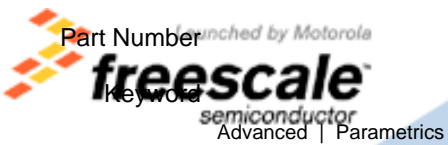


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Products Applications Technologies Support Where to Buy About Freescale

MC68000/ColdFire > 68K M683XX > MC68302

MC68302 : Integrated Multi-Protocol Processor

BE

The MC68302 is a versatile one-chip processor that incorporates the main building blocks needed for the design of a wide variety of networking and communications products.

The MC68302 was the first device to offer the benefits of a closely coupled, industry-standard, MC68000/MC68008 microprocessor core and a flexible communications architecture. This multi-channel communications device may be configured to support a number of popular industry-standard interfaces, including those for the Integrated Services Digital Network (ISDN) basic rate and terminal adapter applications. Through a combination of architectural and programmable features, concurrent operation of different protocols is easily achieved using the MC68302. Data concentrators, modems, line cards, bridges, and gateways are examples of other suitable applications for this versatile device.

The MC68302 is an HCMOS device consisting of an MC68000/MC68008 microprocessor core, a system integration block (SIB), and a communications processor (CP).

This device is still recommended for new designs.

[▶ Product Picture](#)

[▶ Block Diagram](#)

MC68302 Features

Product Highlights

- MC68000/MC68008 Microprocessor Core
- Efficient architecture involves a separate RISC processor for handling communications
- Three Serial Communications Controllers (SCCs)
- Support for HDLC/SDLC, Bisync, UART, DDCMP, and Totally Transparent protocols.
- Two Serial Management Controllers (SMCs) for IDL and GCI Channel.
- Available at 16, 20, 25, and 33 MHz in three different Thin Quad Flat Pack Packages.

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- Strong 3rd Party tools support.

Typical Applications

- ISDN equipment
- Data Concentrators
- Modems
- Line Cards
- Network Bridges
- Gateways

Technical Specifications

- MC68000/MC68008 Microprocessor Core (May be disabled to use the IMP as a peripheral)
- SIB Including:
 - Independent Direct Memory Access (IDMA) Controller
 - Interrupt controller with two modes of operation
 - Parallel I/O ports, some with interrupt capability
 - On-Chip 1152-bytes of dual-port RAM
 - Three timers, with a software watchdog timer
 - Four programmable chip-select lines with wait-state logic
 - Programmable address mapping of dual-port RAM and IMP registers
- On-Chip clock generator with an output clock signal
- System Control
 - Bus arbitration logic with low interrupt latency support
 - System control register
 - Hardware watchdog for monitoring bus activity
 - Low power (Standby) modes
 - Disable CPU logic (M68000)
 - Freeze control for debugging selected on-chip peripherals
 - DRAM refresh controller
- CP Including:
 - Main controller (RISC Processor)
 - Three full-duplex Serial Communication/Controllers with the following protocols:
 - HDLC/SDLC
 - Bisync
 - UART
 - DDCMP
 - Totally Transparent
 - V.110
 - Six serial DMA channels dedicated to the three SOCs
 - Capability to send/receive up to eight buffers/frames without M68000 core intervention
 - Flexible physical interface accessible by SCCs for Inter-chip Digital

- Link (IDL), General Circuit Interface (GCI).
- o Pulse Code Modulation (PCM), and Non-multiplexed Serial Interface (NMSI) Operation.
- o Serial Communication Port (SCP) for synchronous communication.
- o Two Serial Management Controllers (SMCs) for IDL and GCI Channel.

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CPU Performance (Max) (MIPS)	Operating Frequency (Max) (MHz)	Power Dissipation (Typ) (W)	Power Dissipation (Max) (W)	Core Operating Voltage (Spec) (V)	I O Operating Voltage (Max) (V)	Ambient Operating Temperature (Min) (oC)	Ambient Operating Temperature (Max) (oC)
1.6, 2, 2.5, 3.3	16, 20, 25, 33	0.154, 0.175, 0.231, 0.2625, 0.3413, 0.468	0.245, 0.28, 0.368, 0.42, 0.473, 0.625	3.3, 5	5	-40, 0	105, 120

IO Pins	Bus Interface	External Bus Speed (Max) (MHz)	Serial Interface	Timers	Other Peripherals	Package Description	Availability
			Type	Channels			
2, 3	68K	16, 20, 25, 33	SCP, TDM	4	DMA Controller, Interrupt Controller	LQFP 100 14*14*1.4P0.5, LQFP 144 20*20*1.4P0.5, PGA 132, PQFP 132 0.950*.950P.025	Production Now













