.7V-4.5V (250KHz)	Write Protect (Entire ARR A4)	Sequential Read
93C06	256bit	x16	N, M8, MT8	C,E,V	X	X		
93C206	256bit	X16	N,M8	C,E,V	X	X	X	X
93C46[1]	1Kb	X16	N, M8, MT8	C,E,V	X	X		
93CS46[1]	1Kb	X16	N, M8	C,E,V	X	X	X	X
93C46A[1]	1Kb	X8 or X16	N, M8, MT8	C,E,V	X	X		
93C56[1]	2Kb	X16	N, M8, MT8	C,E,V	X	X		
93CS56[1]	2Kb	X16	N, M8	C,E,V	X	X		
93C56A	2Kb	X8 or X16	N, M8, MT8	C,E,V	X	X		
93C66	4Kb	X16	N, M8, MT8	C,E,V	X	X		
93C566	4Kb	X16	N, M8	C,E,V	X	X	X	X
93C66A	4Kb	X16	N, M8, MT8	C,E,V	X	X		
93C86A	16Kb	X16	N, M8	C,E,V	X	X		

Note: [1] Also available with Rotated die



FAIRCHILD SEMICONDUCTOR™

IIC (2-wire) CMOS EEPROM Selection Guide

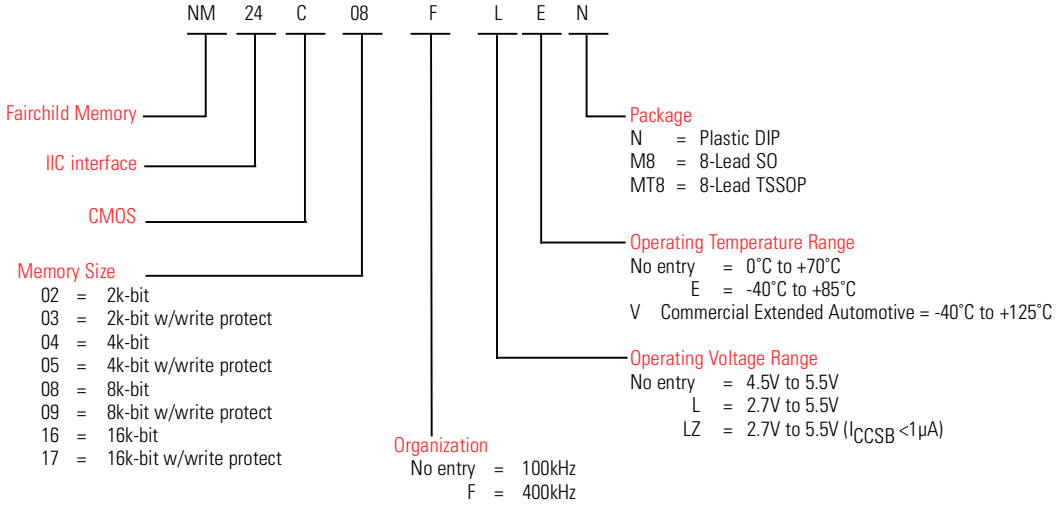
Fairchild Semiconductor's family of I²C-compatible CMOS EEPROMs share the following features: A serial interface and software protocol allowing operation on a two wire bus. Also, programming of the upper half of the memory can be disabled by connecting the WP pin to V_{CC} on certain members of the family. Fairchild Semiconductor's EEPROMs offer
1 million data changes typical with data retention greater than 40 years. The IIC CMOS EEPROMs are all available in 8-pin DIP, SO, and TSSOP packaging.

Features

- Low power CMOS
  - 1mA active current typical
  - 10µA standby current typical
  - 1µA standby current typical (L)
  - 0.1µA standby current typical (LZ)
- Hardwire write protect for upper half of memory on 24C03/05/09/17/32/65
- 2-wire serial interface
- Bidirectional data transfer protocol
- Sixteen-byte page write mode – minimizes total write time per byte
- 2.7V to 5.5V available in "L" option and "LZ" options
- Self-timed write cycle – typical write cycle time of 5ms
- Data retention greater than 40 years
- 8-pin mini-DIP, 8-pin SO, or 8-pin TSSOP package

Part Number	Density	Packages	Temperature	Standard Voltage 4.5-5.5V (400KHz)	Low Voltage 2.7V-4.5V (100KHz)	Write Protect
24C02	2Kb	N, M8, MT8	C,E,V	X	X	
24C03	2Kb	N, M8, MT8	C,E,V	X	X	1/2 Array
24W02	2Kb	N, M8, MT8	C,E,V	X	X	Entire Array
24C04	4Kb	N, M8, MT8	C,E,V	X	X	
24C05	4Kb	N, M8, MT8	C,E,V	X	X	1/2 Array
24W04	4Kb	N, M8, MT8	C,E,V	X	X	Entire Array
24C08	8Kb	N, M8	C,E,V	X	X	
24C09	8Kb	N, M8	C,E,V	X	X	1/2 Array
24C16	16Kb	N, M8, MT8[1]	C,E,V	X	X	
24C17	16Kb	N, M8, MT8[1]	C,E,V	X	X	1/2 Array
24C32	32Kb	N, M8	C,E,V	X	X	1/2 Array
24C65	64Kb	N, M8	C,E,V	X	X	1/2 Array

Note: [1] = TSSOP package available with Potateddie



SPI CMOS EEPROM Selection Guide

Fairchild Semiconductor's family of SPI CMOS EEPROM devices share the following features: A serial interface and software protocol allowing operation on a 3-wire bus. Also, programming of the memory can be disabled by both hardware and software means.

