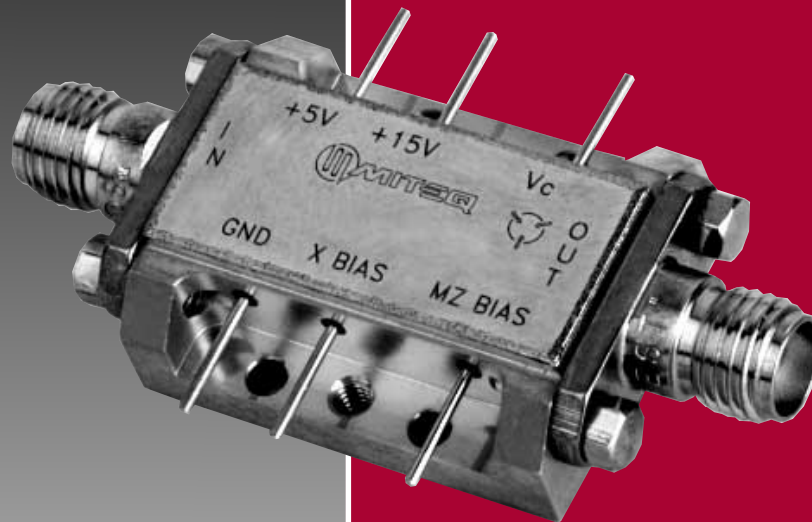




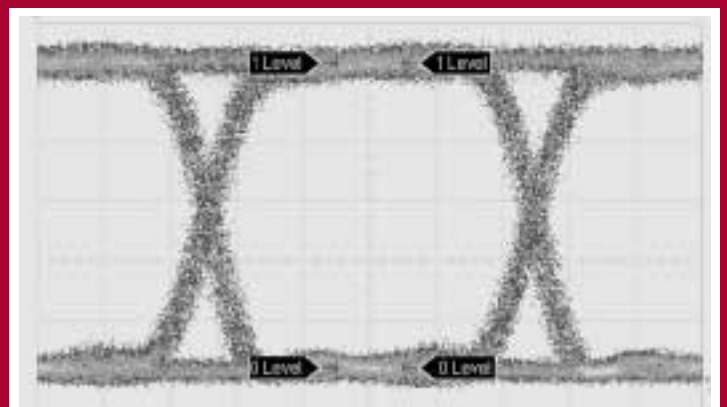
MACH-ZEHNDER MODULATOR DRIVERS

JSX Series



FEATURES

- Specifically designed for fiber optic applications
- Standard models for 10, 10.7 and 12.5 Gb/s data rates
- Product line includes linear and limiting amplifiers
- Gain control available
- Compatible with telecordia requirements
- Small package size simplifies system integration



GENERAL SPECIFICATIONS

MODEL NUMBER	CLOCK RATE (Gb/s)	CONTROL VOLTAGE
JSX100G3S7VPC	10	Positive
JSX107G3S7VPC	10.7	Positive
JSX125G3S7VPC	12.5	Positive
JSX100G3S7VNC	10	Negative
JSX107G3S7VNC	10.7	Negative
JSX125G3S7VNC	12.5	Negative

NOTE: Add suffix "Z" to the model number for performance versions where the electrical "1" level corresponds to the optical "0" of the modulator.

PERFORMANCE SPECIFICATIONS

PARAMETERS	CONDITIONS	UNITS	MIN.	TYP.	MAX.
Lower frequency	3 dB	kHz		20	30
Return loss (small signal)					
Input	To 12 GHz	dB	10		
Output		dB	10		
Gain flatness	20 kHz to 8 GHz	dB, p-p			1
	To 12 GHz with a 800 mV input	dB, p-p	0		-5
Output variation over temperature		Volts			0.15
Input voltage (maximum)		Volts			1.5
+15 V* (+9 V also available)					
Power required		Volts		15	
Current required		mA		200	320
+5 V* (+8 V also available)					
Power required		Volts	4.8	5	5.2
Current required		mA		65	75
Bias (zero crossing adjust)					
Power required		Volts	-8	-4	0
Current required		mA		10	30
VPC models (V_C)					
Positive control voltage		Volts	0		15
Positive control current		mA	0		3
VNC models (V_C)					
Negative control voltage		Volts	-15		0
Negative control current		mA	0		3

* See "Customization".