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MC68302 Parametrics






MC68302 Documentation

Documentation


Application Note

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
<u>AN2015</u>	Configuring the Chip Selects on the MC68302	FREESCALE	pdf	207	0	6/17/1991	
<u>AN2016</u>	DRAM Control with the MC68302	FREESCALE	pdf	321	0	3/21/1991	
<u>AN2018</u>	MC68302 Getting Started with Interrupts on the MC68302	FREESCALE	pdf	193	0	3/14/1990	
<u>AN2019</u>	MC68302 Design Concept - Expanding Interrupts on the MC68302	FREESCALE	pdf	184	0	7/09/1990	
<u>AN2020</u>	MC68302 Adapting a WAN Controller to a LAN Environment	FREESCALE	pdf	469	0	1/01/1999	
<u>AN2021</u>	MC68302 Interfacing the MC68020 to a Slave MC68302	FREESCALE	pdf	258	0	2/02/1993	
<u>AN2023</u>	MC68302 EKB Applications - Power Measurements on the MC68302	FREESCALE	pdf	242	1	7/26/1995	
<u>AN2024</u>	MC68302 Software Performance	FREESCALE	pdf	195	0	6/18/1990	
<u>AN2026</u>	AN2026	FREESCALE	pdf	257	n/a	-	
<u>AN2027</u>	MC68302 Using the 302 Communications Peripheral for PowerPC Microprocessors	FREESCALE	pdf	369	0	1/01/1994	
<u>AN2028</u>	MC68302 Design Advisory #1 - MC68SC302 Passive ISDN Protocol Engine	FREESCALE	pdf	170	0	3/31/1997	
<u>AN2049</u>	MC68302, MC68360, and MPC860 Characteristics and Design Notes for Crystal Feedback Oscillators	FREESCALE	pdf	206	0	1/01/1998	

Data Sheets

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
<u>MC68302TIMING</u> UPDATED	MC68302 33 MHz AC Timing Specification	FREESCALE	pdf	210	0	8/07/2001	-
<u>MC68EN302</u>	MC68EN302 Integrated Multiprotocol Processor w/ Ethernet Product Brief	FREESCALE	pdf	223	0	1/01/1995	
<u>MC68LC302</u>	MC68LC302 Low Cost Integrated Multiprotocol Processor Product Brief	FREESCALE	pdf	209	0	1/01/1995	
<u>MC68PM302</u>	MC68PM302 Integrated Multiprotocol Processor w/ PCMCIA Product Brief	FREESCALE	pdf	810	0	1/01/1995	
<u>MC68QH302</u>	MC68QH302 Quad HDLC Integrated Multiprotocol Processor Tech. Summary Product Brief	FREESCALE	pdf	190	0	11/01/1997	
<u>MC68SC302P</u>	MC68SC302 Passive ISDN Protocol Engine Product Brief	FREESCALE	pdf	252	0	1/01/1996	

Engineering Bulletin


ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
<u>EB382</u>	MC68302FC 132-Lead PQFP	FREESCALE	pdf	181	0	3/30/2001	

Errata - [Click here for important errata information](#)

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
<u>MC68302DEB_D</u>	MC68302 Revision B Device Errata	FREESCALE	pdf	59	0	8/06/2001	-
<u>MC68302DEC1</u>	M68302 Errata Revision C.1 (Masks 0F26E, 1F26E)	FREESCALE	pdf	33	C.1	12/10/1998	-
<u>MC68EN302DEA1</u>	M68302 Device Errata - 68EN302 Integrated Multiprotocol Processor Device	FREESCALE	pdf	12	A.1	2/20/1997	-
<u>MC68EN302DEB_D</u>	M68302 Device Errata - 68EN302 Integrated Multiprotocol Processor With Ethernet Device	FREESCALE	pdf	79	B	4/15/1999	-
<u>MC68LC302DEB</u>	M68302 Device Errata - 68LC302 Integrated Multiprotocol Processor Devices	FREESCALE	pdf	7	B	8/02/1996	-

