

GF55 LPE: GMII



LPE Libraries

Name	Form Factor	Silicon Proven
RGO_GF55_25V33_LPE_30C_GMII	Staggered	Yes
RGO_GF55_25V33_LPE_50C_GMII	Inline	Yes

Summary

The GMII library provides the driver / receiver cell for Gigabit Media Independent Interface signaling. It is designed to interface Ethernet PHY to network switch ASICs. This library is provided as a supplement to the 55nm GPIO libraries provided by Aragio Solutions.

GMII Specification Compliant:

IEEE 802.3-2005

ESD Protection:

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

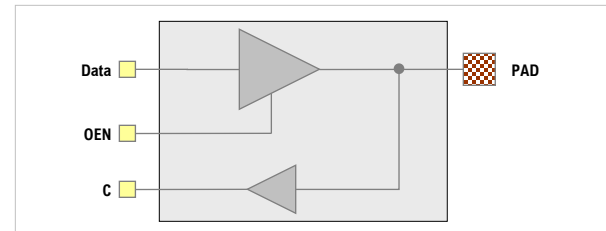
Latch-up Immunity:

- JEDEC compliant
 - Tested to I-Test criteria of $\pm 100\text{mA}$ @ 125°C

Mix_BI_001_33V_NC

Description

Bi-directional GMII driver



Characterization Corners

Nominal VDD	Model	VDD	DVDD ^[1]	Temperature
1.2	FF	+10%	+10%	-40°C
	FFF ^[2]	+10%	+10%	125°C
	FFF ^[2]	+10%	+10%	150°C
	TT	nominal	nominal	25°C
	SS	-10%	-10%	-40°C
	SS	-10%	-10%	125°C
1.0	SS	-10%	-10%	150°C
	FF	+10%	+10%	-40°C
	FFF ^[2]	+10%	+10%	125°C
	FFF ^[2]	+10%	+10%	150°C
	TT	nominal	nominal	25°C
	SS	-10%	-10%	-40°C
0.9	SS	-10%	-10%	125°C
	SS	-10%	-10%	150°C
	FF	+10%	+10%	-40°C
	FFF ^[2]	+10%	+10%	125°C
	FFF ^[2]	+10%	+10%	150°C
	TT	nominal	nominal	25°C
	SS	-10%	-10%	-40°C
	SS	-10%	-10%	125°C
	SS	-10%	-10%	150°C

[1] DVDD = 3.3V

[2] The FFF requirement is for leakage only. Aragio cannot guarantee that the AC/DC specifications will be met for the FFF model corner

Recommended operating conditions

Description	Min	Nom	Max	Units
V _{VDD} Core supply voltage	0.9	1.0	1.1	V
	1.08	1.2	1.32	V
T _J Junction temperature	-40	25	+125	°C
V _{PAD} Voltage at IO	0		V _{DVDD}	V
V _{DVDD} I/O supply voltage	2.97	3.3	3.63	V
V _{IH} Input logic high	1.7	-	-	V
V _{IL} Input logic low	-	-	0.9	V
V _{IL,AC} Input high voltage, AC	1.9	-	-	V
V _{IH,AC} Input low voltage, AC	-	-	0.7	V
V _{OH} Output logic high voltage	2.1	-	3.6	V
V _{OL} Output logic low voltage	0	-	0.5	V
F Clock frequency / accuracy	125 - 100ppm		125 + 100ppm	MHz

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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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