GENERAL SPECIFICATIONS (CONT.)

EYE MEASUREMENT

PARAMETERS	CONDITIONS	UNITS	MIN.	MAX.
Voltage*				
Input		mV	500	900
Output		V	7	
Q or S/N at 7 V output		Ratio	30	
Jitter (corrected for instrument jitter)		ps		10
Rise time (corrected)	10 to 90%	ps		30
Fall time (corrected)	10 to 90%	ps		30
SNR of zero level	Z version	Ratio	30	

* Optional 250 mV (non-inverting).

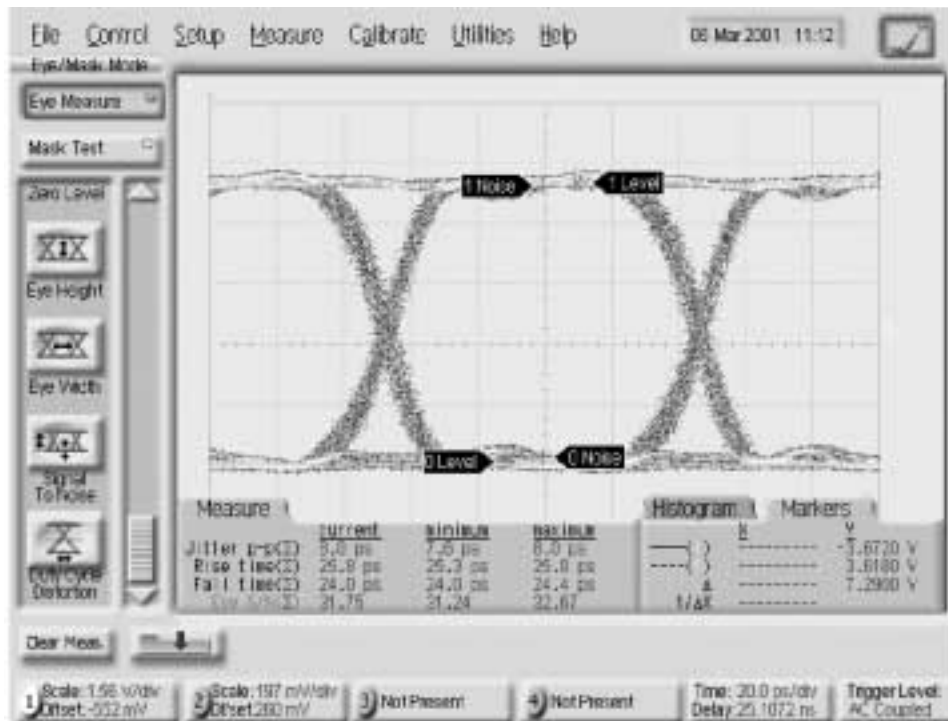
MITEQ's standard modulator driver amplifiers have been designed to meet the following environmental conditions:

GENERAL SPECIFICATIONS

- Operating temperature -5 to +70°C
- Storage temperature -40 to +85°C
- Humidity 95% relative humidity, noncondensing
- Vibration 50 g's rms peak 20 Hz – 2 kHz in accordance with MIL-STD-883, Method 2007, Condition B