<u>MC68LC302DEC</u>	M68302 Device Errata - MC68LC302 Integrated Multiprotocol Processor Devices	FREESCALE	pdf	27	C	2/09/1999	-
<u>MC68PM302DEB1</u>	M68302 Device Errata - 68PM302 Integrated Multiprotocol Processor Devices	FREESCALE	pdf	11	B.1	10/28/1996	-
<u>MC68PM302DEC</u>	M68302 Revision C Changes - 68PM302 Integrated Multiprotocol Processor Devices	FREESCALE	pdf	6	C	2/27/1997	-
<u>MC68PM302DEC1</u>	M68302 Device Errata - 68PM302 Integrated Multiprotocol Processor Devices	FREESCALE	pdf	9	C.1	2/27/1997	-
<u>MC68QH302DEC1</u>	M68302 Device Errata - MC68QH302 Chip Errata	FREESCALE	pdf	9	C.1	8/05/1998	-
<u>MC68SC302DEA1</u>	M68302 Device Errata - XC68SC302	FREESCALE	pdf	6	A.1	2/18/1998	-


Fact Sheets

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
<u>MC68302FACT</u>	M68302 Integrated Multiprotocol Processor	FREESCALE	pdf	194	0	1/01/1999	

Packaging Information

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
<u>MC68302TQFP</u>	MC68302 Pin Assignment (TQFP)	FREESCALE	pdf	12	0	12/16/1999	-
<u>MC68302_OLB</u>	MC68302_OLB	FREESCALE	zip	3	n/a	-	-
<u>MC68EN302TQFP</u>	MC68EN302 Pin Assignment (TQFP)	FREESCALE	pdf	59	0	12/16/1999	-
<u>MC68EN302_OLB</u>	MC68EN302_OLB	FREESCALE	zip	3	n/a	-	-
<u>PBGAPRES</u>	PBGA Packaging Customer Tutorial	FREESCALE	pdf	1923	1	8/05/2003	-







Product Brief





ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
<u>M68302FADS</u>	M68302 Family Application Development System	FREESCALE	pdf	194	0	1/01/1995	

Product Change Notices




ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
<u>PCN5656_D</u>	MC68EN302 Capacity Expansion-PCN5656	FREESCALE	pdf	71	0	5/25/2000	-
<u>PCN5787_D</u>	MC68EN302 Fab Transfer to TSC Addendum-PCN5787	FREESCALE	pdf	76	0	8/01/2000	-
<u>PCN5792_D</u>	MC68LC302 Fab Transfer to TSC-PCN5792	FREESCALE	pdf	73	0	8/07/2000	-
<u>PCN7917</u>	20X20 LQFP ASSY MOVE FROM SHC TO KLM	FREESCALE	htm	24	0	8/19/2002	-
<u>PCN9048</u>	TIC SUPPORT FOR QUALITY QUERIES IN EMEA	FREESCALE	htm	109	0	8/04/2003	-

Reference Manual

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
<u>MC68302ABSPEC</u>	MC68302 Auto Baud Support Package Specifications	FREESCALE	pdf	242	2	5/01/1994	
<u>MC68302FADSUM</u>	MC68302FADS User's Manual	FREESCALE	pdf	740	0	10/17/1995	
<u>MC68302UM</u>	MC68302 Integrated Multiprotocol Processor User's Manual	FREESCALE	pdf	2242	3	12/30/1995	
<u>MC68302UMAD3</u>	Errata to MC68302 Integrated Multiprotocol Processor Users Manual	FREESCALE	pdf	220	3	3/19/1992	
<u>MC68302UMAD4</u>	Errata to MC68302 Integrated Multiprotocol Processor Users Manual	FREESCALE	pdf	202	4	1/01/1998	
<u>MC68302UMADD33V</u>	Addendum to MC68302 Integrated Multiprotocol Processor User Manual (3.3 V Specifications)	FREESCALE	pdf	410	0.1	7/19/2000	-
<u>MC68EN302RMAD_D</u>	Errata to MC68EN302 Integrated Multiprotocol Processor with Ethernet Reference Manual Rev 1	FREESCALE	pdf	88	B	11/15/1995	-
<u>MC68EN302RM_D</u>	MC68EN302 Integrated Multiprotocol Processor with Ethernet Reference Manual	FREESCALE	pdf	764	0	1/01/2000	
<u>MC68LC302RMAD_D</u>	MC68LC302 Low Power Integrated Multiprotocol Processor Reference Manual ERRATA	FREESCALE	pdf	65	1	2/21/1997	-

