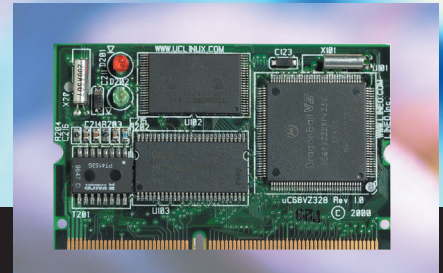


controls - communication - networking - media

# uC68VZ328



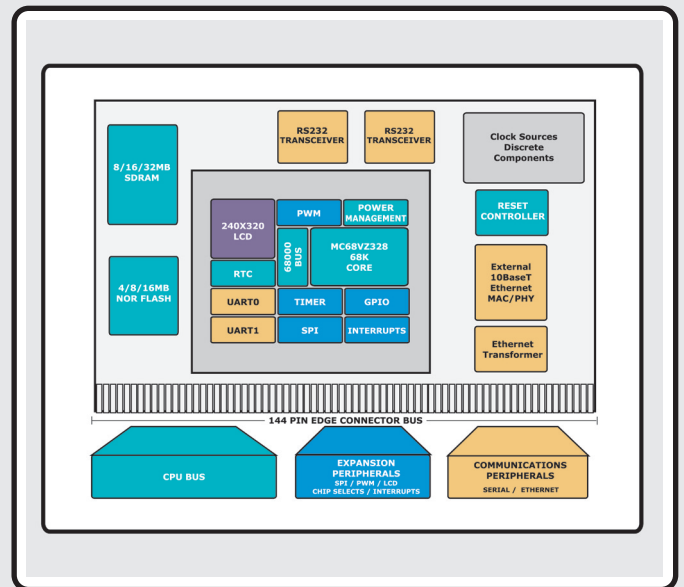
Microprocessor Module



Arcturus modules **empower** hundreds-of-thousands of **embedded** applications world-wide ranging from smart network devices to building systems and environmental controls.

The uC68VZ328 is a compact, embedded microprocessor module ideal for networked control and machine interface applications. The device is available in a standard 144pin soDIMM edge connector format to allow **fast integration into products**. The module is based on the Freescale® DragonBall® MC68VZ328 microprocessor and includes all required system memory and physical terminations to enable most applications without the need for external circuitry. The uC68VZ328 features Ethernet, LCD and serial communications systems as well as standard peripheral device connectivity using SPI or data/address logic.

The **development kit** includes a royalty-free uClinux™ 2.4 embedded software BSP, complete with source code, GNU tools, kernel and broad collection of applications and drivers. Development board, power supply, software CD and reference manual are also included.



# Arcturus



empower embedded.

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## features

- 144 pin easy-to-integrate module form-factor
- Compact business card size
- 33 MHz 68K Core
- 8/16 MB RAM
- 4/8/16 MB NOR Flash
- 320 x 240 LCD Controller
- 10 BaseT Ethernet MAC
- Ethernet PHY and Transformer
- Two RS232 serial UARTs
  - one available as TTL also
- SPI Peripheral Device Connectivity
- Data / Address Bus with Chip Selects
- Realtime Clock
- Two 16-bit timer channels
- Four periodic interrupt timers
- Up to 22 dedicated GPIO
- Watchdog Timer
- Reset Controller
- Advanced Power Management
- Operation from -40C to +85C
- RoHS Compliant