MEASURED PERFORMANCE

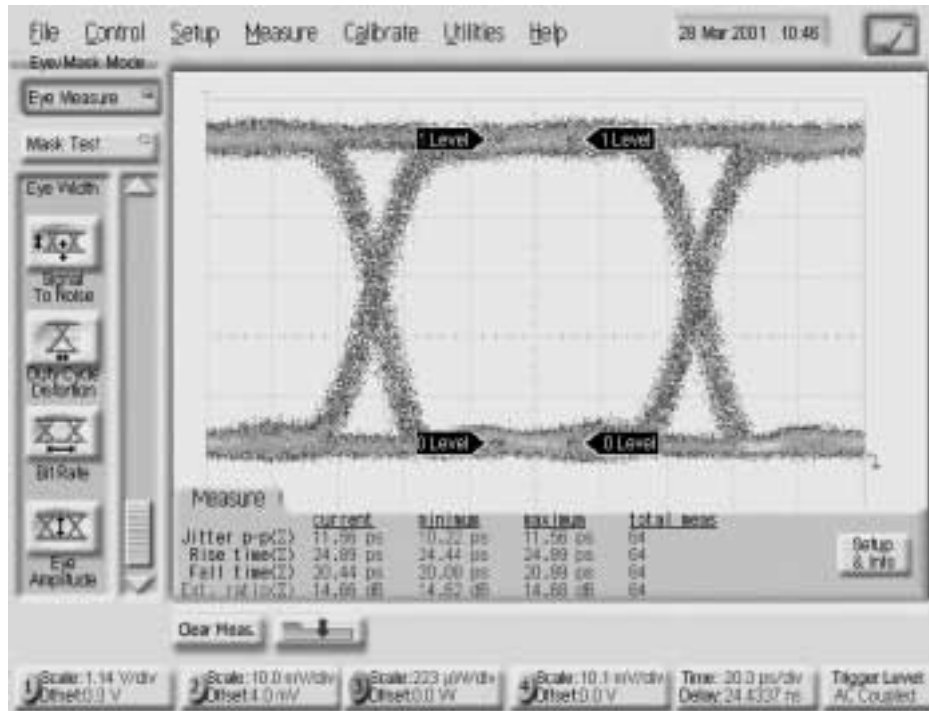
10 Gb/s MODULATOR DRIVER



ELECTRICAL EYE

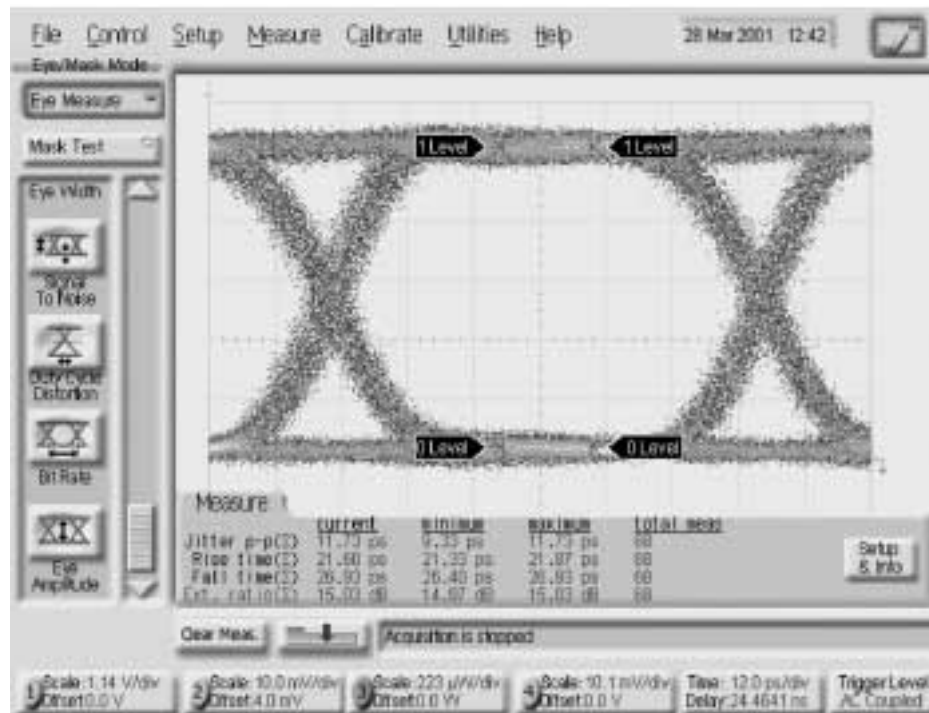
MEASURED PERFORMANCE (CONT.)

