Digital Soft Megacells

Features

- Functionally compatible with the industry standard
- 32-bit ALU/accumulator
- 16 X 16 parallel multiplier
- 16-bit shifter
- Up to 64k words of program memory
- Up to 64k words of data memory
- 16-bit timer
- Serial port
- Equivalent gates: 17,000

LOGIC SYMBOL

M320C25

DI0-15	A0-15
READY	NDS
NHOLD	NPS
NINT0	NIS
NINT1	RNW
NINT2	NSTRB
NBIO	NHLZ
NRS	OD0-15
NX2	NDEN
NSYNC	NBR
MPNMC	NHLDA
CLKR	NIACK
CLKX	NMSC
DR	XF
FSR	CLLKOUT1
FSXI	CLKOUT2
MD0-15	DX
BZD0-15	NDXE
BOD0-15	FSXD
BTD0-15	NFSXE
	NRDB0
	NWRB0
	NRDB1
	NWRB1
	NRDB2
	NWRB2
	RA0-7
	WA0-7
	BZWA0-7
	BZRA0-7
	MA0-11
	NMWE
	NMOE

Description

M320C25 is a digital signal processor with separate data and program memory, both of which may be up to 64k words. It has a 16-bit shifter, a 16 X 16 bit parallel multiplier and a 32-bit ALU/accumulator. Instructions are pipelined and it can perform single-cycle multiply/accumulate instructions. It contains a 16-bit timer, eight auxiliary registers, an eight-level hardware stack, sixteen input and sixteen output channels, and a serial port. It is fully compatible, including instructions execution times, with industry standard devices.

The M32C25 contains no RAM or ROM but provides functional interconnect signals for connecting to memory blocks. If internal program memory is required, a single port RAM (or ROM) block of up to 4k X 16 may be connected to the M320C25 (also the 256 X 16 internal data RAM block 0 may be configured as program memory). If internal data memory is required 1,2 or 3 blocks of dual-port RAM may be connected to the M320C25. Block 0 and 1 can be up to 256 X 16 and block 2 up to 32 X 16.

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