



C8279 Programmable Keyboard Display Interface Megafunction

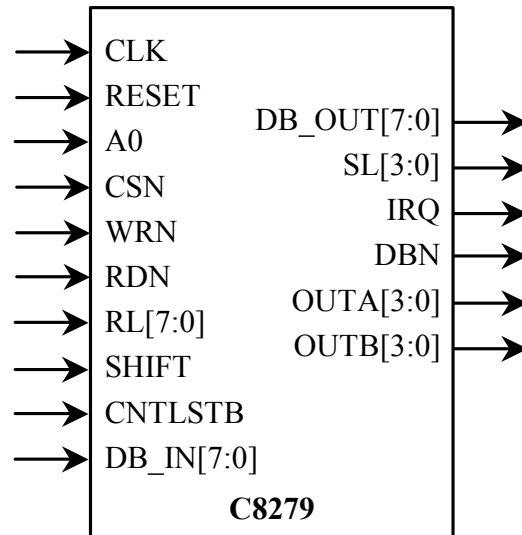
General Description

The C8279 is a programmable keyboard and display interface designed for use with microprocessors. The keyboard portion can provide a scanned interface to a 64-contact key matrix. The display portion provides a scanned display interface for LED, incandescent and other display technologies.

Features

- Simultaneous Keyboard Display Operation
- Scanned Keyboard Mode
- Scanned Sensor Mode
- Strobed Input Entry Mode
- 8-Character Keyboard FIFO
- 2-Key Lockout or N-key Rollover with Contact Debounce
- Dual 8- or 16-Numeric Display
- Single 16-Character Display
- Right or Left Entry 16-Byte Display RAM
- Mode Programmable from CPU
- Interrupt Scan Timing
- Interrupt Output on Key Entry
- Functionality based on the Intel 8279