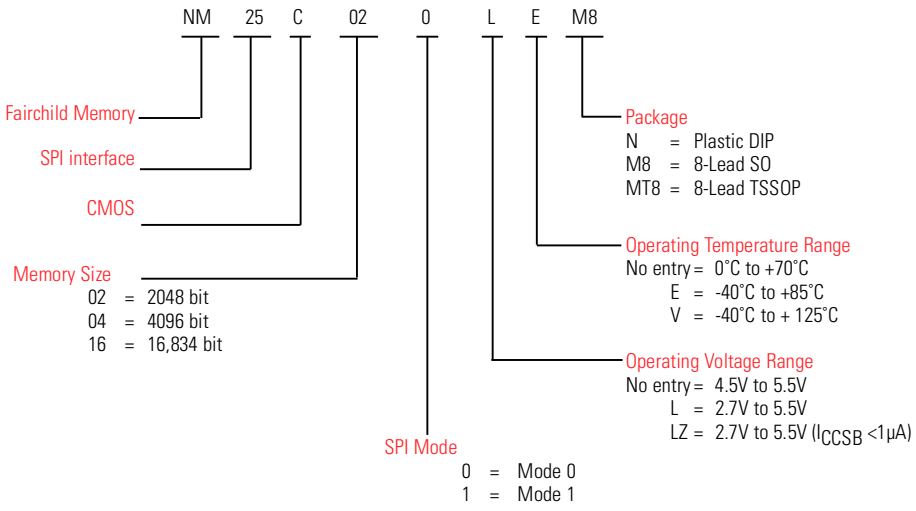
Fairchild Semiconductor's EEPROMs offer 1 million data changes typical with data retention greater than 40 years. SPI CMOS EEPROMs are available in 8-pin DIP, SO, and TSSOP packaging.

Features

- 2.1MHz clock rate
- Multiple chips on the same 3-wire bus with separate chip select lines
- Self-timed programming cycle
- Programming of multiple bytes simultaneously
- Status register can be polled during programming to monitor READY/BUSY
- Write Protect (WP) pin and write disable instruction for both hardware and software write protection
- Block write feature to protect against accidental writes
- Endurance: 10^6 data changes
- Data retention greater than 40 years
- Packages available: 8-pin DIP, 8-pin SO, or 8-pin TSSOP

Part Number	Density	Packages	Temperature	Standard Voltage 4.5-5.5V (2.1MHz)	Low Voltage 2.7V-4.5V (1MHz)	Write Protect
25C020	2Kb	N, M8, MT8	C,E,V	X	X	Entire Array
25C040	4Kb	N, M8, MT8	C,E,V	X	X	Entire Array
25C041[1]	4Kb	N, M8	C,E,V	X	X	Entire Array
25C160	16Kb	N, M8, MT8	C,E,V	X	X	Entire Array

Note: [1] = Supports SPI clock mode 1, all other devices support mode 0.



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EEPROM Cross-Reference Guide