<u>MC68LC302RM_AD</u>	MC68LC302 Low Power Integrated Multiprotocol Processor Reference Manual	FREESCALE	pdf	4992	0	1/01/1995	
<u>MC68LC302UM_D</u>	MC68LC302 Low Power Integrated Multiprotocol Processor Reference Manual	FREESCALE	pdf	858	0	8/06/2001	-
<u>MC68PM302RMAD_D</u>	Errata to MC68PM302 Integrated Multiprotocol Processor with PCMCIA Reference Manual	FREESCALE	pdf	76	1	2/11/1997	-
<u>MC68PM302RM_D</u>	MC68PM302 Integrated Multiprotocol Processor with PCMCIA Reference Manual	FREESCALE	pdf	1194	0	1/01/1995	
<u>MC68QH302SUPL_D</u>	MC68QH302 Supplement to the MC68302 Integrated Multiprotocol Processor User's Manual	FREESCALE	pdf	286	0	10/01/1997	
<u>MC68SC302RM_D</u>	MC68SC302 Passive ISDN Protocol Engine User's Manual	FREESCALE	pdf	932	0	1/01/1997	-
<u>MC68SC302UMAD_AD</u>	MC68SC302 Errata to MC68SC302 Users Manual	FREESCALE	pdf	71	0	7/15/1998	


Selector Guide

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
<u>SG1006</u>	Microcontrollers Selector Guide	FREESCALE	pdf	566	0	1/01/2005	
<u>SG1007</u>	Network and Communications Processors Selector Guide	FREESCALE	pdf	189	0	1/01/2005	
<u>SG1011</u>	Software and Development Tools Selector Guide	FREESCALE	pdf	347	0	1/01/2005	

Supporting Information

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
<u>MC68EN302SI</u>	MC68EN302 Getting Started Hints	FREESCALE	txt	8	-	12/16/1996	-

Users Guide

ID	Name	Vendor ID	Format	Size K	Rev #	Date Last Modified	Order Availability
<u>MC68302PIAFSUM</u>	MC68302 PIAFS Microcode for MC68302(IMP) Family User's Manual	FREESCALE	pdf	83	1	1/01/1997	
<u>MC68EN302ADPUM_D</u>	MC68EN302 Adapter User's Manual	FREESCALE	pdf	258	0	1/01/1999	-
<u>MC68SC302ADSUM_D</u>	MC68SC302ADS Application Development System User's Manual	FREESCALE	pdf	710	1	1/01/1996	-

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MC68302 Design Tools**Hardware Tools****Analyzers****Logic**

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
<u>60049</u>	PI-68302/G	<u>CORELIS</u>	-	-	-	-
<u>60050</u>	PI-68302/Q	<u>CORELIS</u>	-	-	-	-
<u>60060</u>	PI-68EN302	<u>CORELIS</u>	-	-	-	-
<u>60065</u>	PI-68LC302/G	<u>CORELIS</u>	-	-	-	-
<u>60066</u>	PI-68LC302/T	<u>CORELIS</u>	-	-	-	-

Emulators/Probes/Wigglers

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
<u>HMI-200-68302</u>	HMI-200-68302 In-Circuit Emulator	<u>AVOCET</u>	-	-	-	-
<u>IC20000</u>	iC2000 PowerEmulator The iC2000 PowerEmulator is a universal device which supports hundreds of microcontroller families with the "swap of a POD." USB, serial, parallel and Ethernet interfaces to the host PC are supported.	<u>ISYS</u>	-	-	-	-
<u>IC30000</u>	iC3000 ActiveEmulator The compact iC3000 with its "iCARD" slot can be used as either an affordable hardware debugger, or the interface module for full in-circuit emulators or high-end on-chip trace modules. USB, serial and Ethernet interfaces are supported.	<u>ISYS</u>	-	-	-	-

<u>IC40000</u>	iC4000 ActiveEmulator The iC4000 Base unit provides an "iCARD" interface slot so it supports all the same devices as the iC3000, plus can be set up as the Base Unit for the iC2000 emulator modules so it supports all the same devices as the iC2000.	<u>ISYS</u>	-	-	-	-
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Models**BSDL**

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
<u>MC68EN302BSDL</u>	MC68EN302 BSDL for JTAG Logic Ver. 0.1 (02/29/1996)	FREESCALE	txt	20	0.1	-

Schematics

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
<u>M68EN302FADSSCH</u>	M68EN302 FADS Adapter (ENA) Schematics (02/06/1996)	FREESCALE	pdf	281	-	-
<u>M68XX302FADSSCH</u>	M68xx302 FADS Schematics (12/04/1996)	FREESCALE	pdf	630	-	-
<u>MC68EN302SCH1</u>	MC68EN302 Schematics (02/06/1996)	FREESCALE	pdf	281	0	-

