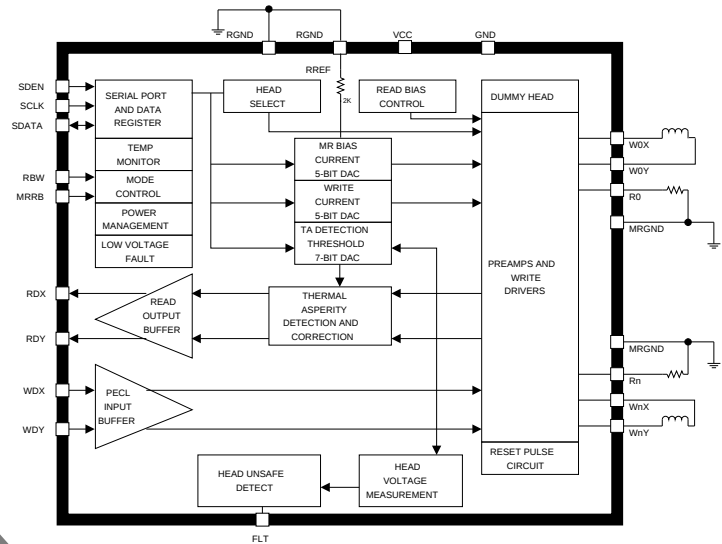


Preamplifier Section

LD3710

+5V GMR Head Preamplifier



Block Diagram

FEATURES

- Single 5V Supply
- Power Management
- Integrated reference resistor
- Single ended reader input
- Differential read output
- Programmable gain: 170V/V & 225V/V
- 400 MHz Bandwidth
- Rise/Fall Time: 0.8 ns (IW = 45 mA, Lf = 50 nH, Rf = 15 W)
- Serial port read back capability
- GMR ESD protection diodes on reader
- Internal capacitor

POWER RATINGS

Parameter	Condition	TYP	Unit
lcc1	Read mode, lmr=6mA	43.30	mA
lcc2	Read mode, lmr=0mA	19.10	mA
lcc3	Write mode, lmr=6mA, IW=45mA	64.40	mA
lcc4	Write mode, lmr=0mA, IW=45mA	58.80	mA
lcc5	Idle Mode	22.58	mA
lcc6	Sleep Mode	1.25	mA

POWER DISSIPATION

Parameter	Condition	TYP	Unit
	Read mode, lmr=6mA	216.5	mW
	Read mode, lmr=0mA	95.5	mW
	Write mode, lmr=6mA, IW=45mA	322.0	mW
	Write mode, lmr=0mA, IW=45mA	294.0	mW
	Idle Mode	112.9	mW
	Sleep Mode	6.3	mW

READ MODE

Parameter	Condition	TYP	Unit
lmr	MR sensor Bias Current	1.95 to 9.88	mA
Vmr	MR bias range	80 to 410	mV
Av1	Low Gain	173.8	V/V
Av2	High Gain	221.0	V/V
BW1	High Pass Frequency (-3dB)	1.5	MHz
BW3	Low Pass Frequency (-3dB)	395.00	MHz
Vos	Output offset voltage	60.0	mV
Vcmr	Rdx/Rdy common mode voltage	2.0	V
Gabhv	ABHV Gain	4.9	V/V

WRITE MODE

Parameter	Condition	TYP	Unit
Iw	TF Head write current	14.5 to 58.5	mA
Tr	Rise time of current	0.80	ns
Tf	Fall time of current	0.80	ns
Fw	Max write data frequency	185.0	MHz

SWITCHING CHARACTERISTICS

Parameter	Condition	TYP	Unit
Twr	Write to Read switching time	155	ns
Trw	Read to Write switching time	47	ns
Tir	Idle to Read switching time	1.83	us
Tri	Read to Idle switching time	60.5	ns
Tmrb	MRRB high to low switching time	1.03	us
Twi	Write to Idle switching time	34.3	ns
Tdl	IW propagation delay	5.72	ns