Fairchild	Description	Xicor	Atmel	Microchip	Exel	SGS	Catalyst
NM24C02	I²C 2K Bit	X24022	AT24C02*	24C02A†	XL24C02†	ST24C02A†	CAT24C02A
NM24C03	I²C 2K Bit, Write Protect	X24C02	-	24C02A	XL24C02	ST24C02A	CAT24C02
NM24C04	I²C 4K Bit	X24042	AT24C04*	24C04A†	XL24C04†	ST24C04†	CAT24C04*
NM24C05	I²C 4K Bit, Write Protect	-	-	24C04A	XL24C04	ST24C04	-
NM24C08	I²C 8K Bit	X24C08*	AT24C08*	24C08B†	XL24C08†	ST24C08†	CAT24C08*
NM24C09	I²C 8K Bit, Write Protect	-	-	24C08B	XL24C08	ST24C08	-
NM24C16	I²C 16K Bit	X24164	AT24C16*	24C16B†	XL24C16†	ST24C16C†	CAT24C16*
NM24C17	I²C 16K Bit, Write Protect	-	-	24C16B	XL24C16	ST24C16C	-
NM24C32							
NM24C65							
NM24C02L	I²C 2K Bit, 2.7-5.5V	X24022-2.7	AT24C02-x-1.8*	24LC02B†or 24AA02†	XL24C02-2.7†	ST24C02A†	CAT24LC02A
NM24C03L	I²C 2K Bit, 2.7-5.5V, Write Protect	X24C02-2.7	-	24LC02B or 24AA02	XL24C02-2.7	ST24C02A	CAT24LC02
NM24C04L	I²C 4K Bit, 2.7-5.5V	X24042-2.7	AT24C04-x-1.8*	24LC04B† or 24AA04†	XL24C04-2.7†	ST24C04†	CAT24LC04*
NM24C05L	I²C 4K Bit, 2.7-5.5V, Write Protect	-	-	24LC04B or 24AA04	XL24C04-2.7	ST24C04	-
NM24C08L	I²C 8K Bit, 2.7-5.5V	X24C08-2.7	AT24C08-x-1.8*	24LC08B† or 24AA08†	XL24C08-2.5†	ST24C08†	CAT24LC08*
NM24C09L	I²C 8K Bit, 2.7-5.5V, Write Protect	-	-	24LC08B or 24AA08	XL24C08-2.5	ST24C08	-
NM24C16L	I²C 16K Bit, 2.7-5.5V	X24164-2.7	AT24C16-x-1.8*	24LC16B† or 24AA16†	XL24C16-2.5†	ST24C16C†	CAT24LC16*
NM24C17L	I²C 16K Bit, 2.7-5.5V, Write Protect	-	-	24LC16B or 24AA16	XL24C16-2.5	ST24C16C	-
NM24C32L							
NM24C65L							
NM24C02LZ	I²C 2K Bit, 2.7-5.5V, 0 I_{SB}	-	-	-	-	-	-
NM24C03LZ	I²C 2K Bit, 2.7-5.5V, 0 I_{SB}, Write Protect	-	-	-	-	-	-
NM24C04LZ	I²C 4K Bit, 2.7-5.5V, 0 I_{SB}	-	-	-	-	-	-
NM24C05LZ	I²C 4K Bit, 2.7-5.5V, 0 I_{SB}, Write Protect	-	-	-	-	-	-
NM24C08LZ	I²C 4K Bit, 2.7-5.5V, 0 I_{SB}	-	-	-	-	-	-
NM24C09LZ	I²C 8K Bit, 2.7-5.5V, 0 I_{SB}, Write Protect	-	-	-	-	-	-
NM24C16LZ	I²C 4K Bit, 2.7-5.5V, 0 I_{SB}	-	-	-	-	-	-
NM24C17LZ	I²C 16K Bit, 2.7-5.5V, 0 I_{SB}, Write Protect	X24165	-	-	-	-	-
NM24C32LZ							
NM24C65LZ							
NM93C06	µ Wire, 256 Bit	-	-	93C06*	XL93LC06A	ST93C06	-
NM93C46	µ Wire, 1K Bit	-	AT93C46	93C46	XL93LC46A	ST93C46	CAT93C46
NM93C56	µ Wire, 2K Bit	-	AT93C56	93C56	XL93LC56A	ST93C56	CAT93C56
NM93C66	µ Wire, 4K Bit,	-	AT93C66	93C66**	XL93LC66A	ST93C66	CAT35C104
NM93C46A	µ Wire, 1K Bit, 64 x 16 or 128 x 8	-	-	-	-	-	-
NM93C56A	µ Wire, 2K Bit, 128 x16 or 256 x 8	-	-	-	-	-	-
NM93C66A	µ Wire, 4K Bit, 256 x16 or 512 x 8	-	-	-	-	-	-
NM93C86A	µ Wire, 16K Bit, 1024 x 16 or 2048 x 8	-	-	93C86	-	-	CAT35C116
NM93CS06	µ Wire, 256 Bit, Write Protect	-	-	-	-	-	-
NM93CS46	µ Wire, 1K Bit, Write Protect	-	-	-	XL93CS46	ST93CS46	-
NM93CS56	µ Wire, 2K Bit, Write Protect	-	-	-	-	ST93CS56	-
NM93CS66	µ Wire, 4K Bit Write Protect	-	-	-	-	ST93CS66	-
NM93C06L	µ Wire, 256 Bit, 2.7-5.5V	-	-	-	-	ST93C06C-3.0	-
NM93C46L	µ Wire, 1K Bit, 2.7-5.5V	-	AT93C46-x-1.8	93LC46 or 93LC46B	XL93LC46-2.7	ST93C06C-3.0	CAT33C101
NM93C56L	µ Wire, 2K Bit, 2.7-5.5V	-	AT93C56-x-1.8	93LC56 or 93LC56B	XL93LC56-2.7	-	CAT33LC56
NM93C66L	µ Wire, 4K Bit, 2.7-5.5V	-	AT93C66-x-1.8	93LC66 or 93LC66B	XL93LC66-2.7	ST93C66-3.0	CAT33C104
NM93C46AL	µ Wire, 1K Bit, 64 x 16 or 128 x 8, 2.7-5.5V	-	-	93LC46	-	-	-
NM93C56AL	µ Wire, 2K Bit, 128 x 16 or 256 x 8, 2.7-5.5V	-	-	-	-	-	-
NM93C66AL	µ Wire, 4K Bit, 256 x 16 or 512 x 8, 2.7-5.5V	-	-	-	-	-	-
NM93C86AL	µ Wire, 16K Bit, 1024 x 16 or 2048 x 8, 2.7-5.5V	-	- -	93LC86-2.5	- -	- -	- -
NM93CS06L	µ Wire, 256 Bit, 2.7-5.5V, Write Protect	-	- -	- -	- -	- -	- -
NM93CS46L	µ Wire, 1K Bit, 2.7-5.5V, Write Protect	-	- -	- -	XL93CS46-2.7	ST93CS47	- -
NM93CS56L	µ Wire, 2K Bit, 2.7-5.5V, Write Protect	-	-	93LCS56	-	ST93CS57	-
NM93CS66L	µ Wire, 4K Bit, 2.7-5.5V, Write Protect	-	-	93LCS66	-	ST93CS67	-
NM93C06LZ	µ Wire, 256 Bit, 2.7-5.5V, 0 I_{SB}	-	-	-	-	-	-
NM93C46LZ	µ Wire, 1K Bit, 2.7-5.5V, 0 I_{SB}	-	AT93C46-x-1.8	93AA46	XL93LC46	-	CAT32C101
NM93C56LZ	µ Wire, 2K Bit, 2.7-5.5V, 0 I_{SB}	-	AT93C56-x-1.8	93AA56	XL93LC56	-	-
NM93C66LZ	µ Wire, 4K Bit, 2.7-5.5V, 0 I_{SB}	-	AT93C66-x-1.8	93AA66	XL93LC66	-	-
NM93C46ALZ	µ Wire, 1K Bit, 64 x 16 or 128 x 8, 2.7-5.5V, 0 I_{SB}	-	-	-	-	-	-

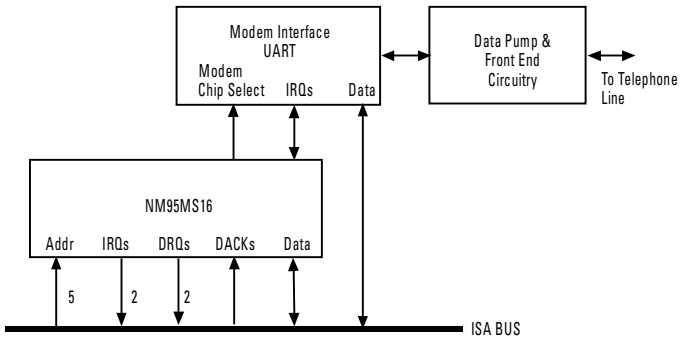
ISA Bus Plug 'n Play

The NM95M16 includes the necessary state machine logic to manage the Plug and Play protocol in addition to switches for steering interrupt and DMA requests. It also features a built-in 2 kbits of serial EEPROM for storing the resource data specified in the Plug and Play Standard. In addition, 4 kbits of EEPROM is available for use by other on-board logic. This device provides a "truly complete" single-chip solution for implementing Plug and Play on ISA-Bus Adapter cards. The NM95MS16 supports one logical device with a flexible choice of DMA/IRQ selection and I/O Chipselect generation as well as offering 16-bit addressing in Mode 1.

