

AH54147A

50Gb/s EA Driver Module

Features

- High output voltage
- Wideband
- Adjustable amplitude & crossing
- Bias tee built-in
- Low power consumption (heatsink-free)

Applications

- Evaluation of optical modulators
- Evaluation of high speed semiconductors



Absolute Maximum Ratings

Items	Symbol	Conditions	Units	Ratings	
				min.	max.
Input voltage	Vin	NRZ	Vp-p		1
Supply voltage	V+	+6V	V	0	+7
	V-	-5V	V	-6	0
	Vx		V	-5	+5
	Vamp		V	0	+6
	Vofs		V	-5	+5
Offset current	Iofs		mA		250
Operating temperature	Tc		°C	+5	+50
Storage temperature	Tstg		°C	-20	+85

Specifications

Frequency response

Tc=30°C, V+=+6V, V=-5V, Zin=50 ohms, Zout=50 ohms

Items	Conditions	Units	Specifications		
			min.	typ.	max.
Voltage gain	@ 2GHz	dB		20	
Bandwidth	-3dB (low end)	kHz		50	
	-3dB (high end)	GHz		50	
Gain flatness	2G - 40GHz	dB		±0.5	
Group delay	2G - 40GHz	ps		±25	
Input return loss	40M - 40GHz	dB		-15	
Output return loss	40M - 40GHz	dB		-15	

Pulse response *1

Items	Conditions	Units	Specifications		
			min.	typ.	max.
Bit rate	NRZ	Gbit/s		50	
Maximum output voltage*2	Vin=0.7Vp-p 50Gbit/s	Vp-p	3.5	3.7	1
Minimum output voltage*2					
Jitter		fs rms		500	
Tf / Tf	20-80%	ps		8	
Eye crossing adjust*3	Bit rate<45Gbit/s	%	30	50	70
	Bit rate>45Gbit/s		35	50	65
Output polarity		-	Non-invert		

*1:The specifications are based on the measurement using the Agilent 86118A 70GHz Remote sampling head and 86107A Precision time base. Moreover, the 50cm V type semi-rigid coaxial cable is connected between the driver's output and the sampling head.

*2:The output amplitude is adjusted by applying a positive voltage to the "Vamp" pin.

*3:The eye crossing is adjusted by applying a positive or negative voltage to the "Vx" pin.

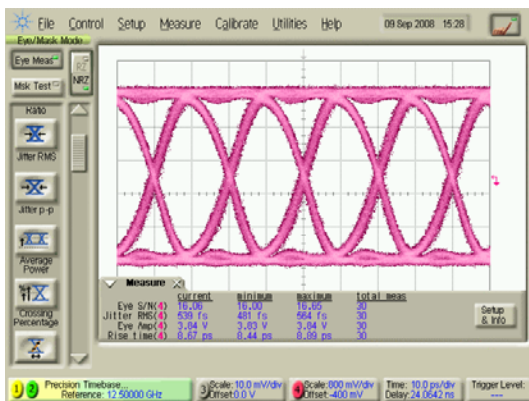
Power supply

Items	Conditions	Units	Specifications		
			min.	typ.	max.
Supply current	+6V	mA		170	250
	-5V			20	30
Power consumption		W		1.12	

Electrical Characteristics

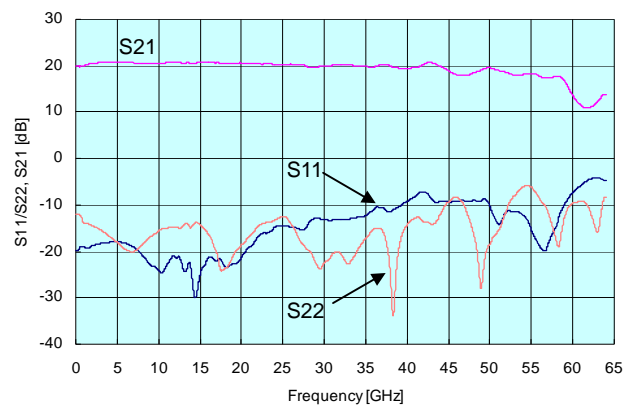
Eye diagram at 50Gbit/s

Vout=3.84Vp-p, Jitter=539fs(rms)

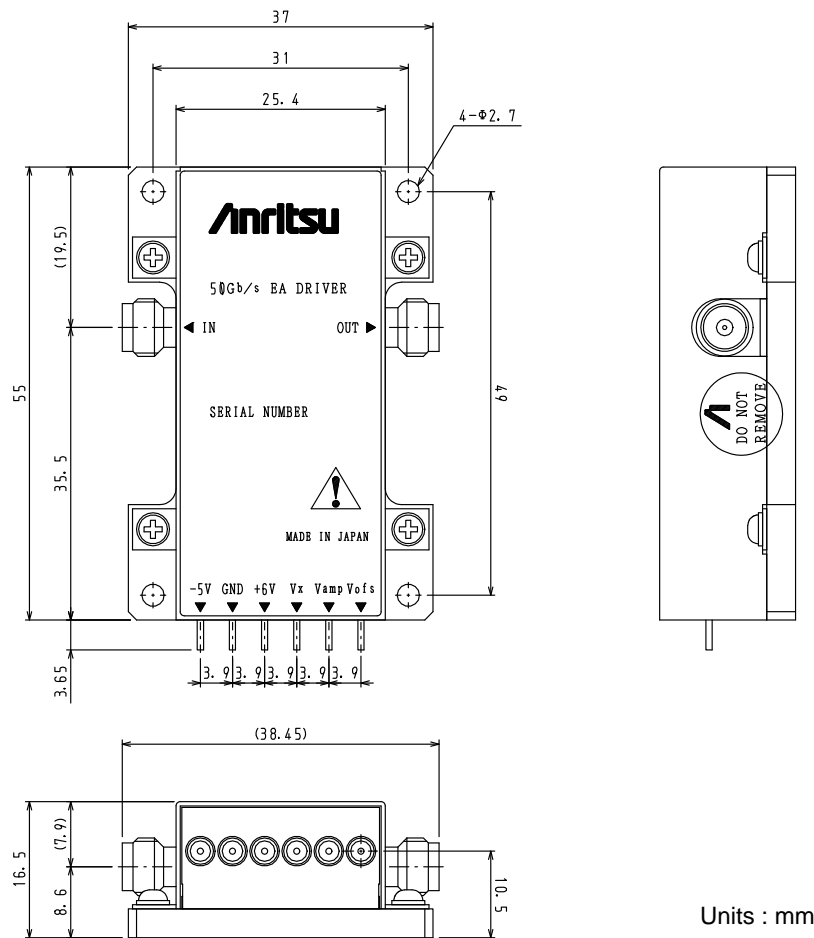


V:800mV/div H:10ps/div

S-parameter



Dimensions



Units : mm

#	Symbol	Supply voltage	Functions	Remarks
1	V-	-5V	Negative power supply	
2	GND	GND	Ground	
3	V+	+6V	Positive power supply	
4	Vx		Eye crossing adjustment	
5	Vamp		Output Amplitude adjustment	
6	Vofs		Output offset adjustment	
7	IN		RF input	V - female
8	OUT		RF output	V - female

Please consult Anritsu Corporation If the products are used in the high reliability system.
Specifications are subject to change without notice.