10.7 Gb/s MODULATOR DRIVER



OPTICAL EYE

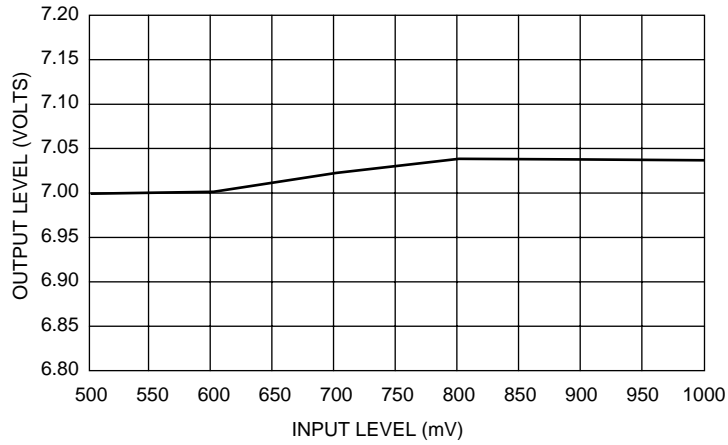
12.5 Gb/s MODULATOR DRIVER



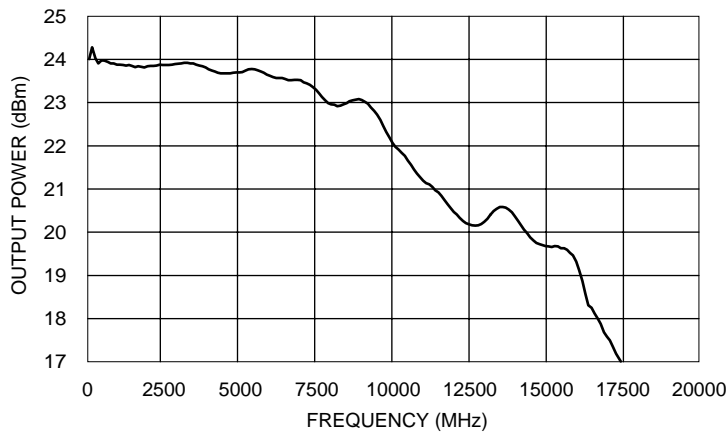
OPTICAL EYE

TYPICAL TEST DATA

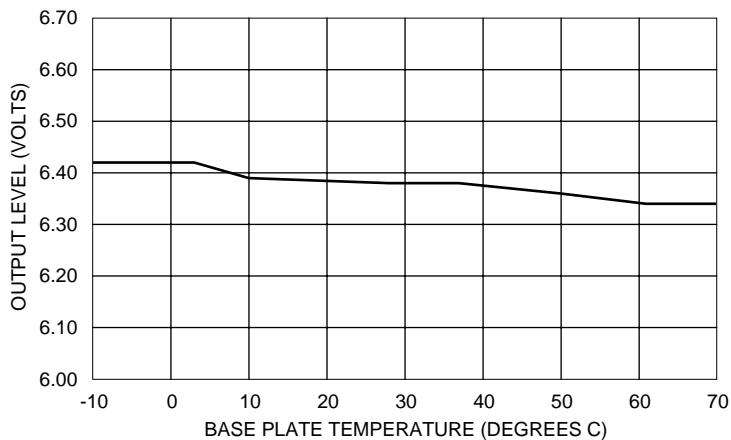
**DRIVER OUTPUT VOLTAGE vs. INPUT LEVEL
AT FIXED CONTROL VOLTAGE**



**OUTPUT POWER vs. FREQUENCY OF 10.7 Gb/s
VAMP AT INPUT IS 800 mV**



**DRIVER OUTPUT VOLTAGE vs. TEMPERATURE
AT FIXED CONTROL VOLTAGE**



NOTE: TYPICAL FOR ALL MODELS.