## software

### Tools and OS

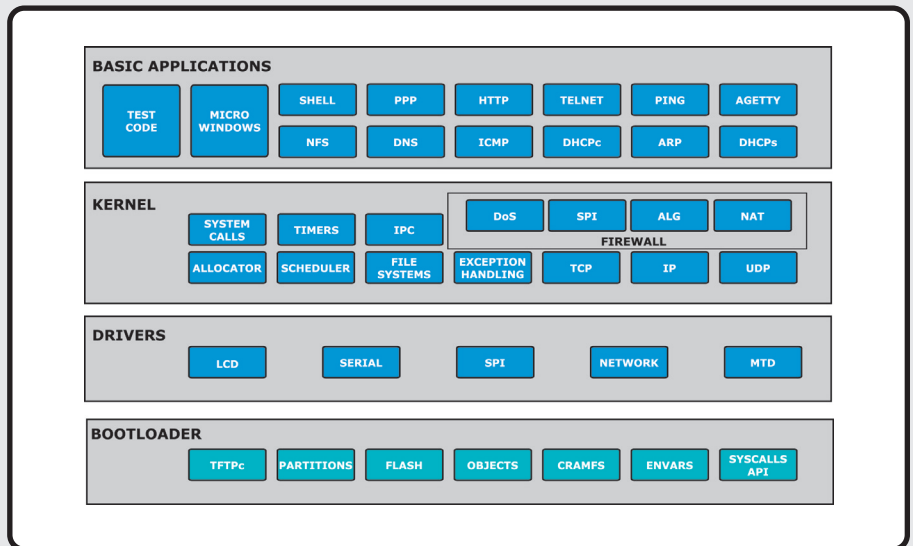
- uClinux 2.4.21
- uClibc
- GNU Tools (GCC / GDB)
- GDB server

### Applications & Utils

- Shell
- Telnet server
- webserver
- Networking Apps
- Test programs

### Bootloader

- uCbootloader 1.8.x
- support for objects and envvars
- kernel API and CLI
- TFTP server



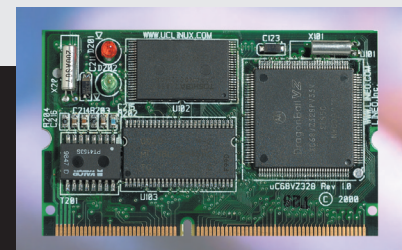
## operation

MODE	VALUE	MODE	VALUE
Test Module	UC68VZ328-4E8L33-C	OS Idle with ETH:	110mA
Voltage:	3.3VDC	Duress (ICMP flood):	150mA
Reset:	70mA	Erase Flash:	200mA
Idling:	130mA	Write Flash:	150mA
Idling with ETH:	130mA		



