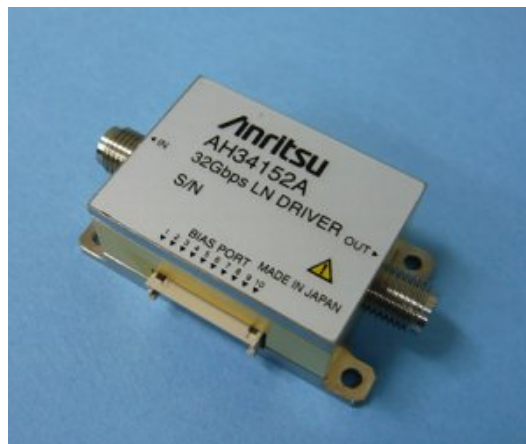


AH34152A

32Gbit/s LN Driver

Features

- High output voltage: 8Vp-p typ.
- Wideband: 50kHz to 40GHz
- Variable output voltage: 4Vp-p to 8Vp-p
- Variable cross point: 45% to 55%
- Low power consumption: 1.7W typ.
- I/O interface: Single ended



Applications

- Evaluations for 40G DQPSK/100G DP-QPSK optical modulators
- Evaluations for high-speed semi-conductors

Absolute Maximum Ratings

Items	Symbols	Conditions	Units	Ratings	
				min.	max.
Input voltage	V _{in}	NRZ	Vp-p		1
Supply voltage	V _{G1}		V	-3	1
	V _{C1}	+0.5V	V	0	+5
	V _{BT1}	+2.5V	V	0	+5
	V _{G2}		V	-9	0
	V _{C2}	+2.0V	V	-3	+4
	V _{BT2}	+7V	V	0	+10
	DET_BIAS		V	0	+10
Operating temperature	T _c		°C	+5	+50
Storage temperature	T _{stg}		°C	-20	+85

Specifications

Pulse responses *1

Ta=25°C, VC1=+0.5V, VBT1=+2.5V, VC2=+2V, VBT2=+7V, Zin=50ohms, Zout=50ohms

Items	Conditions	Units	Specifications		
			min.	typ.	max.
Bit rate	NRZ	Gbit/s	32		
Max. Output voltage swing	Vin=0.5Vp-p 32Gbit/s	Vp-p	7	8	
Min. Output voltage swing				4	4.5
Additional jitter *2		fs rms		600	
Rise time / Fall time	20 - 80%	ps		11	15
Cross point adjustability		%	45	50	55
Output polarity		-	Non-inverted		

Frequency responses *4

Items	Conditions	Units	Specifications		
			min.	typ.	max.
Voltage gain	1GHz	dB	24	26	
Bandwidth	-3dB (low end)	kHz		50 *3	100
	-3dB (high end)	GHz	30	40	
Group delay	40M - 30GHz	ps		±100	
Input return loss	40M - 30GHz	dB		10	
Output return loss	40M - 30GHz	dB		10	

*1: In the case of being measured in the following conditions.

–Connect 30cm K-type coaxial cable to the output of AH34152A.

–Measured by 86118A 70GHz remote sampling head with 86107A precision time base, manufactured by Agilent Technologies.

*2: Jitter (add) = (Jitter(out)² - Jitter(in)²)^{1/2}

*3: In the case of being operated by Option01 bias-board.

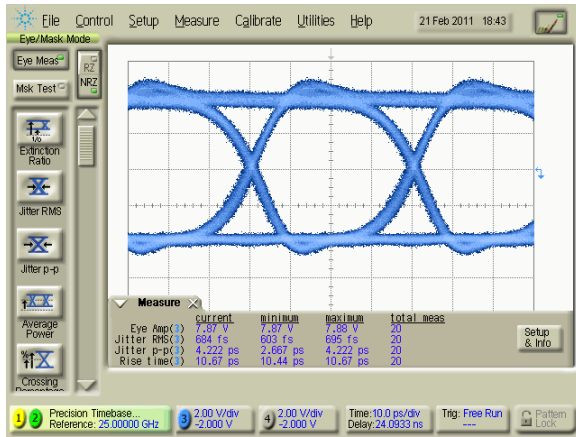
*4: Freq. Characteristics in non-saturation are regarded as reference value .

Power supplies

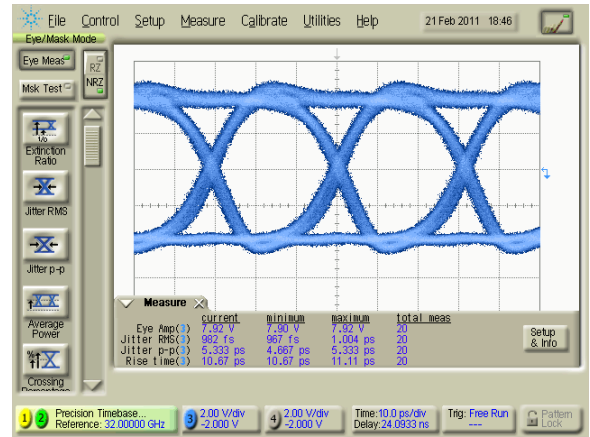
Items	Conditions	Units	Specifications		
			min.	typ.	max.
Current consumption	VG1	mA	-5	0	
	VC1	mA		0	5
	VBT1	mA		50	100
	VG2	mA	-30	-5	
	VC2	mA	-20	0	
	VBT2	mA		220	320
	DET_BIAS	mA		0.1	
Total power consumption		W		1.7	