Features

- Complete implementation of Plug 'n Play Standard
  —Direct interface to ISA bus

  Two modes of operation
- —DMA mode
  —Extended interrupt mode (Windows® 95 logo compatible)
- 6 or 8 ISA bus interrupt lines and 2 DRQ/DACK lines supported
- On-chip EEPROM for resource request talbe
- Additional 4 kbits of on-chip EEPROM available for exter? access
- 24 mA Drivers for Data outputs
- Complete compliance to ISA PnP specification (Ver. 1.0A)
- 48-Pin TQFP, and 52-Pin PLCC Packages



Target Applications
- Modem Fax/ISDN/Cable Modem
- Data Acquisition
- Sound/Audio Cards
- Video Graphics

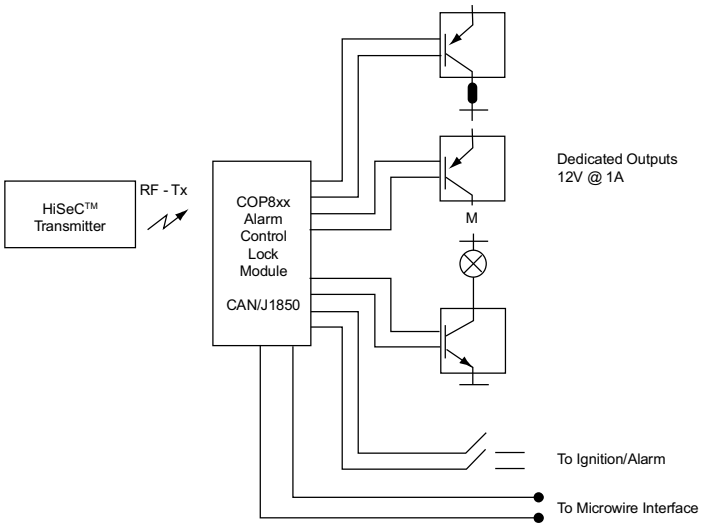
HiSeC™ - High Security Coding

HiSeC is a High Security Rolling Code Generator for Remote Keyless Entry systems. It combines high security encoding algorithm with non-reversible rolling code, easy programmability, low cost, and a very small package.

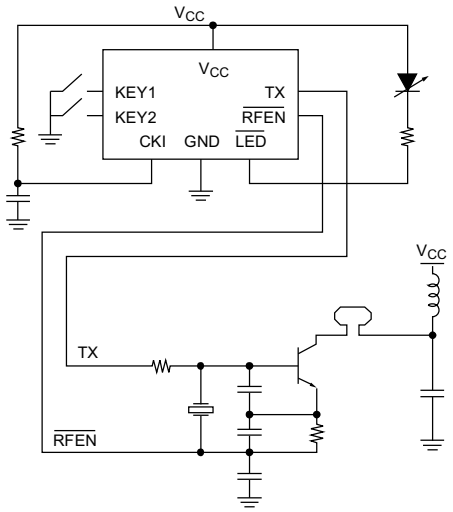
Features

- High Security Rolling Code Generator
- Provides a new standard with high security for RF and IR remote control systems
  - 2^{48} user programmable coding combinations
  - High linear complexity and correlation immunity
- Space saving 8-pin or 14-pin narrow body SO package
- Resynchronization capability
- Unique customized algorithm option
- 13 bytes on-chip nonvolatile memory supports multiple configurations
- RC or crystal option for up to 4.1MHz operation
- Selection of bit coding and frame formats
- 4-key inputs – Available on 14-pin package
- LED and RF enable control outputs
- Low power standby mode (<1µA)
- Operates at V_{CC} from 2.5V to 6.0V

For customers using HiSeC as transmitter and a COP8xx product as receiver/decoder, Fairchild Semiconductor will provide decoding algorithm as COP888 assembler or C-code.



Typical application of HiSeC in RF controlled remote keyless entry system for cars.



Introducing the ACEx™ Microcontroller Family

The ACEx™ (Arithmetic Control Engine) family of microcontrollers is optimized for low power and high performance and available in the smallest microcontroller size—an 8-pin TSSOP. The ACEx microcontrollers feature re-programmable EEPROM, a 16-bit multifunction timer, an internal oscillator, and internal reset to provide the designer with a powerful feature set in a very small package.

The ACEx devices are ideal for low power/battery powered applications such as wireless designs (e.g. cell phones), consumer products, and automotive systems, where high performance, small size, and low cost are important.

The ACEx devices have up to 2048 bytes of program EEPROM and 64 bytes of data EEPROM for configuration and parameter storage, surpassing typical competitive solutions that only provide one-time-programming (OTP) and 16 bytes of data EEPROM. In addition, the Fairchild ACEx devices provide a monolithic solution with the data EEPROM fully memory mapped to the rest of the controller, compared with competitive solutions using two chips in a single package that are linked by 12C protocol.

The ACEx devices also feature in-circuit programming and a simpler protocol, which enables programming after the part is soldered into the printed circuit board.

This reduces design time and cost and improves overall time-to-market.

The ACEx Arithmetic Controller Engine can be applied to a wide variety of applications. As examples, for wireless applications, such as cellular phone power management, the very small size, programmability, and integrated EEPROM of the ACE1101 and ACE1202 reduce cost and extend battery life. Other features, such as the general purpose 16-bit multifunction timer, idle timer with watchdog, hardware bit coding block, and programmable low battery detection, are ideal for automotive security systems and controller sub-systems.

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ACEx Ordering Information

ACE1101 Order Information

Part number	Voltage range	Temperature range	Package	Packing quantity
ACE1101MT8	2.2V - 5.5V	0ºC to 70ºC	TSSOP8	Rail of 100
ACE1101EMT8	2.2V - 5.5V	-40ºC to 85ºC	TSSOP8	Rail of 100
ACE1101VMT8	2.7V - 5.5V	-40ºC to 125ºC	TSSOP8	Rail of 100
ACE1101MT8X	2.2V - 5.5V	0ºC to 70ºC	TSSOP8	Tape of 2500
ACE1101EMT8X	2.2V - 5.5V	-40ºC to 85ºC	TSSOP8	Tape of 2500
ACE1101VMT8X	2.7V - 5.5V	-40ºC to 125ºC	TSSOP8	Tape of 2500
ACE1101N	2.2V - 5.5V	0ºC to 70ºC	DIP8	Rail of 40
ACE1101EN	2.2V - 5.5V	-40ºC to 125ºC	DIP8	Rail of 40
ACE1101N14	2.2V - 5.5V	0ºC to 70ºC	DIP14	Rail of 25
ACE1101EN14	2.2V - 5.5V	-40ºC to 125ºC	DIP14	Rail of 25

Note: CSP available. Contact Fairchild sales office for information.

