

## Libraries

Name	Process	Form Factor
RGO_GF28_18V33_SLP_20C_RGMII	SLP	Staggered
RGO_GF28_18V33_HPP_20C_RGMII	HPP	Staggered

## 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.

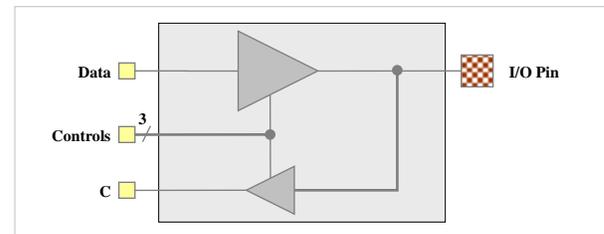
Power bus architecture and physical dimensions of this library are fully compatible with Aragio's wide-range I/O library (RGO\_GF28\_18V33\_SLP\_20C)

## 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	127	µm

## Power Dissipation

Mode	Min	Nom	Max	Units
GMII	39	48	61	µW/MHz
RGMII	24	29	37	µW/MHz

## Recommended operating conditions

Description		Min	Nom	Max	Units	
V <sub>VDD</sub>	Core supply voltage	SLP	0.9	1.0-	1.1	V
			0.99	1.1	1.155	V
		HPP	0.765	0.85	0.935	V
			0.81	0.9	0.945	V
T <sub>J</sub>	Junction temperature	-40	25	+125	°C	
V <sub>PAD</sub>	Voltage at IO	0		V <sub>DVDD</sub>	V	
V <sub>DVDD</sub>	I/O supply voltage	2.97	3.3	3.63	V	
V <sub>IH</sub>	Input logic high	1.7	-	-	V	
V <sub>IL</sub>	Input logic low	-	-	0.9	V	
V <sub>IL,AC</sub>	Input high voltage, AC	GMII	1.9	-	-	V
V <sub>IH,AC</sub>	Input low voltage, AC		-	-	0.7	V
V <sub>OH</sub>	Output logic high voltage	2.1	-	3.6	V	
V <sub>OL</sub>	Output logic low voltage	0	-	0.5	V	
V <sub>DVDD</sub>	I/O supply voltage	2.25	2.5	2.75	V	
V <sub>IH</sub>	Input logic high	1.7	-	-	V	
V <sub>IL</sub>	Input logic low	RGMII	-	-	0.7	V
V <sub>OH</sub>	Output logic high voltage		2.0	-	V <sub>DVDD</sub> +0.3	V
V <sub>OL</sub>	Output logic low voltage		V <sub>DVSS</sub> - 0.3	-	0.4	V
F	Clock frequency / accuracy	2.5 <sup>[1]</sup> - 100ppm		125 + 100ppm	MHz	

[1] The lowest supported frequency is 10BASE-T over RGMII

## Characterization Corners

Nominal VDD	Model	VDD	DVDD <sup>[1]</sup>	Temperature
1.1 (SLP)	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
1.0 (SLP)	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
0.9 (HPP)	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
0.85 (HPP)	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

<sup>[1]</sup> DVDD = 2.5 and 3.3V

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**Aragio Solutions**  
2201 K Avenue  
Section B Suite 200  
Plano, TX 75074-5918  
Phone: (972) 516-0999  
Fax: (972) 516-0998  
Web: <http://www.aragio.com/>

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