Characteristics

25Gbit/s Eyepattern

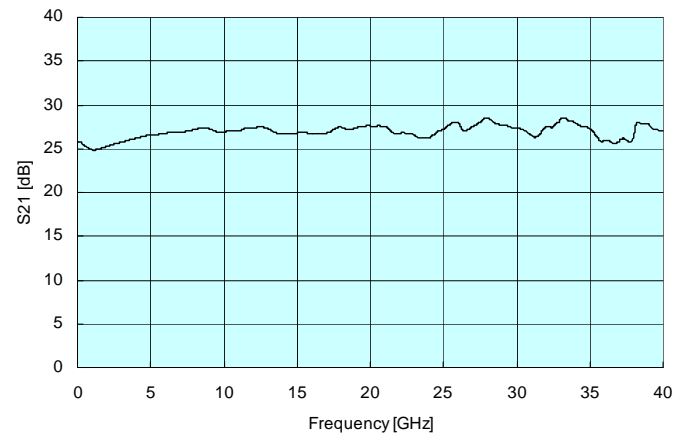
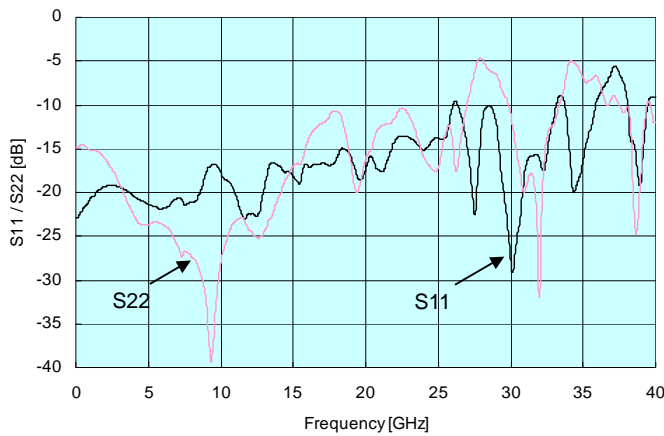


32Gbit/s Eye pattern

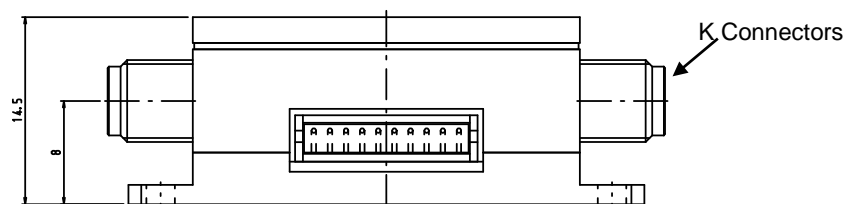
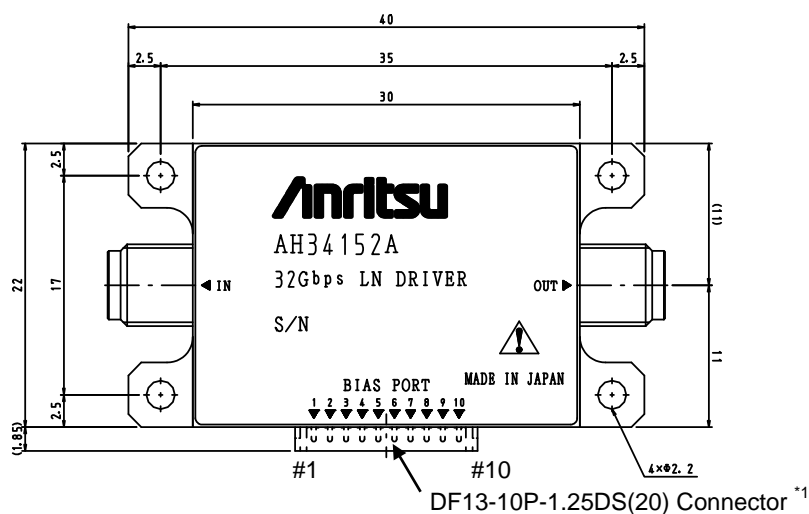


V:2V/div H:10ps/div

S-parameters



Dimensions



Units: mm

#	Symbols	Supply voltages	Functions	Remarks
1	GND	GND	Ground	
2	VG1	(-0.1V)	1 st stage gate bias	*2,3
3	VC1	+0.5V	1 st stage control bias	*2,3
4	VBT1	+2.5V	1 st stage drain bias	*2,3
5	DET_REF		Output of detector reference	
6	DET_BIAS	(=VBT2)	Detector reference bias	
7	VG2	(-2.0V)	2 nd stage gate bias	Adjust cross point *2,3
8	VC2	+2.0V	2 nd stage control bias	*2,3
9	VBT2	+7V	2 nd stage drain bias	Adjust output voltage *2,3
10	DET_OUT		Detector output	
11	IN		RF input port	K connector
12	OUT		RF output port	K connector

*1: Please use DF13-10S-1.25C connector for supplying bias voltages to the module.

*2: Please observe the instruction manual when turning power on/off. Sequence circuit has not been equipped with the module.

*3: Option 01: bias-board is available. This option will make sequence-free power supplies and easy waveform adjustments possible.

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

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