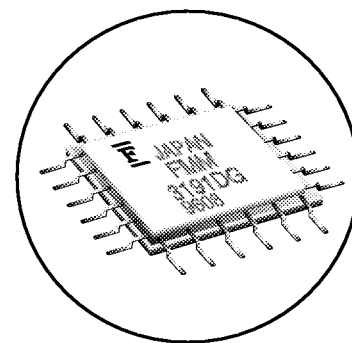


FEATURES

- Operation DC to 2.5 Gbit/s, NRZ
- Peak to Peak Output Voltage, Min: 3V(RL=50Ω)
- Peak and Bias Current Adjustment
- ECL Compatible Input
- Single Ended or Differential Input
- Single-5.2V Power Supply
- Bias Current Monitoring
- High Reliable, Metal/Ceramic 24-pin Hermetic Flat Package
- MI-Laser use only



DESCRIPTION

The FMM3191DG GaAs Laser Driver is a high-data rate driver circuit designed for fiber optic transmitters operating at data rates up to 2.5Gbit/s (NRZ). The device is capable of driving the high-power Laser Diodes. Peak and bias currents can be automatically controlled by applying a feedback signal from an external Automatic Power Control Circuit. This driver is used for MI-Laser.

ABSOLUTE MAXIMUM RATINGS (Ambient Temperature Ta=25°C)

Parameter	Symbol	Ratings	Unit
Supply Voltage	V _{SS}	-7.0 to 0	V
Input Voltage	V _{IN}	V _{SS} to 0	V
Power Supply Current	I _{SS}	300	mA
Peak Current Control Voltage	V _{IP}	V _{SS} -2.0 to V _{SS} +1.2 (RL = 10 Ω)	V
Bias Current Control Voltage	V _{IB1} V _{IB2}	V _{SS} -2.0 to V _{SS} +2.1	V
Storage Temperature	T _{stg}	-55 to 125	°C

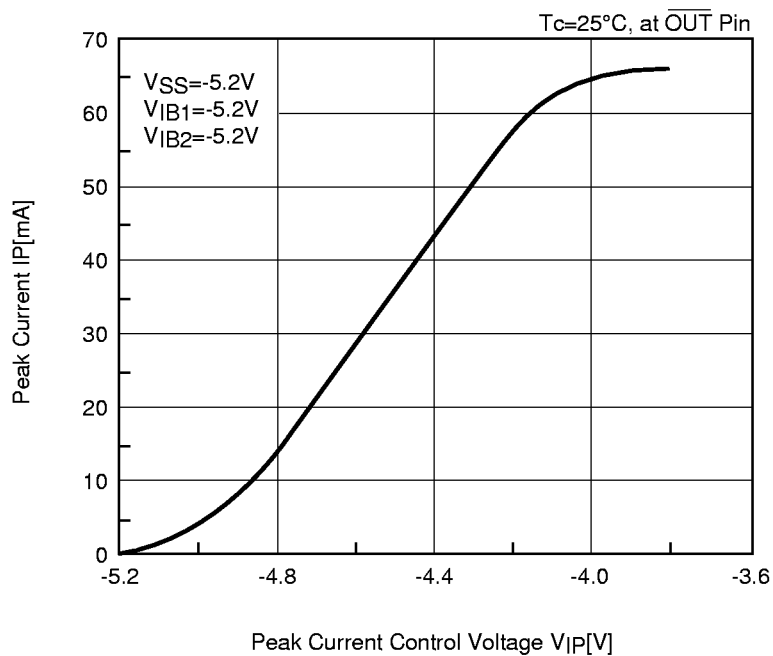
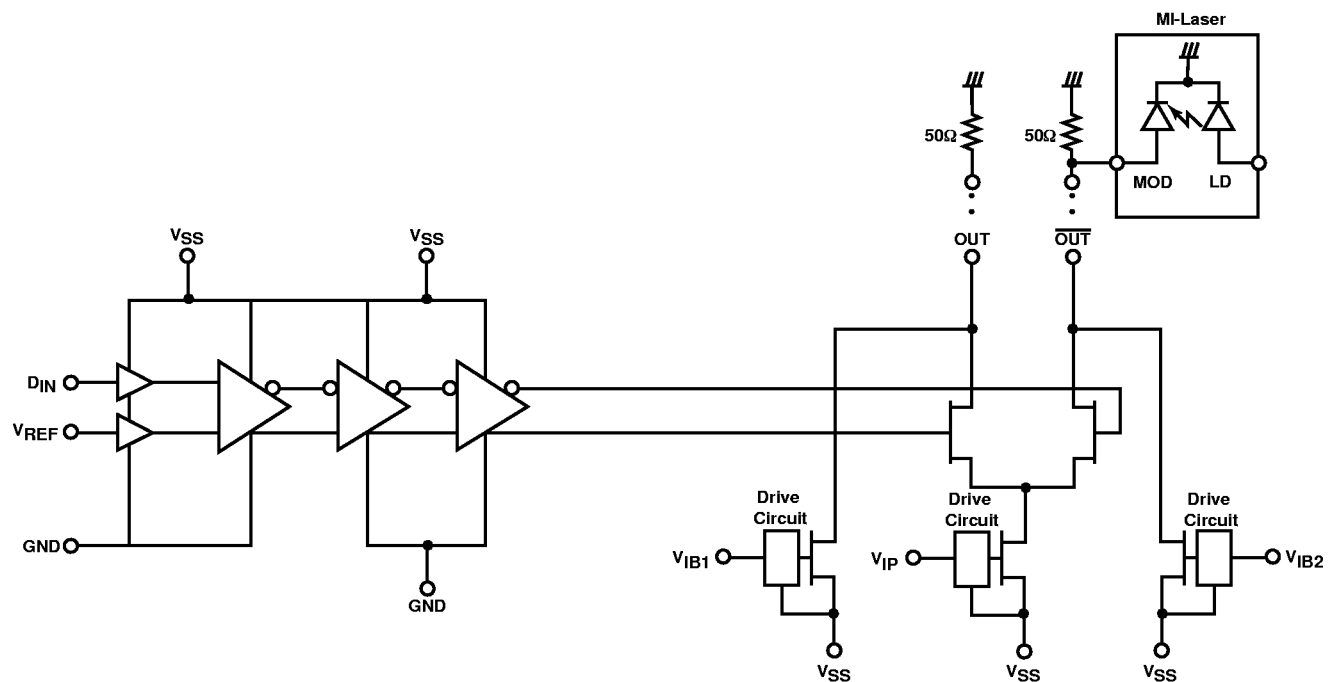
ELECTRICAL CHARACTERISTICS (T_c=25°C, V_{SS}=-5.2V, R_L=50Ω, at $\overline{\text{OUT}}$ Pin)