ACE1202 Order Information

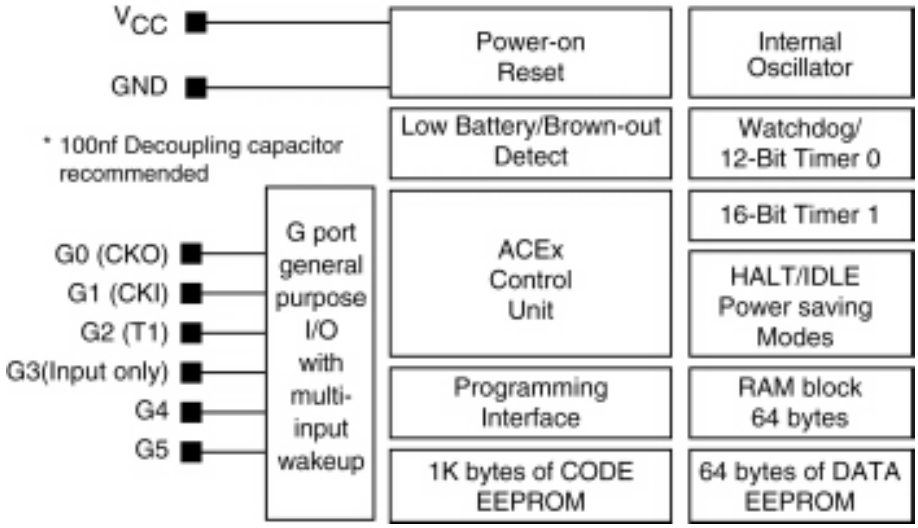
Part number	Voltage range	Temperature range	Package	Packing quantity
ACE1202M8	2.2V - 5.5V	0ºC to 70ºC	SO8	Rail of 95
ACE1202EM8	2.2V - 5.5V	-40ºC to 85ºC	SO8	Rail of 95
ACE1202VM8	2.7V - 5.5V	-40ºC to 125ºC	SO8	Rail of 95
ACE1202M	2.2V - 5.5V	0ºC to 70ºC	SO14	Rail of 55
ACE1202EM	2.2V - 5.5V	-40ºC to 85ºC	SO14	Rail of 55
ACE1202VM	2.7V - 5.5V	-40ºC to 125ºC	SO14	Rail of 55
ACE1202N	2.2V - 5.5V	0ºC to 70ºC	DIP8	Rail of 40
ACE1202EN	2.2V - 5.5V	-40ºC to 125ºC	DIP8	Rail of 40
ACE1202N14	2.2V - 5.5V	0ºC to 70ºC	DIP14	Rail of 25
ACE1202EN14	2.2V - 5.5V	-40ºC to 125ºC	DIP14	Rail of 25
ACE1202M8X	2.2V - 5.5V	0ºC to 70ºC	SO8	Tape of 2500
ACE1202EM8X	2.2V - 5.5V	-40ºC to 85ºC	SO8	Tape of 2500
ACE1202VM8X	2.7V - 5.5V	-40ºC to 125ºC	SO8	Tape of 2500
ACE1202MX	2.2V - 5.5V	0ºC to 70ºC	SO14	Tape of 2500
ACE1202EMX	2.2V - 5.5V	-40ºC to 85ºC	SO14	Tape of 2500
ACE1202VMX	2.7V - 5.5V	-40ºC to 125ºC	SO14	Tape of 2500

ACEx Development Tools Order Information

Part number	Description
ACESTART1101	Starter kit for ACE1101 (including simulator)
ACESTART1202	Starter kit for ACE1202 (including simulator)
ACEICE	ACE Emulator

ACE1101

Block diagram of ACE1101



Key Features

- 8-bit core with interrupt support
- 1µs instruction cycle time
- Small TSSOP8 package
- 1K bytes on-board code EEPROM
- 64 bytes data EEPROM
- 64 bytes RAM
- Watchdog timer
- 16-bit multifunction timer
  - input capture mode
  - PWM mode
  - External event counter mode

- Multi-input wake-up on all I/O pins
- On-chip oscillator
- On-chip power on reset
- Programmable read and write disable functions
- Multifunction Low Voltage Detection
- Low power HALT mode - 100nA at 3.3V
- Power saving IDLE mode
- Software selectable I/O options
  - Push-pull outputs with tri-state option
  - Weak pull-up or high impedance inputs
- 40 years data retention
- In-circuit programming

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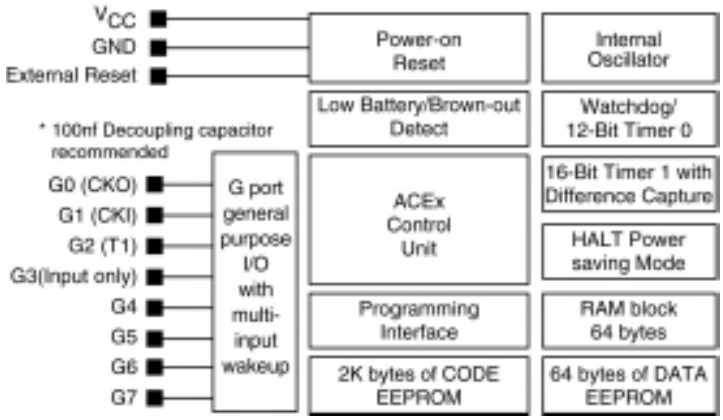
ACE1202

Block diagram of ACE1202



Key Features

- Up to 8 I/O pins
- SO8 and SO14 packages
- 2K bytes on-board code EEPROM
- 64 bytes data EEPROM
- 64 bytes RAM
- 8-bit core with interrupt support
- 1µs instruction cycle time
- 16-bit multifunction timer
    - input capture mode
    - PWM mode
    - Difference capture mode
    - External event counter mode
- Multi-input wake-up on all I/O pins

