

OA4SMM5 40Gb/s 3.3V EA Modulator Driver Amplifier

Product Highlights

- 3.3Vp-p output swing
- 0.5ps added RMS jitter
- 6ps rise / fall time
- 20dB gain to 45GHz
- 900mW power dissipation
- Size: 0.77 x 1.19 x 0.26 inch
- Standard GPPO RF connectors
- Optional formed leads



Description

The OA4SMM5 is a small high performance broadband 40Gb/s Electro-Absorption optical modulator driver amplifier with low jitter, 3.3V amplitude, and excellent gain and group delay flatness to 45GHz. The driver is designed for electro-optical test equipment and SONET OC-768 / STM-256 optical modulator driver applications.

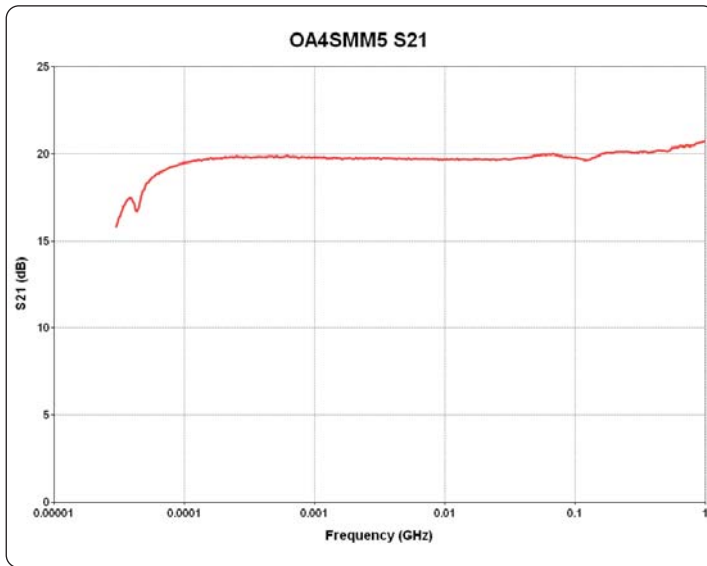
Application

The OA4SMM5 is offered in a small modularized package with excellent performance, and is intended for transponder integration. The OA4SMM5 has gain and power levels that are ideally suited for driving 40G electro-absorption modulators. The driver has low power dissipation, ample drive signal, low added jitter, fast rise/fall times, and is easy to use with simple bias voltages. The OA4SMM5 can be biased from a standard 5V supply.

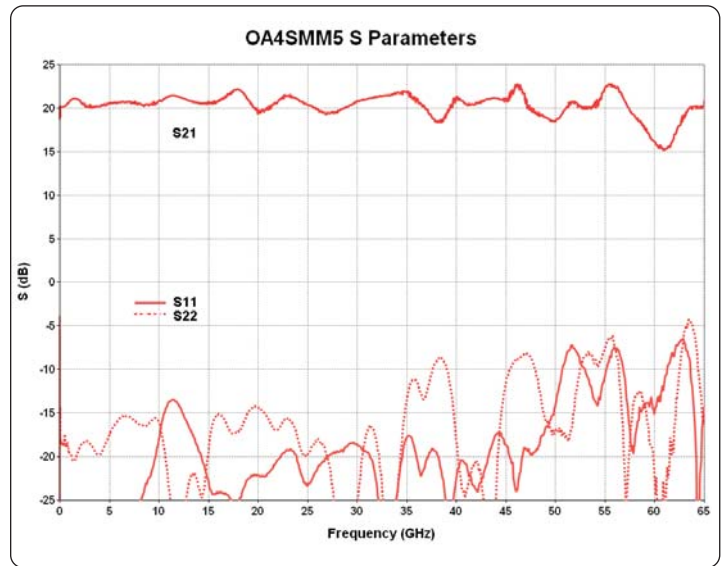
Key Specifications @ 25°C

Vdd1=Vdd2=5.0V, Vg1=Vg2=-0.10V, Zo=50Ω

Parameter	Description	0.01 - 26GHz			26 - 40GHz			40 - 45GHz			40Gbps		
		Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max
S21 (dB)	Small Signal Gain	18	21		15	17		13	15				
S11 (dB)	Input Match			-10 -8			-10			-10			
S22 (dB)	Output Match			-12 -10			-10			-10			
Amplitude (V)	Eye Amplitude										3.0	3.3	
Jitter (ps)	Added RMS Jitter											0.5	1
Tr / Tf (ps)	Rise / Fall Time											5.7	9