Parameter	Symbol	Test Conditions	Limit			Unit
			Min.	Typ.	Max.	
Maximum Data Rate		NRZ	2.5	-	-	Gb/s
Maximum Peak Current	I _P	V _{IP} =-4.1 V _{IB1} =-5.2 V _{IB2} =-5.2 DIN="Lo"	60	-	-	mA
Maximum Peak Current	I _{PDH}	V _{IP} =-4.1 V _{IB1} =-5.2 V _{IB2} =-5.2 DIN="Hi"	-	-	4	mA
Maximum Bias Current	I _B	V _{IB2} =-3.4 V _{IB1} =-5.2 V _{IP} =-5.2	30	-	-	mA
Power Supply Current	I _{SS}	V _{IP} =-5.2 V _{IB1} =-5.2 V _{IB2} =-5.2	-	100	-	mA
Rise Time	t _r	20% to 80%	-	120	-	ps
Fall Time	t _f	20% to 80%	-	120	-	ps
Reference Voltage	V _{ref}	Duty 50%	-1.4	-	-1.2	V
Output Voltage	V _{out}	V _{IP} =-4.1 V _{IB1} =-5.2 V _{IB2} =-5.2 DIN="Lo"	-	-	-3.0	V

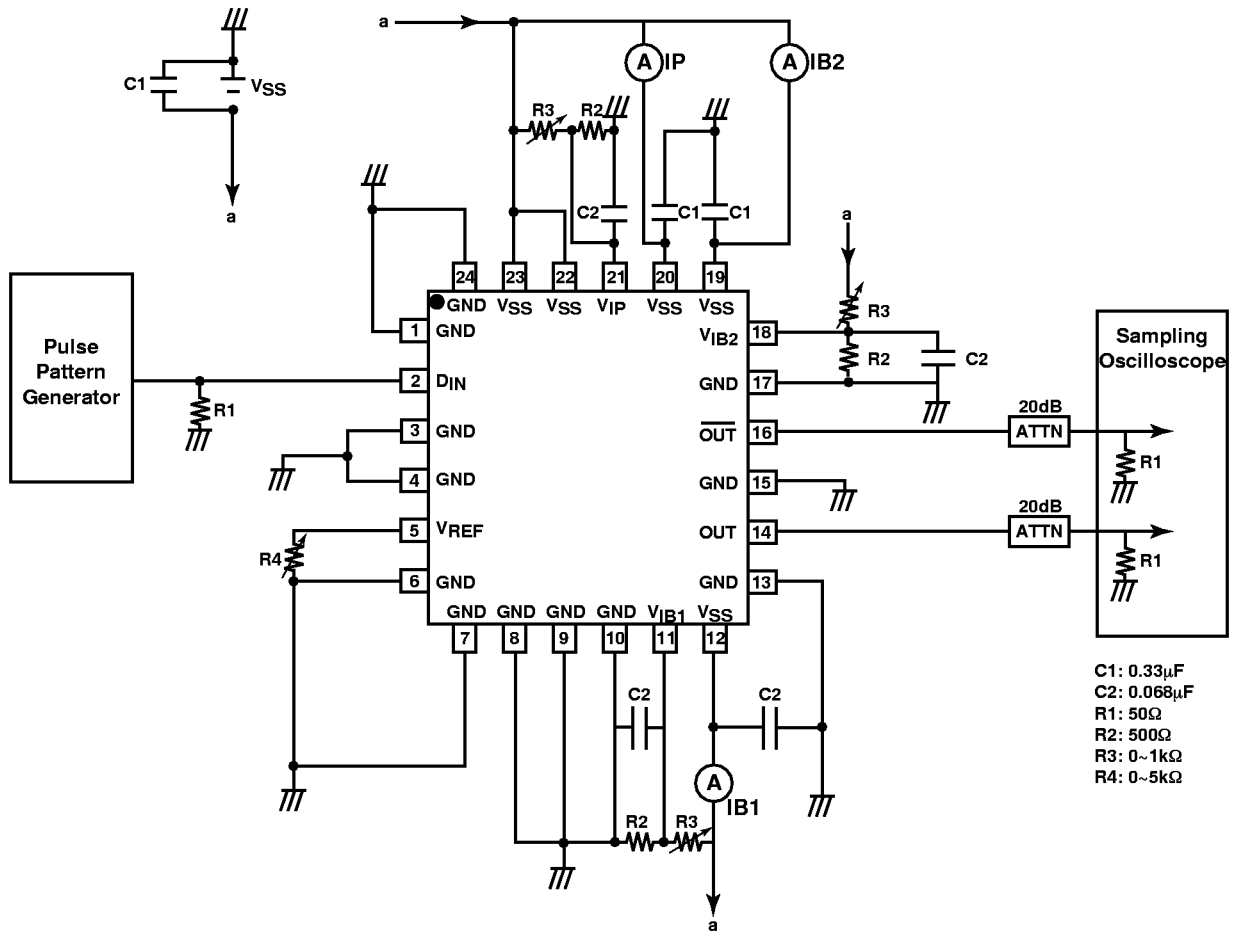
RECOMMENDED OPERATING CONDITIONS

Parameter	Symbol	Test Conditions	Limits			Unit
			Min.	Typ.	Max.	
Supply Voltage	V _{SS}		-5.46	-5.2	-4.94	V