Software**Application Software****Application Development Framework**

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
<u>M68XX302FADSADF</u>	M68xx302 Family Application Development System (302 FADS) Software (12/23/1997)	FREESCALE	zip	563	0.4	-
<u>MC68302ADSADF1</u>	MC68302 Application Development System Software (12/04/1996)	FREESCALE	zip	473	0	-
<u>MC68302ADSADF2</u>	MC68302ADS IBM-PC Host Files (12/04/1996)	FREESCALE	zip	224	0	-
<u>MC68SC302ADF</u>	MC68SC302 Application Development System Software ** Not recommended for new design. Part is on EOL notification. ** (09/24/1997)	FREESCALE	zip	271	3.1	-

Code Examples

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
<u>MC68302COD1</u>	MC68302 Code for Setting Up an SCC in UART Mode (12/04/1996)	FREESCALE	txt	8	0	-
<u>MC68302COD2</u>	MC68302 Demo Code for the 302ADS Board 08/31/1990	FREESCALE	zip	161	0	-
<u>MC68302COD3</u>	Sample Code - Configuring a UART on the MC68302 (12/04/1996)	FREESCALE	txt	1	0	-
<u>MC68302COD4</u>	MC68302 Source Code for ISDN Smart NT1 Layer 1 (02/04/1997)	FREESCALE	zip	6	0	-
<u>MC68EN302COD1</u>	MC68EN302 Software Example (05/13/1997)	FREESCALE	zip	454	0	-

Microcode

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
<u>MC68302MC1</u>	MC68302 Autobaud 2.0 Microcode - M68302SWAUT (02/22/99)	FREESCALE	zip	5	0	-
<u>MC68302MC2</u>	MC68302 Centronics Microcode - M68302SWCEN (02/22/99)	FREESCALE	zip	1	0	-
<u>MC68302MC3</u>	MC68302 Profibus Microcode - M68302SWPRO (02/22/99)	FREESCALE	zip	1	0	-
<u>MC68302MC4</u>	MC68302 SS7 Microcode - M68302SWSS7 (03/06/2002)	FREESCALE	zip	104	1.1	-
<u>MC68302MC5</u>	MC68302 V 110 Microcode - M68302SWV110 (02/22/99)	FREESCALE	zip	5	0	-
<u>MC68302MC6</u>	MC68302 PIAFS Microcode - M68302SWPIA (01/26/00)	FREESCALE	srx	1	0	-
<u>MC68QH302MC1</u>	Autobaud Microcode for the MC68QH302 (08/28/98)	FREESCALE	zip	55	0	-

Board Support Packages

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
<u>FREE</u>	Metrowerks BSPs for Freescale Metrowerks BSPs are tested, certified and frozen, ensuring a fully operational tool chain, kernel and board specific modules that are ready to use together within a fixed configuration for specific hardware reference platforms.	<u>METROWERKS</u>	-	-	-	-
<u>ARC-MOT-MQXBSP</u>	MQX Board Support Packages BSPs for Freescale ColdFire, PowerPC, and 68K embedded processors including support for emerging USB and CAN technologies as well as drivers for Ethernet, PCI, HDLC, SPI, I2C, and serial devices.	<u>ARC</u>	-	-	-	-

Device Drivers

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
<u>MC68302DRV01</u>	MC68302 Configuration and Driver Files (12/04/1997)	FREESCALE	zip	313	-	-

Libraries

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
<u>PN311-1</u>	KwikPeg GUI KADAK's KwikPeg Graphical User Interface (GUI) is derived from PEG, a professional, high-quality graphic system created by Swell Software, Inc. to enable you, the embedded system developer, to easily add graphics to your products.	<u>KADAK</u>	-	-	-	-

Operating Systems

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
<u>NUCLEUS PLUS</u>	Nucleus PLUS Pioneering the Source Code RTOS, Royalty- Free, Nucleus PLUS provides features such as portability, functionality, usability, and configurability that make it the easy real-time kernel choice. Visit our website for a free demo download.	<u>ACCTECH</u>	-	-	-	-
<u>ARC-MOT-MFS</u>	MFS MS-DOS File System is a portable, compatible implementation of the Microsoft MS-DOS file system	<u>ARC</u>	-	-	-	-
<u>ARC-MOT-MQX</u>	MQX Real Time Operating System A robust, high performance, royalty-free kernel designed for deeply embedded applications requiring a small footprint and fast response.	<u>ARC</u>	-	-	-	-
<u>CMX-RTX</u>	CMX-RTX	<u>CMX</u>	-	-	-	-

