GF40: RGMII

Libraries

Name	Form Factor	Silicon proven
RGO_GF40_25V33_LP_20C_RGMII	staggered	yes

Summary

This library includes MIP_BI_SDS_33V_NC pad, designed to conform to the Gigabit Media Independent Interface™ (GMII™) specification intended for use between Ethernet PHYs and Switch ASICs and Reduced Gigabit Media Independent Interface (RGMII) specified in HP RGMII ver 1.3, 12/10/2000. Under IEEE 802.3-2005 a GMII comprised of 8 pins for data and control is defined.

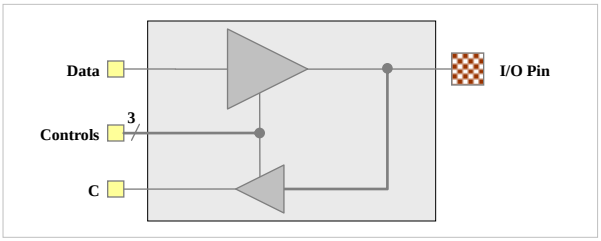
Power bus architecture and physical dimensions of this library are fully compatible with Aragio's wide-range I/O library (RGO_GF40_25V33_LP_20C)

ESD Protection

I/O pads are designed with robust ESD protection for all market segments. Passed:

- 2KV ESD Human Body Model (HBM)
- 200 V ESD Machine Model (MM)
- 500 V ESD Charge Device Model (CDM)

MIP_BI_SDS_33V_NC



Pad Size

Pad	Width	Height	Units
MIP_BI_SDS_33V_NC	20	180	µm

Power Dissipation

Mode	Min	Nom	Max	Units
GMII	37	46	56	µW/MHz
RGMII	24	30	39	µW/MHz

Recommended operating conditions

	Description	Min	Nom	Max	Units
V_{DVDD}	I/O supply voltage (GMII mode)	2.97	3.3	3.63	V
V_{DVDD}	I/O supply voltage (RGMII mode)	2.25	2.5	2.75	V
T_A	Ambient operating temperature	0	25	100	°C
V_{VDD}	Core supply voltage	0.99	1.1-1.2	1.26	V
T_J	Junction temperature	-40	25	125	°C
V_{PAD}	Voltage at PAD	0	-	V_{DVDD}	V
V_{IH}	Input logic high (RGMII)	1.7	-	-	V
V_{IL}	Input logic low (RGMII)	-	-	0.7	V
V_{IH}	Input logic high (GMII)	1.7	-	-	V
V_{IL}	Input logic low (GMII)	-	-	0.9	V
V_{IL_AC}	Input high voltage AC (GMII)	1.9	-	-	V
$V_{IH\ AC}$	Input low voltage AC (GMII)	-	-	0.7	V
V_{OH}	Output logic high voltage (GMII)	2.1	-	3.6	V
V_{OL}	Output logic low voltage (GMII)	0	-	0.5	V
V_{OH}	Output logic high voltage (RGMII)	2.0	-	V_{DVDD}+0.3	V
V_{OL}	Output logic low voltage (RGMII)	-0.3	-	0.4	V
F	Frequency	2.5[*] - 100ppm		125 + 100ppm	MHz

[*] The lowest supported frequency is 10baseT over RGMII

Characterization Corners

Nominal VDD	Model	VDD	DVDD[1]	Temperature
1.2	FF	+5%	+10%	-40°C
	FF	+5%	+10%	125°C
	TT	nominal	nominal	25°C
	SS	-10%	-10%	-40°C
	SS	-10%	-10%	125°C
1.1	FF	+10%	+10%	-40°C
	FF	+10%	+10%	125°C
	TT	nominal	nominal	25°C
	SS	-10%	-10%	-40°C
	SS	-10%	-10%	125°C

[1] DVDD = 2.5 and 3.3V

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