socket mobile

mobilityIC™ Dual Port ASIC

Dual Serial Ports Interfaced to CF/PC Card Bus

The mobilityIC Dual Port or mDP (HIS3) is a single chip implementation of two serial ports interfaced to the PC Card or CF buses. A complete PC Card or CF dual serial port peripheral can be built with an mDP, a crystal, an EEPROM and two serial transceiver chips. Such a design offers PC Card/CF compliance, high performance, low power consumption and minimum component count. The mDP is designed to provide all the functions necessary for a universal receiver transmitter subsystem interface, such as for WAN cards (GPRS, CDMA, EDGE, UMTS) and GPS.

The mDP uses a 16C550 compliant core with an expanded 512-byte deep receiver first-in-first-out (FIFO) memory and 512-byte deep transmitter FIFO memory. The deep FIFOs reduce the CPU overhead and allow higher data rates. The mDP contains two high performance UARTs offering data rates up to 6.0 Mbps each.

The mDP connects directly to a serial EEPROM to store nonvolatile information which consists of the PC Card/CF tuples and initial configuration information. Attribute memory consists of a 248-byte Card Information Structure (CIS), a 16-byte initialization area, and 15 Configuration Registers.

The mDP keeps power consumption to a minimum by providing features such as fully programmable clock division and sleep modes when a function is not being used. The mDP can operate at either 3.3 or 5 volts and does not require external regulation to operate in low or high voltage environments.

Technology examples include standard or high speed serial ports, bar code scanners, high-speed radios (GPRS, CDMA, EDGE, UMTS), RFID readers, blood analyzers, etc.

The mDP design is extremely flexible and can be incorporated into:

- Standard serial ports
- Bar code scanners
- High-speed radios
- RFID readers
- Blood analyzers
- Other industrial applications

FEATURES

- Supports PC Card and CompactFlash® (CF) bus interfaces
- 512-byte FIFOs in enhanced mode
- Fully software compatible with industry standard 16C550 UARTs, supports Additional advanced features found in the 16C950
- Maximum baud rate 6.0 Mbps
- Readable FIFO levels
- Flexible clock prescaler can divide by any number between 1 and 31. Allows the use of 7.3728 MHz, 14.7456 MHz or 18.432 MHz crystals to achieve standard baud rates
- Detection of bad data in the receiver FIFO
- Readable out-of-band flow control status
- Automated out-of-band flow control using CTS#/RTS# and DSR#/DTR#
- Transmitter idle interrupt (shift register and FIFO empty)
- Software reset
- Arbitrary trigger levels for receiver and transmitter FIFO interrupts
- Sleep mode (low operating current)
- System clock 3 to 24 MHz
- 3.3 V or 5 V operation
- 80-pin TQFP package (10x10x1 mm) recommended for new designs
- Operating temperature range of -20 to +100° Celsius
- Broad host/client compatibility
- Device drivers available for Windows CE/9x/Me/2000/XP/Vista
- Production test sofware available
- Module Mode feature allows the mDP to function as 2 independent UARTs
- 8 General Purpose I/O pins
- Virtual parallel UART

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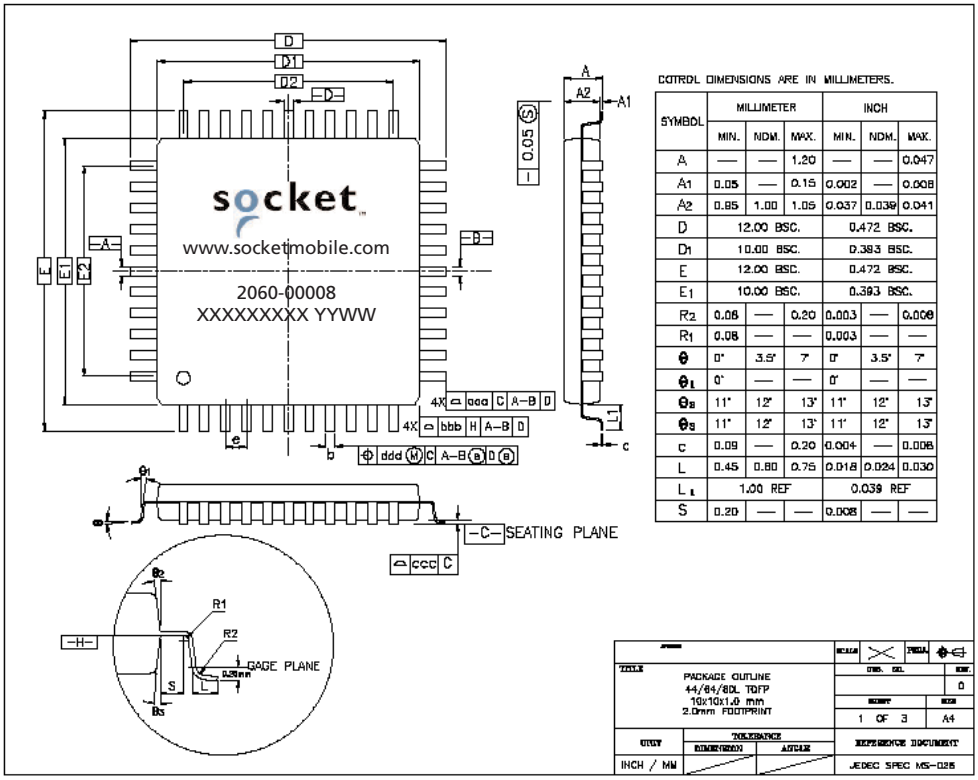
LIMITED AVAILABILITY

The mobilityIC Dual Port can be purchased from the Socket OEM Group. The mDP will only be available to developers who are implementing non-competitive products. Prior to releasing any additional technical product information and pricing, a Non-Disclosure Agreement must be signed with Socket.

Go to the OEM Card Interface ICs webpage for more details on mobility ICs and the project qualification process: www.socketmobile.com/products/oem/mobilityic-dual-port-asic/

Mechanical Drawing of mDP ASIC, TQFP-80 10x10x1 mm



CONTROL DIMENSIONS ARE IN MILLIMETERS.

SYMBOL	MILLIMETER			INCH		
	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.
A	—	—	1.20	—	—	0.047
A1	0.05	—	0.15	0.002	—	0.006
A2	0.95	1.00	1.05	0.037	0.039	0.041
D	12.00 BSC.			0.472 BSC.		
D1	10.00 BSC.			0.393 BSC.		
E	12.00 BSC.			0.472 BSC.		
E1	10.00 BSC.			0.393 BSC.		
R2	0.08	—	0.20	0.003	—	0.008
R1	0.08	—	—	0.003	—	—
θ	0°	3.5°	7°	0°	3.5°	7°
θ1	0°	—	—	0°	—	—
θ2	11°	12°	13°	11°	12°	13°
θ3	11°	12°	13°	11°	12°	13°
c	0.09	—	0.20	0.004	—	0.008
L	0.45	0.60	0.75	0.018	0.024	0.030
L1	1.00 REF			0.039 REF		
S	0.20	—	—	0.008	—	—

NOTES: *A. All linear dimensions are in millimeters.*
B. This drawing is subject to change without notice.
C. Falls within JEDEC MS-026.

Mechanical Packages Available

Part Number	Mechanical Package
2060-00008	80-pin TQFP (10x10x1 mm)

Sales Offices
Corporate Headquarters:
39700 Eureka Drive
Newark, CA 94560 USA

Web: socketmobile.com

Phone: +1-510-933-3000

USA & Canada Toll Free: 800-552-3300

Fax: +1-510-933-3030

Online: socketmobile.com/contact