Symbol



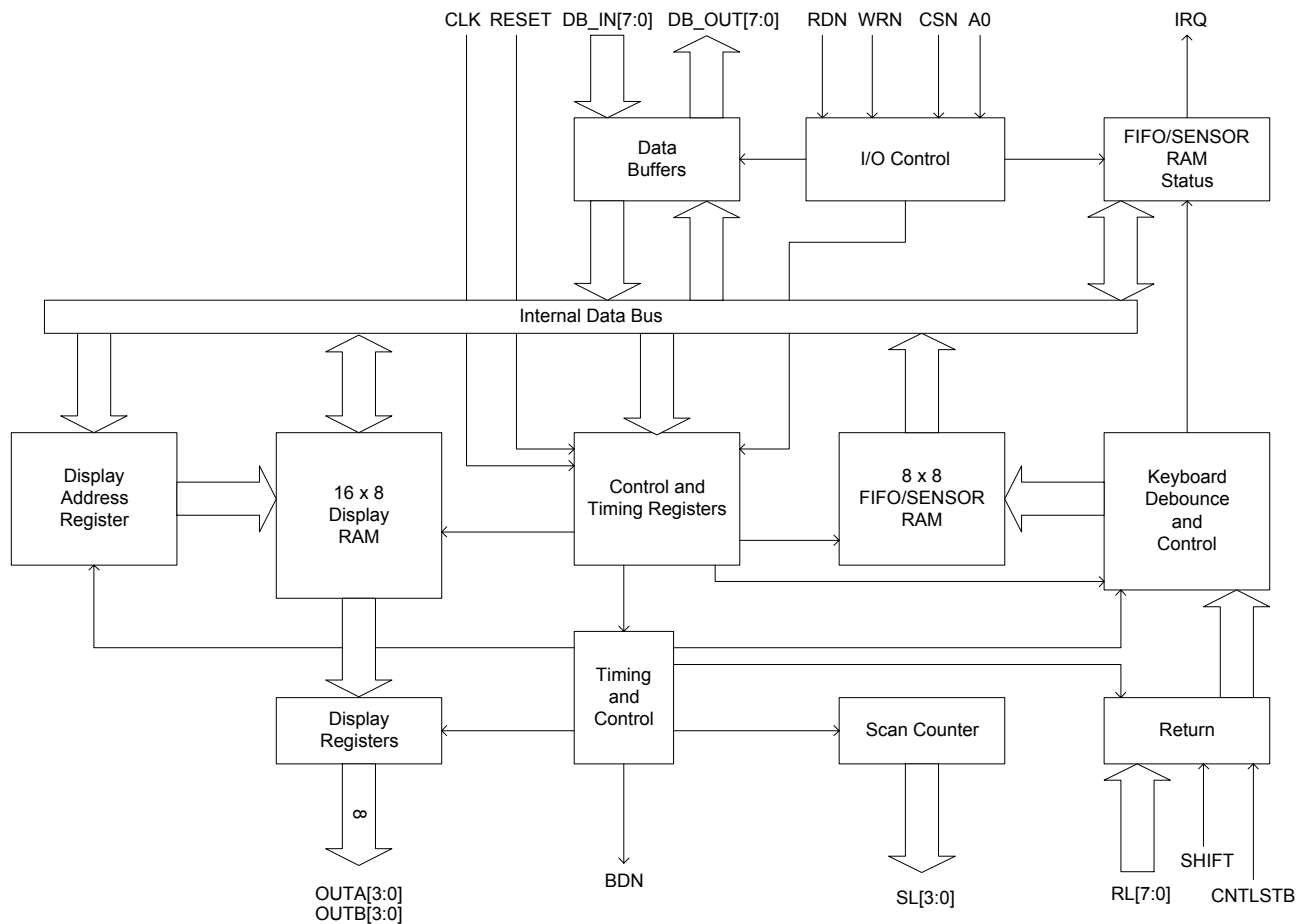
Pin Description

Name	Type	Polarity	Description
CLK	In	Rising	Clock
RESET	In	High	Reset
CSN	In	Low	Chip Select
A0	In	-	Buffer Address
RDN	In	Low	Input/Output Read
WRN	In	Low	Input/Output Write
RL[7:0]	In	-	Return Lines
SHIFT	In	-	Shift Input Status
CNTSTB	In	-	Control/Strobed Input Mode
DB_IN[7:0]	In	-	Data Bus (input side)
DB_OUT[7:0]	Out	-	Data Bus (output side)
PDBTRI	Out	Low	Tri-State signal for DB_OUT
IRQ	Out	-	Interrupt Request
SL[3:0]	Out	-	Scan Lines
OUTA[3:0]	Out	-	Outputs A for 16x4 display refresh registers
OUTB[3:0]	Out	-	Outputs B for 16x4 display refresh registers
BDN	Out	Low	Blank Display

Applications

- Point-of-contact Kiosk
- Medical instrumentation
- Test & Measurement Instrumentation
- Industrial Equipment
- Avionics
- Gaming & Amusement Machines

Block Diagram



Device Utilization & Performance

Supported Family	Device Tested	Utilization			Performance F_{max}
		LEs	Memory	Memory bits	
Cyclone	EP1C20-6	1,499	0	0	101 MHz
Stratix	EP1S20-5	1,499	0	0	105 MHz
Stratix-II	EP2S60-3	1,182	0	0	119 MHz

Deliverables

Encrypted Netlist License

- Post synthesis EDIF netlist
- Assignment & Configuration
- Symbol & Include files
- Testbench
- Vectors for testing the functionality of the megafunction
- Place & Route Scripts
- Documentation

VHDL Source License

- VHDL RTL source code
- Testbenches
- Vectors for testing functionality
- Expected results
- Synthesis scripts
- Simulation scripts
- Documentation

Contact Information

CAST, Inc.
11 Stonewall Court
Woodcliff Lake, New Jersey 07677 USA
Phone: +1 201-391-8300
Fax: +1 201-391-8694
E-Mail: info@cast-inc.com
URL: www.cast-inc.com