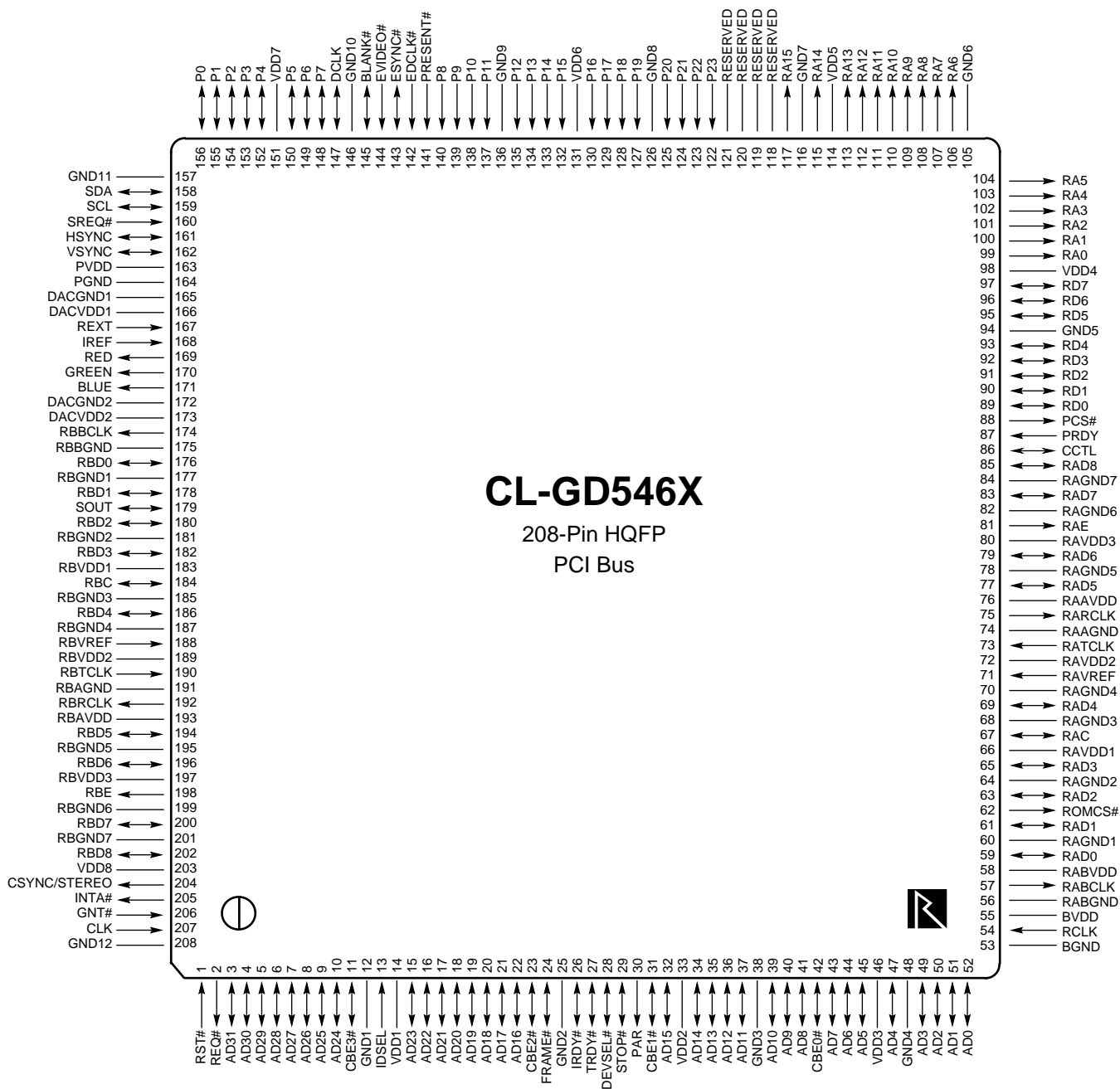


## 1. PIN INFORMATION

The Laguna family is available in a 208-pin quad flat pack device for the PCI bus interface.

### 1.1 Pin Diagram — PCI Bus



## 1.2 Pin Summary

The following tables list each CL-GD546X pin by name, functional pin type, and number(s). Functional pin types are abbreviated as follows:

Type	Abbreviation	Type	Abbreviation
Input	I	Ground	GND
Output	O	Open collector	OC
Input/output	I/O	'_'	Indicates ascending pin numbers
Tristate output	TS	'.'	Indicates descending pin numbers
Power	PWR		

### 1.2.1 Host Interface Pins

**Table 1-1. Host Interface — PCI Bus**

Name	Type	Pull-up	I <sub>OH</sub> (mA)	I <sub>OL</sub> (mA)	Load (pF)	Pin Number(s)
RST#	I	—	—	—	—	1
CLK	I	—	—	—	—	207
AD[31:0]	I/O	—	–2	8	50	3–10, 15–22, 32, 34–37, 39–41, 43–45, 47, 49–52
CBE[3:0]#	I/O	—	–2	8	50	11, 23, 31, 42
FRAME#	I/O	—	–2	8	50	24
IRDY#	I/O	—	–2	8	50	26
TRDY#	I/O	—	–2	8	50	27
DEVSEL#	I/O	—	–2	8	50	28
STOP#	I/O	—	–2	8	50	29
PAR	O	—	–2	8	50	30
IDSEL	I	—	—	—	—	13
INTA#	TS	—	–2	8	50	205
RA[14:9]	I/O	—	—	—	—	115, 113:109
RA[15, 8:0]	I/O	250K	—	—	—	117, 108:106, 104:99
RD[7:0]	I/O	—	—	—	—	97:95, 93:89
ROMCS#	I/O	250K	–4	8	—	62 (not 5-V tolerant, see <a href="#">Section 6.2</a> )
PCS#	O	—	—	—	—	88
PRDY	I	—	—	—	—	87
GNT#	I	—	—	—	—	206 (CL-GD5464 only)
REQ#	O	—	—	—	—	2 (CL-GD5464 only)
RESERVED	—	—	—	—	—	118–121

