



**THE DATASHEET OF  
Z8023016VSC**



## The ZiLOG Family of Serial Communication Controllers

### Setting the standards for SCCs

Over the last 20 years ZiLOG has set the standard for SCCs. Built from the industry acclaimed Serial Communication Controller core, ZiLOG offers a wide selection of (SCCs) based on your application requirements.

### Reducing the need for external logic

ZiLOG's SCCs offer low power consumption, higher performance, and superior noise immunity. The many on-chip features offered in our SCCs help dramatically to reduce the need for external logic found with much of the competition. Go with an SCC you can trust, and make ZiLOG your one-stop SCC solution provider.

### Offering a fully integrated solution

The standard serial and integrated communications controllers, Z85C30 and Z16C35, allow you to easily implement a fully integrated solution for many networking applications. The chips' features include:

- Dual full-duplex channels
- Ability to accommodate a crystal oscillator, baud rate generator, and digital phase-locked loop on each channel
- Processing speeds up to 4 Mbps
- Multi-protocol format (async, monosync, bisync, SDLC/HDLC, SDLC/HDLC loop)
- Encodes in the following modes: NRZ, NRZI, FM0, FM1, and Manchester
- CRC-16 or CRC-CCITT error detection
- 1-byte transmit FIFO/3-byte receive FIFO
- 2 transmit and 2 receive DMA channels (16C35 only)

### Simplifying software

The enhanced dual and mono SCCs Z80230, Z85230, and Z85233, include many features that make programming easy. These parts also reduce CPU overhead, allowing the programmer to select packet handling response and improve cycle access recovery time. Features include:

- Dual full-duplex channels (Z80230/Z85230)
- Single full-duplex channel (Z85233 only)



- Ability to accommodate a crystal oscillator, baud rate generator, and digital phase-locked loop on each channel
- Processing speeds up to 5 Mbps
- Multi-protocol format (async, monosync, bisync, SDLC/HDLC, SDLC/HDLC loop)
- Encodes in the following modes: NRZI, FM0, FM1, and Manchester
- CRC-16 or CRC-CCITT error detection
- 4-byte transmit FIFO/8-byte receive FIFO

### Increasing speed

The standard and integrated universal serial controllers Z16C30, Z16C35, and Z16C32 offer faster performance. Features include:

- Dual full-duplex channels (Z16C30)
- Single full-duplex channel (Z16C32)
- Accommodates two baud rate generators and one digital phase-locked loop (on each channel)
- 2 DMA control signals per channel (Z80C30/Z85C30 only)

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# ZiLOG SCC Solutions

## Standard and integrated universal serial controllers

### Z16C30/Z16C32 (Continued)

- Processing speeds up to 10 Mbps (Z16C30)
- Processing speeds up to 20 Mbps (Z16C32)
- Multi-protocol format (async, monosync, slaved monosync, bisync, isochronous, nine-bit, SDLC/HDLC, SDLC/HDLC loop)
- Encodes in the following modes: NRZ, NRZI-Mark, NRZI-Space, Bi-Phase-Mark (FM1), Bi-Phase-Space (FM0), Bi-Phase-Level (Manchester), Differential Bi-Phase-Level
- CRC-32, CRC-16, and CRC-CCITT
- 32-byte transmit FIFO/32-byte receive FIFO
- 2 DMA control signals per channel (16C30 only)
- Transmit and receive DMA controllers with single buffer, pipelined, array, and linked-list modes (16C32 only)

Serial Family	Channels	DMA Controllers	Bus Interface	MHz	Part number	Package	Pins	Op. Temp. (°C)			
SCC	2	0	Multiplex	8	Z80C3008PEC	DIP	40	-40 -100 0 -70			
					Z80C3008PSC						
					Z80C3008VSC	PLCC			44		
				10	Z80C3010PSC		DIP		40		
					Z80C3010VSC	PLCC	44				
					Nonmultiplex	8	Z85C3008PEC		DIP	40	-40 -100 0 -70 -40 -100 0 -70 -40 -100 0 -70 -40 -100 0 -70
			Z85C3008PSC								
			Z85C3008VEC	PLCC			44				
			Z85C3008VSC								
			10	Z85C3010PEC		DIP	40				
				Z85C3010PSC							
				Z85C3010VEC		PLCC		44			
				Z85C3010VSC							
			16	Z85C3016PSC	DIP	40					
Z85C3016VEC											
Z85C3016VSC	PLCC	44									
ISCC	2	2	Multiplex and nonmultiplex	10	Z16C3510VSC	PLCC	68	-40 -100 0 -70			
				16	Z16C3516VSC						
ESCC	2	0	Multiplex	10	Z8023010PSC	DIP	40	-40 -100 0 -70			
					Z8023010VSC						
					Z8023016PSC	PLCC			44		
				16	Z8023016VSC		DIP		40		
					Nonmultiplex	8	Z8523008PEC		DIP	40	-40 -100 0 -70 -40 -100 0 -70 -40 -100 0 -70 -40 -100 0 -70
							Z8523008PSC				
			Z8523008VEC	PLCC			44				
			Z8523008VSC								
			10	Z8523010PEC		DIP	40				
				Z8523010PSC							
				Z8523010VEC		PLCC		44			
				Z8523010VSC							
			16	Z8523016PEC	DIP	40					
				Z8523016PSC							
Z8523016VEC	PLCC	44									
Z8523016VSC											
20	Z8523020PSC	DIP	40								
	Z8523020VSC			PLCC	44						
EMSCC	1	0	Nonmultiplex	10	Z8523310FSC	PQFP	44	-40 -100 0 -70			
					Z8523310VSC						
				16	Z8523316FSC	PQFP					
					Z8523316VSC				PLCC		
USC	2	0	Multiplex and nonmultiplex	20	Z8523320FSC	PQFP	100	-40 -100 0 -70 -40 -100 0 -70			
					Z16C3010AEC						
				10	Z16C3010ASC	PLCC			68		
					Z16C3010VEC						
IUSC	1	2	Multiplex and nonmultiplex	20	Z16C3220FSC	PQFP	80	-40 -100 0 -70			
					Z16C3220VSC				PLCC	68	

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