High Level Input Voltage	V _{IH}	V _{ref} = -1.3V	-1.0	-0.9	-	V
Low Level Input Voltage	V _{IL}	V _{ref} = -1.3V	-	-1.7	-1.6	V
Peak Current Control Voltage	V _{IP}		V _{SS}	-	V _{SS} +1.1	V
Bias Current Control Voltage	V _{IB1} V _{IB2}		V _{SS}	-	V _{SS} +1.8	V
Case Temperature	T _C		0	-	+65	°C

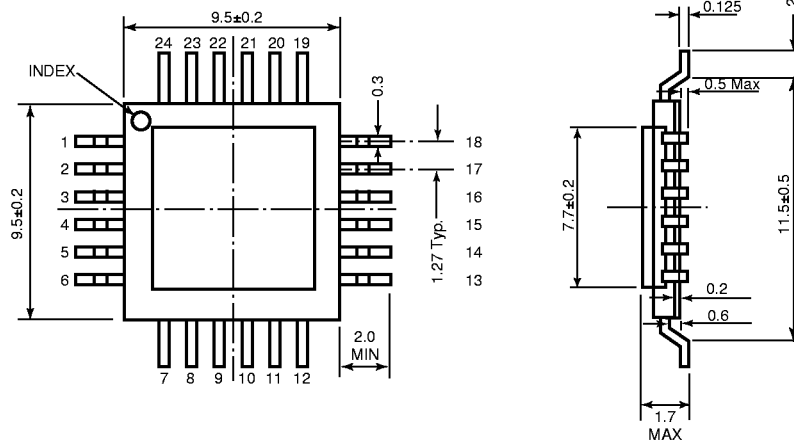
FMM3191DG MI-Laser Block Diagram



FMM3191DG Test Circuit



“DG” PACKAGE



UNIT: mm

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- Do not alter the form of this product into a gas, powder, or liquid through burning, crushing, or chemical processing as these by-products are dangerous to the human body if inhaled, ingested, or swallowed.
- Observe government laws and company regulations when discarding this product. This product must be discarded in accordance with methods specified by applicable hazardous waste procedures.