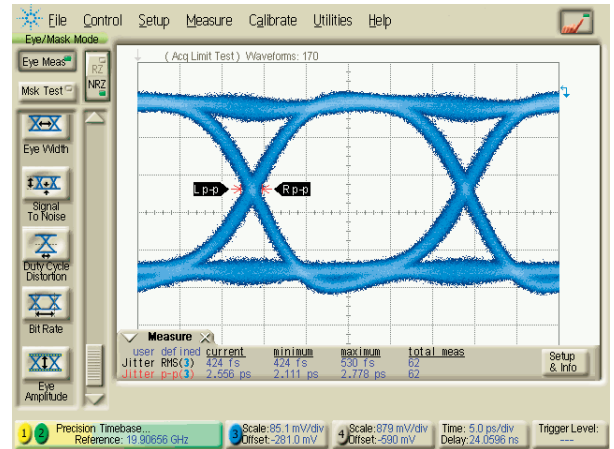
Typical module performance



Typical module performance

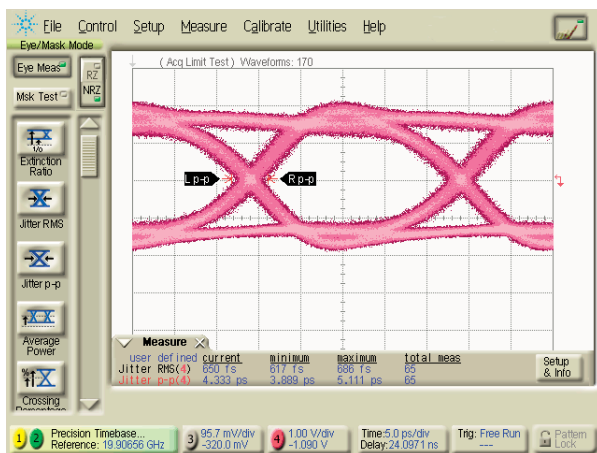
Supplemental Specifications

Parameter	Description	Min	Typ	Max
Vd1	Drain Bias Voltage FET1	—	5V	8V
Id1	Drain Bias Current FET1	—	85mA	120mA
Vd2	Drain Bias Voltage FET2	—	5V	8V
Id2	Drain Bias Current FET2	—	85mA	120mA
Vg1	Gate Bias Voltage FET1	-2V	-0.1V	0.5V
Vg2	Gate Bias Voltage FET2	-2V	-0.1V	0.5V
P _{in}	Input Power (CW)	—	—	20dBm
P _{dc}	Power Dissipation	—	850mW	—
T _{bs}	Backside Case Temperature	—	—	75°C

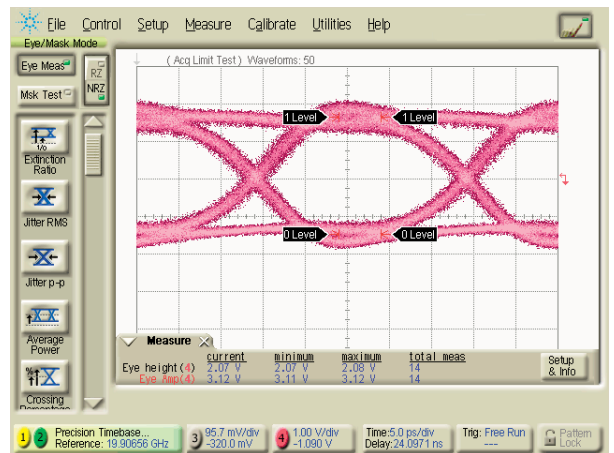


40Gbps input signal to OA4SMM5:
 - 322mV height, 393mV amplitude
 - 424fs RMS, 2.556ps p-p jitter
 - 7.56ps rise, 6.56ps fall

OA4SMM5 STANDARD



Output Jitter
 650fs RMS, 4.3ps p-p jitter



Output Amplitude
 2.1V height, 3.1V amplitude
 8.22ps rise, 8.33ps fall