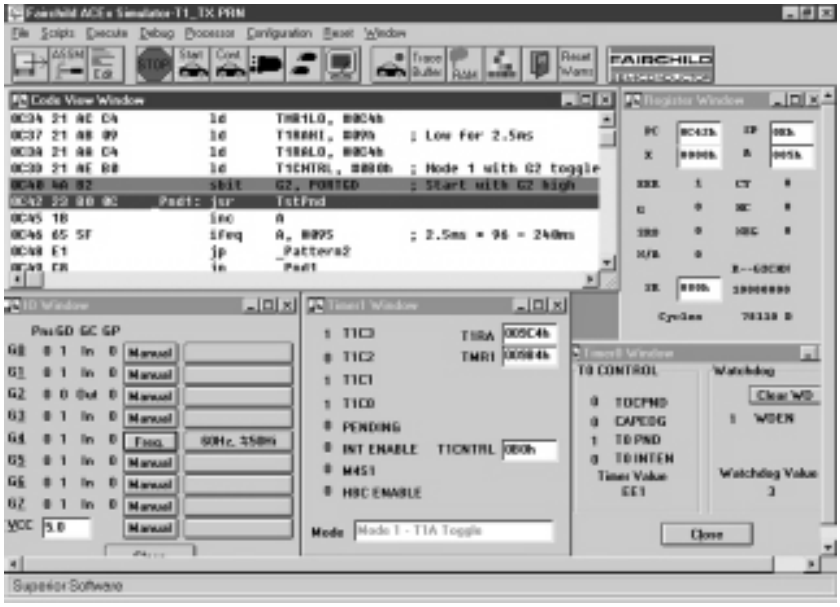
- Watchdog timer
- External reset input
- On-chip oscillator
- On-chip power on reset
- Programmable read and write disable functions
- Multifunction Low Voltage Detection
- Low power HALT mode - 100nA at 3.3V
- Power saving IDLE mode
- Software selectable I/O options
    - Push-pull outputs with tri-state option
    - Weak pull-up or high impedance inputs
- 40 years data retention
- In-circuit programming

ACEx Development Tools - Starter Kit

The ACEx Starter Kits contain all that is needed to get designers started with the ACE:

- ACEx samples
- ACEx assembler
- ACEx simulator
- ACEx programmer board
- ACEx adapter boards

View of the ACE Simulator



Features

- Full symbolic simulator
- Breakpoint on program and memory accesses
- Display of variables as bytes, words or long
- Uses same interface as emulator

- Trace feature referring to source file
- I/O stimulus inputs
- Full support of on-chip peripherals
  - timers, interrupts, low battery detect

FAIRCHILD
SEMICONDUCTOR™

ACEx Development Tools and Support Software

ACEx Emulator

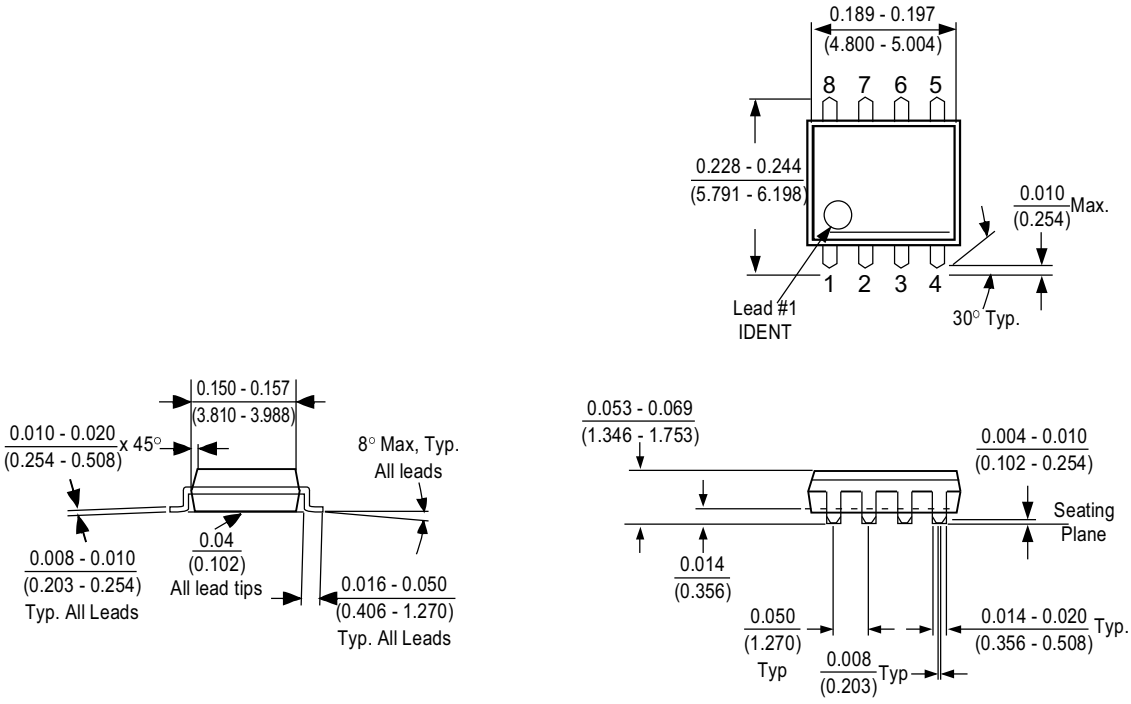
- low cost real time ACE emulator
- uses standard simulator interface
- uses external clock from emulator
- full support of watchdog, LBD and UBD planned
- single breakpoint with up to 255 event counting
- ACE1101 datasheet/ ACE1202 datasheet
- ACEx Guide to Developer tools
- RS232 cable

ACEx Application Notes

AN-8004 ACEx™ Guide to Developer Tools
AN-8005 How to In-Circuit Program the ACEx™ Family of Microcontrollers
AN-8006 Low Cost, Non-Volatile 90 Day Timer Using the ACE1101

Package Outlines

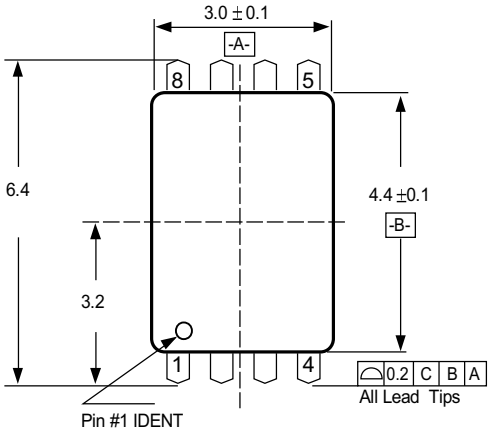
8-Lead (0.150" Wide) Molded Small Outline, JEDEC
Package Number M08A