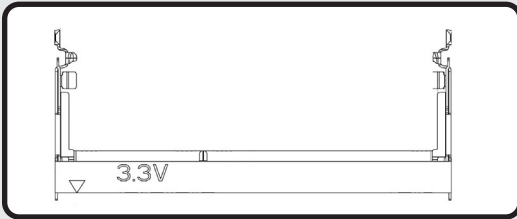
# Module Bus

Pin	Signal	I/O	Description	Pin	Signal	I/O	Description
1	ETXD1+	O	Pos. Transmitted Data	2	ETXD2+	O	Pos. Transmitted Data
3	ETXD1-	O	Neg. Transmitted Data	4	ETXD2-	O	Neg. Transmitted Data
5	ERXD1+	I	Pos. Received Data	6	ERXD2+	I	Pos. Received Data / DSL
7	ERXD1-	I	Neg. Received Data	8	ERXD2-	I	Neg. Received Data / DSL
9	VDD	P	VDD	10	GND	P	Ground
11	TXD1	O	Transmitted Data	12	TXD2	O	Transmitted Data
13	DTR1	O	Data Terminal Ready	14	/TXD2	O	TTL Transmitted Data
15	/RTS1	O	Request To Send	16	/RTS2	O	Request To Send
17	RXD1	I	Receive Data	18	RXD2	I	Receive Data
19	CD1	I	Carrier Detect	20	RTS2	O	TTL Request To Send
21	DSR1	I	Data Set Ready	22	/RXD2	I	TTL Receive Data
23	/CTS1	I	Clear To Send	24	/CTS2	I	Clear To Send
25	RI1	I	Ring Indicator	26	CTS2	I	TTL Clear To Send
27	SGND1	P	Signal Ground	28	SGND2	P	Signal Ground
29	X+	I/O	Touch Panel: X+ Position	30	X-	I/O	Touch Panel: X- Position
31	Y+	I/O	Touch Panel: Y+ Position	32	Y-	I/O	Touch Panel: Y- Position
33	ANALOG1	I/O	Analog	34	ANALOG2	I/O	Analog
35	ANALOG3	I/O	Analog	36	ANALOG4	I/O	Analog
37	AVDD	P	Analog VDD	38	AGND	P	Analog Ground
39	TCK	I	JTAG	40	TDO	O	JTAG
41	TDI	I	JTAG	42	TMS	I	JTAG
43	MOSI1	I/O	Master Output Slave Input / STxD	44	MOSI2	I/O	Master Output Slave Input / STxD
45	MISO1	I/O	Master Input Slave Output / SRxD	46	MISO2	I/O	Master Input Slave Output / SRxD
47	/SS1	I/O	Slave Select / SCHS	48	/SS2	I/O	Slave Select / SCHS
49	SPICLK1	I/O	Serial Peripheral Interface Clock / SCLK	50	SPICLK2	I/O	Serial Peripheral Interface Clock / SCLK
51	PWM01	O	Pulse Width Modulation	52	PWM02	O	Pulse Width Modulation
53	PA0	I/O	Port A Bit 0 / LD0 for LCD	54	PA1	I/O	Port A Bit 1 / LD1 for LCD
55	PA2	I/O	Port A Bit 2 / LD2 for LCD	56	PA3	I/O	Port A Bit 3 / LD3 for LCD
57	PA4	I/O	Port A Bit 4 / LD4 for LCD	58	PA5	I/O	Port A Bit 5 / LD5 for LCD
59	PA6	I/O	Port A Bit 6 / LD6 for LCD	60	PA7	I/O	Port A Bit 7 / LD7 for LCD
61	CLKA	O	Clock A / LCLK for LCD	62	CLKB	O	Clock B / Health Indicator
63	PB0	I/O	Port B Bit 0	64	PB1	I/O	Port B Bit 1
65	PB2	I/O	Port B Bit 2	66	PB3	I/O	Port B Bit 3
67	PB4	I/O	Port B Bit 4	68	PB5	I/O	Port B Bit 5
69	PB6	I/O	Port B Bit 6	70	PB7	I/O	Port B Bit 7
71	PC0	I/O	Port C Bit 0 / LLP for LCD	72	PC1	I/O	Port C Bit 1 / LACD for LCD
73	PC2	I/O	Port C Bit 2 / LCON for LCD	74	PC3	I/O	Port C Bit 3 / LFRM for LCD
75	CLKC	O	Clock C	76	CLKO	O	Processor Clock Output
77	/IRQ0	I/O	Interrupt	78	/IRQ1	I/O	Interrupt
79	/IRQ2	I/O	Interrupt	80	/IRQ3	I/O	Interrupt
81	/CS0	O	Chip Select	82	/CS1	O	Chip Select
83	/CS2	O	Chip Select	84	/CS3	O	Chip Select
85	DMACK	I	DMA Acknowledge	86	DMARQ	O	DMA Request
87	/CAS0	O	Column Address Strobe	88	/CAS1	O	Column Address Strobe
89	VDD	P	VDD	90	GND	P	Ground
91	/RAS0	O	Row Address Strobe	92	/RAS1	O	Row Address Strobe
93	/WE	O	Write Enable	94	/DWE	O	DRAM Write Enable
95	/LWE	O	Lower Write Enable	96	/UWE	O	Upper Write Enable
97	/OE	O	Output Enable	98	/MR	I	Master Reset
99	VDD	P	VDD	100	GND	P	Ground
101	A0	O	Address BUS	102	A1	O	Address BUS
103	A2	O	Address BUS	104	A3	O	Address BUS
105	A4	O	Address BUS	106	A5	O	Address BUS
107	A6	O	Address BUS	108	A7	O	Address BUS
109	A8	O	Address BUS	110	A9	O	Address BUS
111	A10	O	Address BUS	112	A11	O	Address BUS
113	A12	O	Address BUS	114	A13	O	Address BUS
115	A14	O	Address BUS	116	A15	O	Address BUS
117	A16	O	Address BUS	118	A17	O	Address BUS
119	A18	O	Address BUS	120	A19	O	Address BUS
121	A20	O	Address BUS	122	A21	O	Address BUS
123	A22	O	Address BUS	124	A23	O	Address BUS
125	VDD	P	VDD	126	GND	P	Ground
127	D0	I/O	Data BUS	128	D1	I/O	Data BUS
129	D2	I/O	Data BUS	130	D3	I/O	Data BUS
131	D4	I/O	Data BUS	132	D5	I/O	Data BUS
133	D6	I/O	Data BUS	134	D7	I/O	Data BUS
135	D8	I/O	Data BUS	136	D9	I/O	Data BUS
137	D10	I/O	Data BUS	138	D11	I/O	Data BUS
139	D12	I/O	Data BUS	140	D13	I/O	Data BUS
141	D14	I/O	Data BUS	142	D15	I/O	Data BUS
143	VDD	P	VDD	144	GND	P	Ground

