

MIC82551xx Fast Internet PCI Controller Datasheet (shortcut)

Product Features

- * Enhanced IP Protocol Support
 - TCP, UDP, IPv4 checksum offload
 - Received checksum verification
- * Quality of Service (QoS)
 - Multiple priority transmit queues
- * Optimum Integration for Lowest Cost Solution
 - Integrated IEEE 802.3 10BASE-T and 100BASE-TX compatible PHY
 - 32-bit PCI master interface
 - Thin BGA 15mm² package
- * Integrated power management functions
 - ACPI and PCI power management standards compliance
 - Wake on “interesting” packets and link status change support
- * PHY detects polarity, MDI-X, and cable lengths. Auto MDI, MDI-X crossover at all speeds
- * XOR tree mode support
- * High Performance Networking Functions
 - Early release
 - MIC8255xx controller family chained memory structure
 - Improved dynamic transmit chaining with multiple priorities transmit queues
- Full pin compatibility with the MIC 82559xx controllers
- Full duplex support at 10 and 100 Mbps
- IEEE 802.3u auto-negotiation support
- 3 KB transmit and receive FIFOs
- This speed is achieved by the absence of the data encryption
- Fast back-to-back transmission support with minimum interframe spacing
- IEEE 802.3x 100BASE-TX flow control support
- Adaptive Technology
- * Low Power Features
 - Advanced Power Management (APM) capabilities
 - Low power 3.3 V device
 - Efficient dynamic standby mode
 - Deep power-down support
 - Clockrun protocol support
 - MIC82551xxx Enhancements
 - Improved bit error rate performance
 - HWI support
 - Deep power-down state power reduction
- * Lead-free¹ 196-pin Ball Grid Array (BGA). Devices that are lead-free are marked with a circled “e1” and have the product code: MICxxxxxx.

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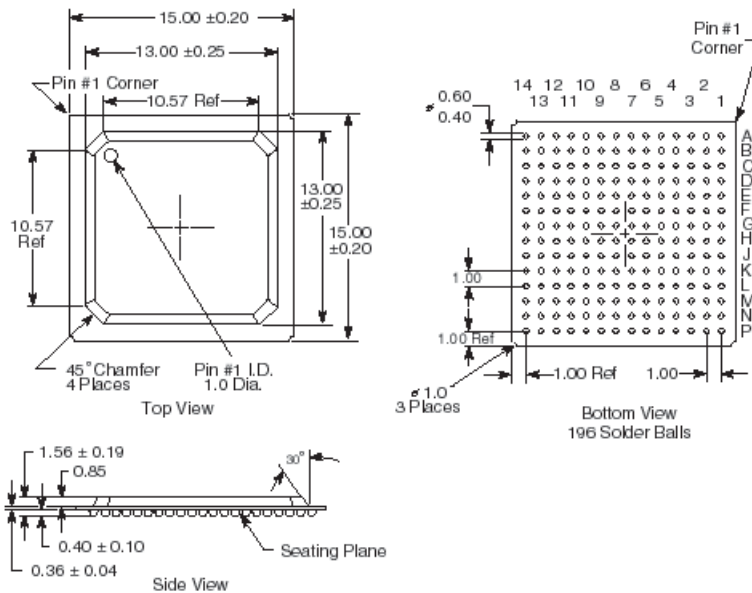
Electrical Specifications

Absolute Maximum Ratings

Maximum ratings are listed below:

Ambient Temperature	0° C to 85° C
Storage Temperature	-65° C to 140° C
Outputs and Supply Voltages (except PCI and SMB).....	-0.5 V to 5.0 V
PCI and SMB Output Voltages	-0.50 V to 5.25 V
Transmit Data Output Voltage	-0.5 V to 8.0 V
Input Voltages (except PCI and SMB).....	-1.0 V to 5.0 V
PCI and SMB Input Voltages.....	-0.5 V to 6.0 V
PCI and SMB Total Current	150mA
PCI and SMB Total Power Consumption09W

Figure 1. Dimension Diagram for the 196-pin BGA



Notes:
1. All Dimensions are in Millimeters

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Figure 2. Ball Grid Array Diagram

	A	B	C	D	E	F	G	H	J	K	L	M	N	P
1	NC	AD[22]	AD[21]	AD[18]	VCC	IRDY#	CLK	STOP#	PAR	AD[16]	AD[14]	AD[11]	VSSPP	NC
2	SERR#	AD[23]	RST#	AD[19]	VSSPP	FRAME#	VIO	INTA#	PERR#	VSSPP	AD[15]	AD[12]	AD[10]	VCC
3	VCC	VSSPP	REQ#	AD[20]	AD[17]	C/BE#[2]	TRDY#	DVSEL#	GNT#	VCC	C/B3#[1]	AD[13]	AD[9]	AD[8]
4	IDSEL	AD[24]	C/BE#[3]	VSS	VSS	VSS	NC	NC	NC	VCC	VCC	C/BE#[0]	AD[7]	AD[6]
5	AD[25]	AD[26]	NC	VSS	VSS	VSS	VCC	VCC	VCC	VCC	VCC	AD[5]	AD[4]	AD[3]
6	PME#	AD[27]	AD[28]	VSS	VSS	VSS	VCC	VCC	VCC	VCC	VSS	VSSPP	VCC	AD[2]
7	VCC	VSSPP	AD[29]	VSS	VSS	VSS	VSS	VCC	VCC	VCC	NC	AD[1]	AD[0]	EECS
8	AD[30]	AD[31]	CLK_RUN#	VSS	VSS	VSS	VSS	VCC	VCC	VCC	NC	FLOE#	VCC	VSSPL
9	ALTRST#	ISOLATE#	NC	NC	VSS	VSS	VSS	VSS	VCC	VCC	VCC	FLWE#	FLCS#	FLA16
10	NC	NC	VSSPT	NC	VSS	VSS	VSS	VSS	VCCR	VCC	VCC	FLA15/ EESK	FLA14/ EEDO	FLA13/ EEDI
11	VCC	SPDLED#	ACTLED#	NC	NC	VSS	VSS	NC	VCCR	VCC	VSS	FLA12	X1	X2
12	LILED#	TO	VREF	TI	VCC	FLD2	FLD3	FLD6	FLA1	VSSPL	FLA5	FLA11	VSSPL	VCC
13	TEST	RBIAS 100	TDP	TEEXEC	RDP	FLD1	VCC	FLD5	FLA0	VCC	FLA4	FLA7	FLA10	FLA9
14	NC	RBIAS 10	TDN	TCK	RDN	FLD0	VSSPL	FLD4	FLD7	FLA2	FLA3	FLA6	FLA8	NC

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