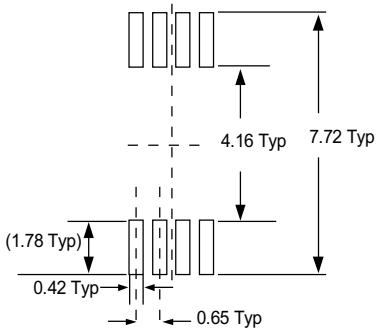


All dimensions are in inches (millimeters)

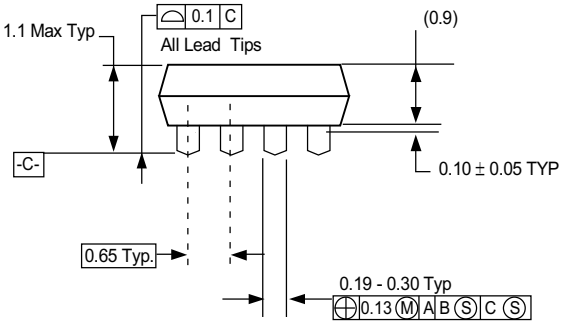
Package Outlines (continued)

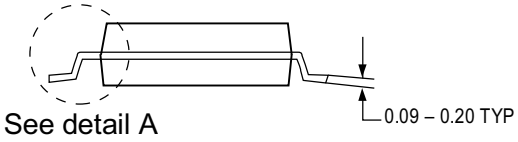
8-Lead Molded Thin Shrink Small Outline, JEDEC
Package Number MTC08

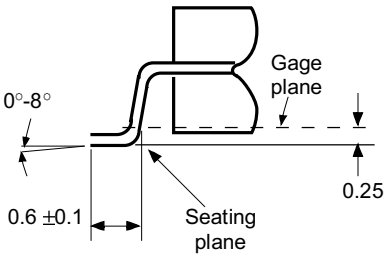




Land pattern recommendation





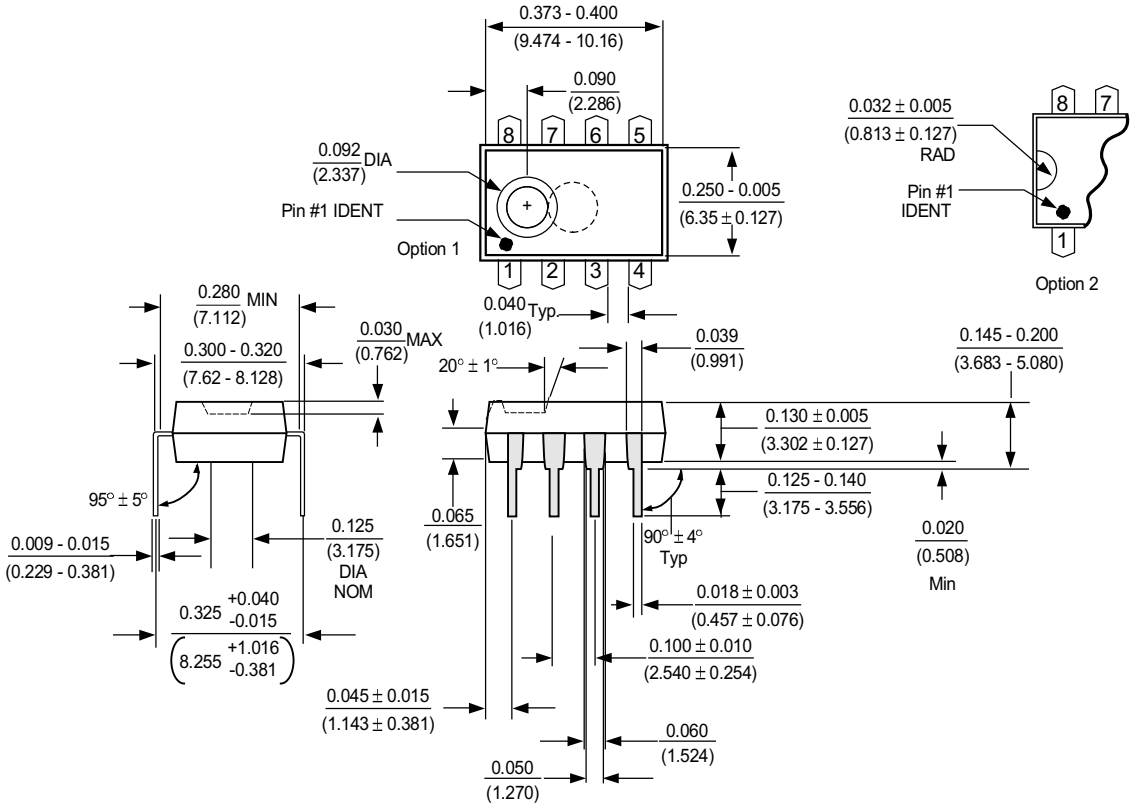


DETAIL A
Typ. Scale: 40X

All dimensions are in inches (millimeters)

Package Outlines (continued)

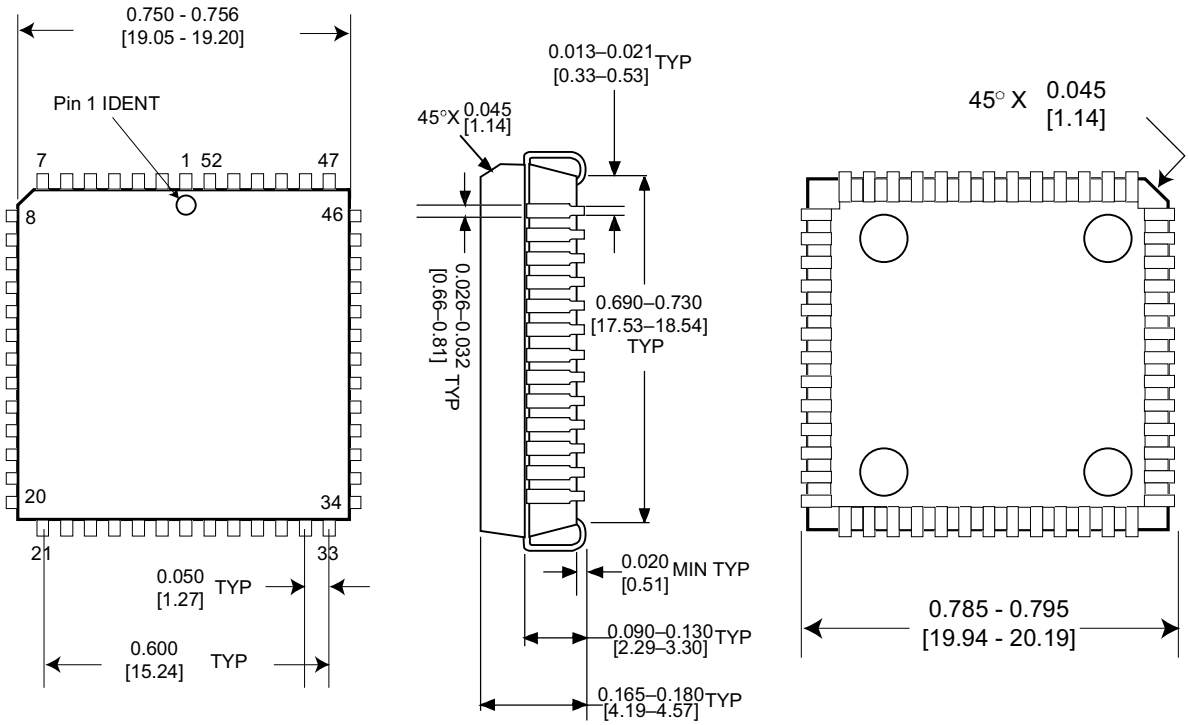
8-Lead (0.300" Wide) Molded Dual-In-Line
Package Number N08E