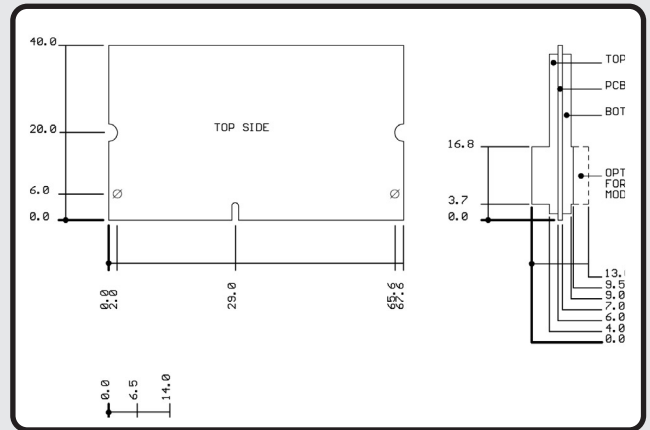


- EASILY INTEGRATED
- FULL FEATURED
- COMPLETE UCLINUX BSP WITH SOURCE
- REDUCED TIME-TO-MARKET AND RISK
- AVAILABLE OFF-THE-SHELF

## physical



**Edge / Mating Connector Options**  
 - Recommended Part: AMP® 390322-1  
 - Gas Tight / CAD Object Available



## parametric

Part Number	Microprocessor	Architecture	NOR Flash (Megabyte)	10BaseT Ethernet	100BaseT Ethernet	SDRAM (Megabyte)	RS232 Serial	TTL Serial	CAN- Bus	LCD Controller	USB Device	Clock Speed (MHz)	-40 to +85 °C	GPIO	SPI / QSPI	DSP
UC68VZ3282E8L33-C	68VZ328	68K	2	1	1	8	2	1 <sup>1</sup>	No	No	Yes	33MHz	Com.	Yes	Yes	No
UC68VZ3284E8L33-C	68VZ328	68K	4	1	1	8	2	1 <sup>1</sup>	No	Yes	No	33MHz	Com.	Yes	Yes	No
UC68VZ3288E8L33-C	68VZ328	68K	8	1	1	8	2	1 <sup>1</sup>	No	Yes	No	33MHz	Com.	Yes	Yes	No
UC68VZ3284E8L33-X	68VZ328	68K	4	1	1	8	2	1 <sup>1</sup>	No	Yes	No	33MHz	Ext.	Yes	Yes	No

## development kit



- uC68VZ328 Module
  - UC68VZ328-4E8L33-C
- Host Board
- Software CD
- Cable kit
- Power Supply
- Reference Manuals
- Schematic
- Installation Support

