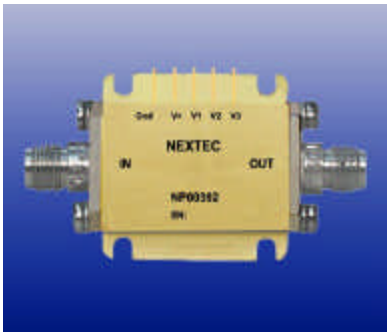
nextec-RF **NP00392**

OC-192 Modulator Driver Amplifier

General Description

The NP00392 is ideal for driving a LiNbO3 optic modulator at OC-192 rates to 12.5 Gbps. The NB00392 could also be used in receivers, as wideband amplifier in RF systems and in instrumentation. The module is capable of saturated output 7.5V (≈21.5dBm) from a 500mV input. Output level adjust and crossing offset adjust pins are options. Biases are externally adjustable for possible use with other waveforms and mark ratios. The module features integrated dc blocks and bias-tee.



Performance over –5 to +70 °C at V+=8.5 V

Parameter		Min.	Typ.	Max.	Units
Frequency (-3 dB)	Lower: Higher:		30 11		KHz GHz
Output Adjustment Range		4		7.5	Volts
Rise/Fall time (10% ~ 90%)				32	psec
Output Crossover Jitter (50% crossing points) Total				2.5	psec (RMS)
Input/Output Return Loss (50 ohms, up to 10 GHz)		10			dB
Electrical Eye Crossing Point Adjustment Range (optional)			±15		%
Integrated Bias-Tee DC Output (optional, 2 Kohms)		-10		+15	Volts
DC supply voltage		See Connector Description			Volts
Current at Vout = 7.5 V			250	300	mA

Test input data sequence: PRBS (2^{31}-1), 0.7 volts NRZ, 50 % mark ratio.

Customized Designs: For custom designs, including both electrical and mechanical, please contact us at sales@nextec-rf.com.

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November 8, 2004

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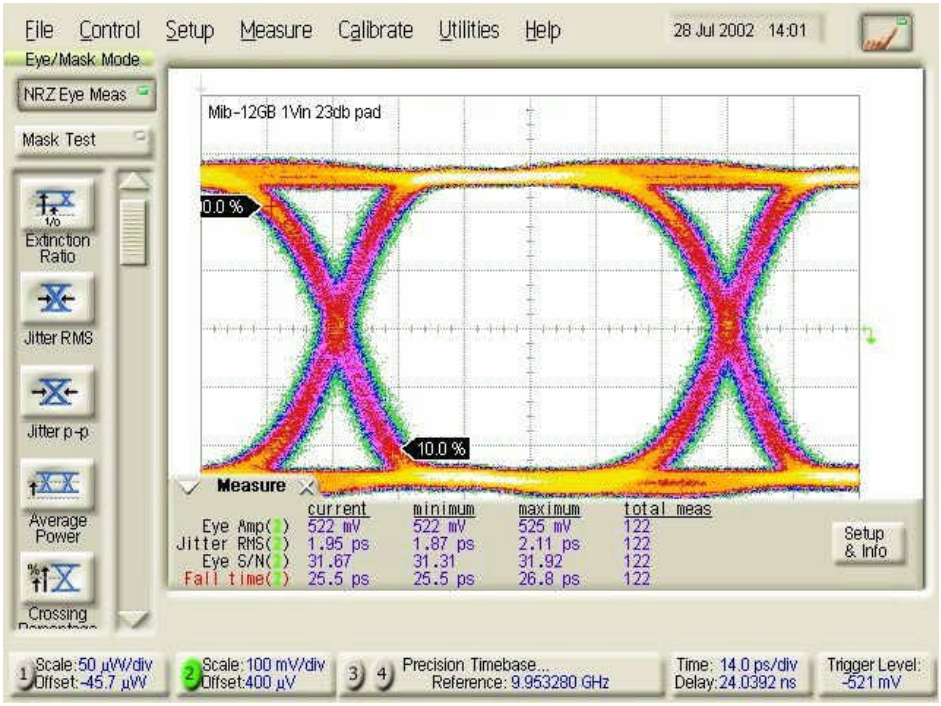
Typical Test Data

Eye Diagram of Output measured with 12 Gbps NRZ



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Small Signal Response

High Input (+1 dBm) Response

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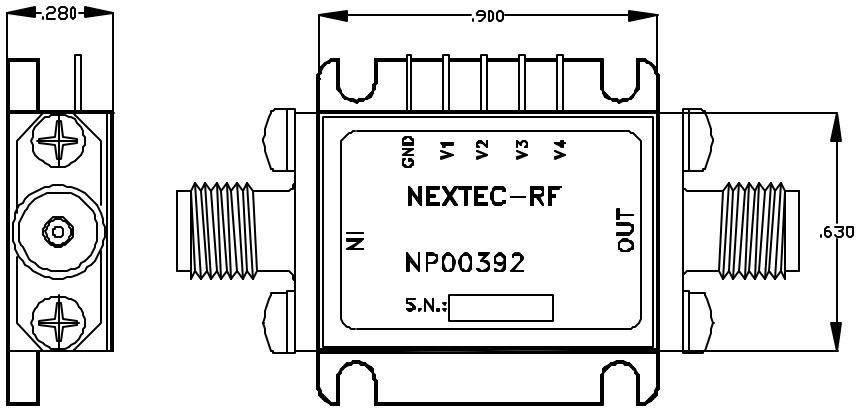
Outline Drawing



(unit: inch)

Connector Description

IN	RF input signal (replaceable SMA-F or K)
OUT	RF output signal (replaceable SMA-F or K)
V1	DC input 8.5 ± 0.25 V, current at Vout=8V: 250mA typical
V2	Eye Performance Set. (–0.4 V to –1.0 V), current < 5mA
V3	Cross Point Set. (-0.2 V to –1.0V) , current < 5mA
V4	Output Level Set (0 V to +1.5 V) , current < 5mA
GND	Ground

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