### 1.2.2 Rambus® Pins

The CL-GD5462 and CL-GD5464 have one Rambus Channel; Rambus Channel A. Rambus Channel B pins, which are reserved for future Laguna family members, are not implemented on the CL-GD5462 or CL-GD5464. The Rambus Channel pins, including SOUT, are not 5-V tolerant. See [Section 6.2 on page 37](#) for restrictions.

**Table 1-2. Rambus® Channel A Pins**

Name	Type	Pin Number(s)
RABCLK	O	57
RAD[8:0]	I/O	85, 83, 79, 77, 69, 65, 63, 61, 59
RARCLK	O	75
RATCLK	I	73
RAC	I/O	67
RAE	O	81
RAVREF	I	71
CCTL	I/O	86

Rambus Channel B pins are not implemented on the CL-GD5462 or CL-GD5464 (except SOUT, pin 179), but are reserved for future Laguna family members.

**Table 1-3. Rambus® Channel B Pins**

Name	Type	Pin Number(s)
RBBCLK	O	174
RBD[8:0]	I/O	202, 200, 196, 194, 186, 182, 180, 178, 176
RBRCLK	O	192
RBTCLK	I	190
RBC	I/O	184
RBE	O	198
RBVREF	I	188
SOUT	O	179 (not 5-V tolerant, see <a href="#">Section 6.2</a> )

### 1.2.3 Video Pins

**Table 1-4. Video Pins**

Name	Type	Pull-up <sup>a</sup>	I <sub>OH</sub> (mA)	I <sub>OL</sub> (mA)	Load (pF)	Pin Number(s)
RED	O	–	–	–	–	169
GREEN	O	–	–	–	–	170
BLUE	O	–	–	–	–	171
REXT	I	–	–	–	–	167
IREF	I	–	–	–	–	168
HSYNC	I/O	250K	–4	8	50	161
VSYNC	I/O	250K	–4	8	50	162
CSYNC/STEREO	O	–	–	–	–	204

### 1.2.4 Enhanced V-Port™ Pins

**Table 1-5. Enhanced V-Port™ Pins**

Name	Type	Pull-up	I <sub>OH</sub> (mA)	I <sub>OL</sub> (mA)	Load (pF)	Pin Number(s)
P[23:8]	I	–	–4	8	50	122–125, 127–130, 132–135, 137–140
P[7:0]	I/O	–	–4	8	50	148–150, 152–156
PRESENT#	I	–	–	–	–	141
EDCLK#	I	250K	–	–	–	142
ESYNC#	I/O	250K	–	–	–	143
EVIDEO#	I	250K	–	–	–	144
BLANK#	I/O	–	–4	8	50	145
DCLK	I/O	–	–4	8	50	147

## 1.2.5 I<sup>2</sup>C Bus Pins

**Table 1-6. I<sup>2</sup>C Bus Pins**

Name	Type	Pull-up	I <sub>OH</sub> (mA)	I <sub>OL</sub> (mA)	Load (pF)	Pin Number(s)
SDA	I/O	50K	–	8	50	158
SCL	I/O	50K	–	8	50	159
SREQ#	I	50K	–	–	–	160

## 1.2.6 Miscellaneous Pins

**Table 1-7. Miscellaneous Pins**

Name	Type	Pull-up	I <sub>OH</sub> (mA)	I <sub>OL</sub> (mA)	Load (pF)	Pin Number(s)
RCLK	I	50K	–	–	–	54

## 1.2.7 Power and Ground Pins

**Table 1-8. Power and Ground Pins**

Name	Type	Level	Pin Number(s)
VDD[8:1]	Digital power	+3.3 V	203, 151, 131, 114, 98, 46, 33, 14
GND[12:1]	Digital ground	GND	208, 157, 146, 136, 126, 116, 105, 94, 48, 38, 25, 12
DACVDD[2:1]	DAC power	+3.3 V	173, 166
DACGND[2:1]	DAC ground	GND	172, 165
RAAVDD	Rambus A analog power	+3.3 V	76
RAAGND	Rambus A analog ground	GND	74
RABVDD	Rambus A BCLK power	+3.3 V	58
RABGND	Rambus A BCLK ground	GND	56
RAVDD[3:1]	Rambus A digital power	+3.3 V	80, 72, 66
RAGND[7:1]	Rambus A digital ground	GND	84, 82, 78, 70, 68, 64, 60
RBAVDD	Rambus B analog power	+3.3 V	193
RBAGND	Rambus B analog ground	GND	191

**Table 1-8. Power and Ground Pins** *(cont.)*

Name	Type	Level	Pin Number(s)
RBBGND	Rambus B BCLK ground	GND	175
RBVDD[3:1]	Rambus B digital power	+3.3 V	197, 189, 183
RBGND[7:1]	Rambus B digital ground	GND	201, 199, 195, 187, 185, 181, 177
BVDD	Rambus synthesizer power	+3.3 V	55
BGND	Rambus synthesizer ground	GND	53
PVDD	PCLK synthesizer power	+3.3 V	163
PGND	PCLK synthesizer ground	GND	164