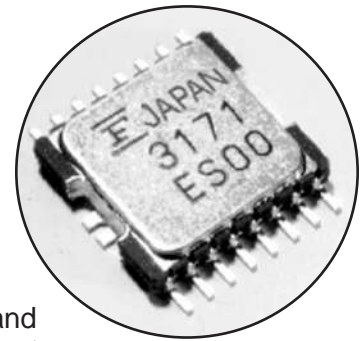


DESCRIPTION

The FMM3171VI is a laser driver IC for up to 1.2Gb/s optical transmission systems. The GaAs MES-FET IC process allows for high speed operation with low power consumption. There are two data inputs options; a complementary input or a single-ended input using a selectable D-F/F. The output duty ratio can be set by adjusting the input reference voltage (V_{ref}). The differential mark-density monitor (Mmk) output proportional to the peak current output signal. The peak current and bias current output is disabled by the shutdown terminal, which is ECL compatible. Logic "high" causes the output to be disabled. The High speed turn-on and turn-off is accomplished by a very low compute time constant. The amount of peak current and bias current are monitored by the current flow at I_p and I_b terminal which must be connected to VSS. This FMM3171VI is an excellent choice use as a laser driver for OC-3/OC-12/OC-24



FEATURES

- ECL Compatible Data Input
- Built in D-F/F (Optional)
- Complementary Data Input (Optional)
- Modulation Current: 0 to 70mA
- Bias Current: 0 to 70mA
- Output Shutdown Function
- Modulation Current and Bias Current Monitor
- Duty Ratio Monitor
- Duty Ratio Control
- Single Power Supply: -5.2V
- Separated Peak Current and Bias Current Outputs
- Small Package: SSOP-16

ABSOLUTE MAXIMUM RATINGS

($V_{DD} = 0V$)

Parameter	Symbol	Ratings	Unit
Storage Temperature	T_{stg}	-40 to +125	°C
Operating Temperature*	T_{OP}	-40 to +85	°C
Supply Voltage	V_{SS}	-7.0 to 0	V
Input Voltage	$D_{IN}, \bar{D}_{IN}, C_{IN}$	V_{SS} to V_{DD}	V
Peak Current Control Voltage	V_{IP}	$V_{SS} - 2.0$ to $V_{SS} + 2.1$	V
Bias Current Control Voltage	V_{IB}	$V_{SS} - 2.0$ to $V_{SS} + 2.1$	V

(*) Lower limit temperature corresponds to the ambient temperature and higher limit temperature corresponds to the case (the bottom of the case) temperature.

RECOMMENDED OPERATING CONDITIONS

($V_{DD} = 0V$)

Parameter	Symbol	Test Conditions	Limit			Unit
			Min.	Typ.	Max.	
Power Supply Voltage	V_{SS}		-5.72	-5.2	-4.94	V
Data & Clock Input	V_{IH}		-1.0	-0.9	-0.7	V
	V_{IL}		-1.9	-1.7	-1.6	V
Peak Current Control Voltage	V_{IP}		V_{SS}	-	$V_{SS} + 2.1$	V
Bias Current Control Voltage	V_{IB}		V_{SS}	-	$V_{SS} + 2.1$	V
Output Shutdown Control Voltage	V_{SD}	Output enable	-1.9	-1.7	-1.6	V
		Output disable (Shutdown)	-1.0	-0.9	-0.7	V
Selector Control Voltage	V_{SE}	D-F/F active	-	V_{DD}	-	V
		D-F/F inactive	-	Open	-	-