<u>THREADX</u>	ThreadX RTOS. Royalty-free real-time operating system (RTOS) for embedded applications. ThreadX is small, fast, and royalty-free making it ideal for high-volume electronic products.	<u>EXPRESSLOG</u>	-	-	-	-
<u>PN532-1</u>	AMX 68000 AMX is a full featured RTOS for the 68k family including the MC680x0 and MC683xx. AMX has been tested on the GreenSpring Platform332 and Freescale M68EC040, M68332EVK, MVME133 and M68360QUADS boards.	<u>KADAK</u>	-	-	-	-
<u>UC/OS-II</u>	uC/OS-II uC/OS-II, The Real-Time Kernel is a highly portable, ROMable, very scalable, preemptive real-time, multitasking kernel for microprocessors. uC/OS-II can manage up to 63 application tasks. uC/OS-II is certifiable for avionics & medical use	<u>MICRIUM</u>	-	-	-	-

Protocol Stacks

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
<u>ARC-MOT-IPSHIELD</u>	IPShield Security product support for IPSec, IKE, SSL and SSH. Also supports hardware accelerated encryption on processors with an Integrated Security Engine such as MCF5485/5483, MPC870/875, MPC8272/8248, MCF5271, and MCF5275/5275L.	<u>ARC</u>	-	-	-	-
<u>ARC-MOT-NETWORKPROTOCOLS</u>	Network Protocols TCP/IP networking stack (ARP, BootP, CCP, CHAP, DHCP, DNS, Echo, EDS, FTP, ICMP, IGMP, IP, IP-E, IPCP, LCP, PAP, PPP, RIPv2, RPC, SNMPv1/v2, SNTP, TCP, TFTP, Telnet, UDP & XDR)& opt'al protocols, SMTP, SNMPv3, PPPoE, XML, SSL/H	<u>ARC</u>	-	-	-	-
<u>ARC-MOT-POP3</u>	POP3 Enables client embedded devices to receive e-mail from any POP3 server	<u>ARC</u>	-	-	-	-
<u>ARC-MOT-RTCS</u>	RTCS A real-time, high performance TCP/IP stack designed specifically for embedded networking applications such as IP phones, bridges, routers, pagers, PDAs, cellular phones, and set-top boxes	<u>ARC</u>	-	-	-	-

<u>ARC-MOT-SMTP</u>	SMTP Royalty free source code SMTP enables embedded devices to send e-mail to any SMTP server. This allows any embedded device to send asynchronous status reports using email.	<u>ARC</u>	-	-	-	-
<u>CMX TCP/IP</u>	CMX TCP/IP	<u>CMX</u>	-	-	-	-
<u>PN713-1</u>	KwikNet The KwikNet TCP/IP Stack enables you to add networking features to your products with a minimum of time and expense. KwikNet is a compact, high performance stack built with KADAK's characteristic simplicity, flexibility and reliability.	<u>KADAK</u>	-	-	-	-
<u>INFOLINK-STACKNAME</u>	INFOLink Protocol Software Family	<u>LINK</u>	-	-	-	-

Software Tools

Assemblers

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
<u>ADX-68K</u>	ADX-68K Macro Assembler-Linker and IDE	<u>AVOCET</u>	-	-	-	-

Compilers

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
<u>68K_COMPILER</u>	TASKING 68K/ColdFire The 68K/ColdFire software development toolset consists of a C/C++/EC++ compiler, macro assembler, linker/locator, libraries, CrossView Pro debugger and EDE (Embedded Development Environment).	<u>ALTIUMLTD</u>	-	-	-	-
<u>CX68300</u>	Cosmic C Cross Compiler for 68300/68K offers optimal code generation in a mature (est. 1990), field proven tool suite. Features include: IDEA project manager/editor, ANSI C compliance, macro assembler, library sources, IEEE floats, IEEE-695 and ELF/DWARF debug formats.	<u>COSMIC</u>	-	-	-	-
<u>C680X0NT</u>	680X0 C Compiler and Assembler C compiler and assembler for the 68000, 68010, 68020 and CPU32 microprocessors.	<u>CROSS</u>	-	-	-	-
<u>COMPILER</u>	C/C++ Compiler Optimizing C, C++, EC++ compilers for Freescale PowerPC, ColdFire, StarCore, 68K, MCore and ARM-based MAC architectures.	<u>GREENHILLS</u>	-	-	-	-
<u>DIAB</u>	Diab C/C++ Compiler	<u>WINDRIV</u>	-	-	-	-