All dimensions are in inches (millimeters)

Package Outlines (continued)

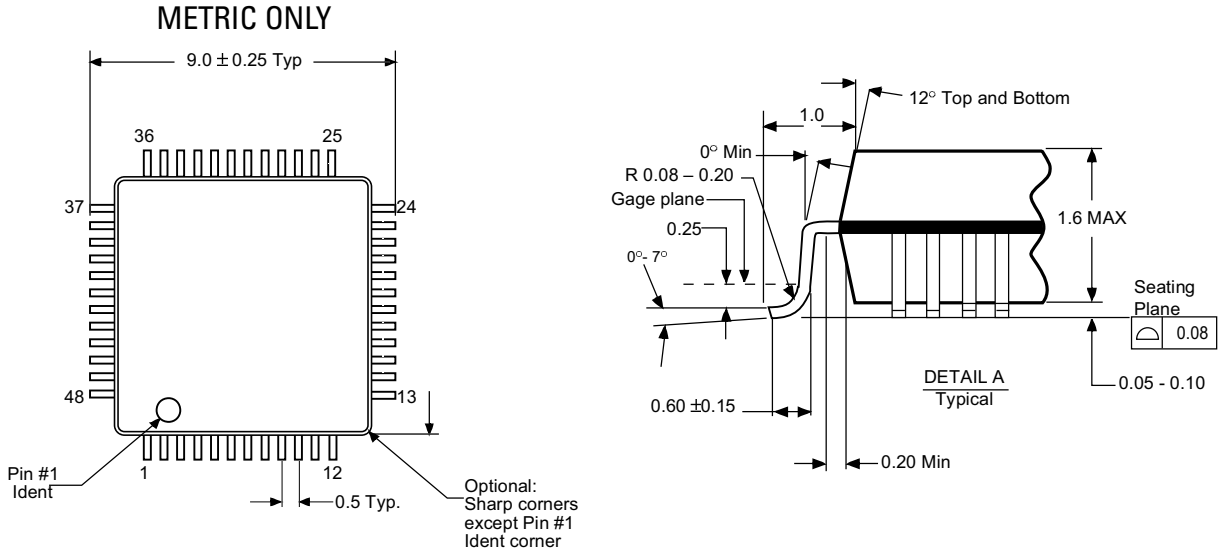
52-Lead Molded Plastic Leaded Chip Carrier
Package Number V52A



All dimensions are in inches (millimeters)

Package Outlines (continued)

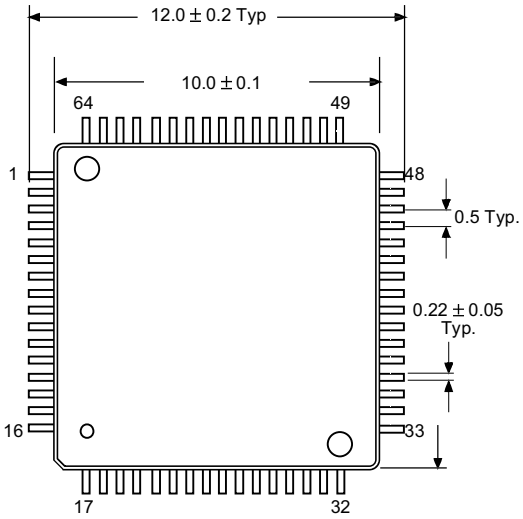
48-Lead (7mm x 7mm) Molded Plastic Quad Flatpak, JEDEC
Package Number VBH48A

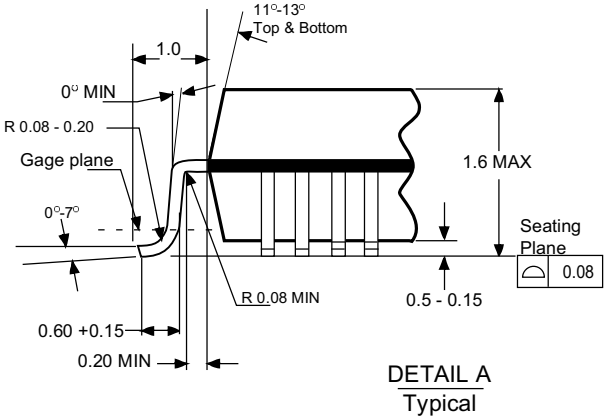


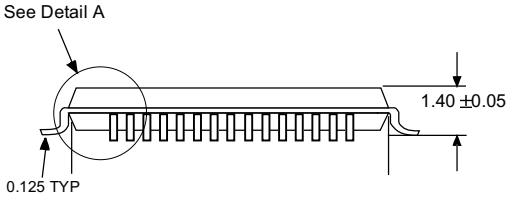
All dimensions are in inches (millimeters)

Package Outlines (continued)

64-Lead (10mm x 10mm) Molded Plastic Quad Flatpak, JEDEC
Package Number VEH64A







All dimensions are in inches (millimeters)