PRELIMINARY
CUSTOMER PROCUREMENT SPECIFICATION

Z86E61 AND Z86E63
CMOS Z8® OTP MICROCONTROLLER

GENERAL DESCRIPTION

The Z86E61 is a member of the Z8® single-chip microcontroller family with 16 Kbytes of EPROM and 236 bytes of general-purpose RAM and the Z86E63 has 32K bytes of EPROM.

The Z86E61/63 are pin compatible, One-Time-Programmable (OTP) versions of the Z86C61/63. The Z86E61/63 contain 16/32 Kbytes of EPROM memory in place of the 16/32 Kbytes of ROM on the Z86C61/63.

The MCU is housed in a 40-pin DIP, 44-pin Leaded Chip-Carrier, or a 44-pin Quad Flat Pack, and is manufactured in CMOS technology. The ROMless pin option is available on the 44-pin versions only. The MCU can address both external memory and preprogrammed ROM which enables this Z8 microcomputer to be used in high volume applications or where code flexibility is required.

Zilog's CMOS microcontroller offers fast execution, efficient use of memory, sophisticated interrupts, input/output bit manipulation capabilities, and easy hardware/software system expansion along with low cost and low power consumption.

The Z86E61/63 architecture is based on Zilog's 8-bit microcontroller core. The device offers a flexible I/O scheme, an efficient register and address space structure, multiplexed capabilities between address/data, I/O, and a number of ancillary features that are useful in many industrial and advanced scientific applications.

The device applications demand powerful I/O capabilities. The Z86E61/63 fulfills this with 32-pin dedicated to input and output. These lines are grouped into four ports. Each port consists of eight lines, and is configurable under software control to provide timing, status signals, serial or parallel I/O with or without handshake, and an address/data bus for interfacing external memory.

There are three basic address spaces available to support this wide range of configuration: Program Memory, Data Memory and 236 general-purpose registers.

To unburden the program from coping with real-time problems such as counting/timing and serial data communication, the Z86E61/63 offers two on-chip counter/timers with a large number of user selectable modes, and an asynchronous receiver/transmitter (UART) (see Functional Block description).

Notes:
All Signals with a preceding front slash, "/", are active Low, e.g.: B/W (WORD is active Low); /B/W (BYTE is active Low, only).

Power connections follow conventional descriptions below:

Connection	Circuit	Device
Power	V_{CC}	V_{DD}
Ground	GND	V_{SS}

PRODUCT RECOMMENDATIONS

Zilog recommends the following programming equipment for use with this One-Time-Programmable product:

Device	Zilog Support Tool	Recommended Revision Level Hardware	Software
Z86E61/63	Z86C1200ZEM ICEBOX™ Emulator* (*Does not support 4K/8K option.)	B	2.1

Some non-Zilog programmers may have different programming waveforms, voltages and timings and not all programmers may meet the programming requirements of Zilog's One-Time-Programmable products.

If difficulty is encountered in programming a Zilog OTP product, please contact your local Zilog sales office.