Debuggers

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
<u>ZAP 68300 BDM</u>	ZAP 68300 BDM Debugger provides a real-time target debugging environment using P&E's CABLE. ZAP features a fast parallel connection to the target system, full assembly and C source debugging with support for all ANSI /ISO C data types.	<u>COSMIC</u>	-	-	-	-
<u>ZAP 68300 SIM</u>	ZAP 68300/68K Simulator Debugger integrates a C and assembly source debugger with an instruction simulator to provide a standalone debugging/execution environment on the host. Features include: interrupt simulation, timers, code coverage & performance analysis.	<u>COSMIC</u>	-	-	-	-

IDE (Integrated Development Environment)


ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
<u>MULTI</u>	MULTI MULTI is a complete integrated development environment for embedded applications using C, C++, Embedded C++	<u>GREENHILLS</u>	-	-	-	-
<u>IC-SW-OPR</u>	winIDEA winIDEA integrates a Project Manager, Source Code Editor, High and Low Level Debugger, and Flash Programmer, all into one easy-to- use Windows application. It is the one user interface for all of our emulators and debuggers.	<u>ISYS</u>	-	-	-	-

Performance and Testing

ID	Name	Vendor ID	Format	Size K	Rev #	Order Availability
<u>MC68302PRFT</u>	MC68302 Confidence Test Software (10/22/2001)	FREESCALE	zip	194	-	-

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Orderable Parts Information

Part Number	Package Description	Tape and Reel	Pb-Free Terminations	Application/Qualification Tier	Status	Budgetary Price QTY 1000+ (\$US)	Info	Order
KM68LC302PU20VCT	<u>LQFP 100</u> <u>14*14*1.4P0.5</u>	No	No	-	Available	-	<u>more</u>	

KMC68EN302PV25BT	<u>LQFP 144</u> <u>20*20*1.4P0.5</u>	No	No	-	Available	-	<u>more</u>	Buy from Distributor
KMC68LC302PU16CT	<u>LQFP 100</u> <u>14*14*1.4P0.5</u>	No	No	-	Available	-	<u>more</u>	Buy from Distributor
KMC68LC302PU20CT	<u>LQFP 100</u> <u>14*14*1.4P0.5</u>	No	No	-	Available	-	<u>more</u>	Buy from Distributor
KMC68LC302PU25CT	<u>LQFP 100</u> <u>14*14*1.4P0.5</u>	No	No	-	Available	-	<u>more</u>	Buy from Distributor
M68LC302CPU16VCT	<u>LQFP 100</u> <u>14*14*1.4P0.5</u>	No	No	-	Available	-	<u>more</u>	Buy from Distributor
M68LC302CPU20VCT	<u>LQFP 100</u> <u>14*14*1.4P0.5</u>	No	No	-	Available	-	<u>more</u>	Buy from Distributor
MC68302CFC16C	<u>PQFP 132</u> <u>0.950*.950P.025</u>	No	No	-	Available	-	<u>more</u>	Buy from Distributor
MC68302CFC20C	<u>PQFP 132</u> <u>0.950*.950P.025</u>	No	No	-	Available	-	<u>more</u>	Buy from Distributor
MC68302CPV16VC	<u>LQFP 144</u> <u>20*20*1.4P0.5</u>	No	No	-	Available	-	<u>more</u>	Buy from Distributor
MC68302CRC16C	<u>PGA 132</u>	No	No	-	Available	-	<u>more</u>	Buy from Distributor
MC68302CRC20C	<u>PGA 132</u>	No	No	-	Available	-	<u>more</u>	Buy from Distributor
MC68302FC16C	<u>PQFP 132</u> <u>0.950*.950P.025</u>	No	No	-	Available	-	<u>more</u>	Buy from Distributor
MC68302FC16CB1	<u>PQFP 132</u> <u>0.950*.950P.025</u>	No	No	-	Available	-	<u>more</u>	Buy from Distributor
MC68302FC16CR2	<u>PQFP 132</u> <u>0.950*.950P.025</u>	Yes	No	-	Available	-	<u>more</u>	Buy from Distributor
MC68302FC20C	<u>PQFP 132</u> <u>0.950*.950P.025</u>	No	No	-	Available	-	<u>more</u>	Buy from Distributor
MC68302FC20CB1	<u>PQFP 132</u> <u>0.950*.950P.025</u>	No	No	-	Available	-	<u>more</u>	Buy from Distributor
MC68302FC20CR2	<u>PQFP 132</u> <u>0.950*.950P.025</u>	Yes	No	-	Available	-	<u>more</u>	Buy from Distributor

MC68302FC25C	<u>PQFP 132</u> <u>0.950*.950P.025</u>	No	No	-	Available	-	<u>more</u>	Buy from Distributor
MC68302FC25CB1	<u>PQFP 132</u> <u>0.950*.950P.025</u>	No	No	-	Available	-	<u>more</u>	-
MC68302FC25CR2	<u>PQFP 132</u> <u>0.950*.950P.025</u>	Yes	No	-	Available	-	<u>more</u>	Buy from Distributor
MC68302PV16C	<u>LQFP 144</u> <u>20*20*1.4P0.5</u>	No	No	-	Available	-	<u>more</u>	Buy from Distributor
MC68302PV16VC	<u>LQFP 144</u> <u>20*20*1.4P0.5</u>	No	No	-	Available	-	<u>more</u>	Buy from Distributor
MC68302PV20C	<u>LQFP 144</u> <u>20*20*1.4P0.5</u>	No	No	-	Available	-	<u>more</u>	Buy from Distributor
MC68302PV20CB1	<u>LQFP 144</u> <u>20*20*1.4P0.5</u>	No	No	-	Available	-	<u>more</u>	-
MC68302PV25C	<u>LQFP 144</u> <u>20*20*1.4P0.5</u>	No	No	-	Available	-	<u>more</u>	Buy from Distributor
MC68302PV33C	<u>LQFP 144</u> <u>20*20*1.4P0.5</u>	No	No	-	Available	-	<u>more</u>	Buy from Distributor
MC68302RC16C	<u>PGA 132</u>	No	No	-	Available	-	<u>more</u>	Buy from Distributor
MC68302RC20C	<u>PGA 132</u>	No	No	-	Available	-	<u>more</u>	Buy from Distributor
MC68302RC25C	<u>PGA 132</u>	No	No	-	Available	-	<u>more</u>	Buy from Distributor
MC68EN302CPV20BT	<u>LQFP 144</u> <u>20*20*1.4P0.5</u>	No	No	-	Available	-	<u>more</u>	Buy from Distributor
MC68EN302PV20BT	<u>LQFP 144</u> <u>20*20*1.4P0.5</u>	No	No	-	Available	-	<u>more</u>	Buy from Distributor
MC68EN302PV25BT	<u>LQFP 144</u> <u>20*20*1.4P0.5</u>	No	No	-	Available	-	<u>more</u>	Buy from Distributor
MC68LC302CPU16CT	<u>LQFP 100</u> <u>14*14*1.4P0.5</u>	No	No	-	Available	-	<u>more</u>	Buy from Distributor
MC68LC302CPU20CT	<u>LQFP 100</u> <u>14*14*1.4P0.5</u>	No	No	-	Available	-	<u>more</u>	Buy from Distributor

MC68LC302PU16CT	<u>LQFP 100</u> <u>14*14*1.4P0.5</u>	No	No	-	Available	-	more	Buy from Distributor
MC68LC302PU16VCT	<u>LQFP 100</u> <u>14*14*1.4P0.5</u>	No	No	-	Available	-	more	Buy from Distributor
MC68LC302PU20CT	<u>LQFP 100</u> <u>14*14*1.4P0.5</u>	No	No	-	Available	-	more	Buy from Distributor
MC68LC302PU20VCT	<u>LQFP 100</u> <u>14*14*1.4P0.5</u>	No	No	-	Available	-	more	Buy from Distributor
MC68LC302PU25CT	<u>LQFP 100</u> <u>14*14*1.4P0.5</u>	No	No	-	Available	-	more	Buy from Distributor
SPAK302FC25C	<u>PQFP 132</u> <u>0.950*.950P.025</u>	No	No	-	Available	-	more	Buy from Distributor
SPAK302PV16VC	<u>LQFP 144</u> <u>20*20*1.4P0.5</u>	No	No	-	Available	-	more	Buy from Distributor
SPAK302PV33C	<u>LQFP 144</u> <u>20*20*1.4P0.5</u>	No	No	-	Available	-	more	Buy from Distributor

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