MACH-ZEHNDER MODULATOR DRIVERS

CUSTOMIZATION

Customization of the electrical and mechanical configuration can be made available on request. Mounting provisions, PIN-out locations, supply voltages and connector type can be modified to facilitate system integration and maximize performance. Call us to discuss your specific needs.

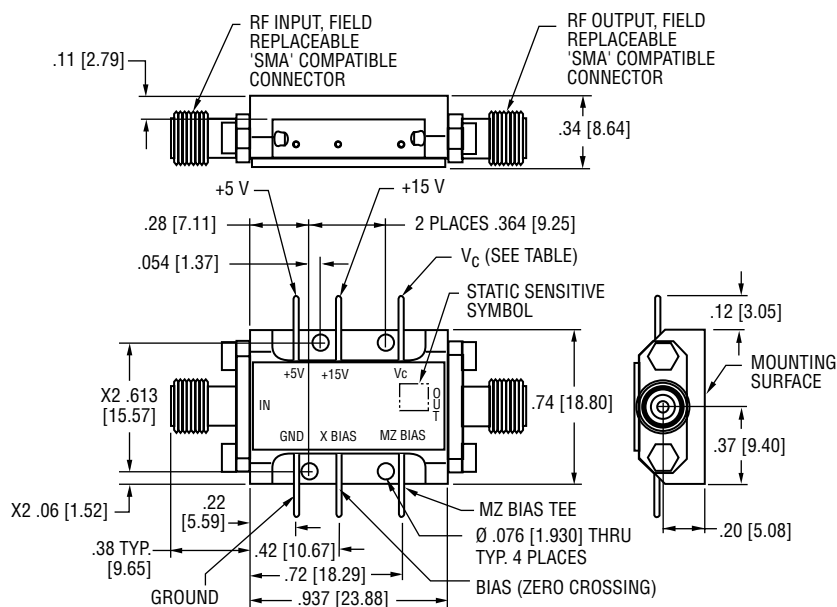
MITEQ's telecommunication products have been designed to exceed industry standard lifetime expectations of twenty years when operated under the specified conditions. An advanced thermal design, supported by thermal analysis, endows this product with low internal temperature rise, ensuring long life. The thermally enhanced package design, utilizes hermetic glass to metal seals and is seam welded to protect the circuitry from the environment.

More than 10,000 MITEQ 10 Gb/s amplifiers have been fielded by major telecommunication system suppliers. This broad level of field service, combined with extensive qualification and life testing, clearly demonstrates the reliable performance of this product line. Qualification tests comply with standards endorsed by the telecommunications industry, as well as customer specified procedures. They include the full range of environments encountered by industry applications.

OUTLINE DRAWING

HEATSINKING

The heat dissipation for these amplifiers can be as high as 4.5 W, therefore heatsinking is necessary. Ideally, the unit should be mounted to a metal base plate, which is connected to the overall housing of the system. For best long term reliability, this base plate should be kept below 80°C.



NOTES:

1. SECONDARY DIMENSIONS ARE IN MILLIMETERS.
2. SMA CONNECTORS ARE STANDARD, OTHER TYPES ARE AVAILABLE.
3. OUTPUT LEVEL INCREASES WITH CONTROL VOLTAGE BECOMING MORE POSITIVE FOR BOTH THE VPC AND VNC MODELS.

MODEL SUFFIX	V _c OPTIONS
-PC	0 V TO +15 V
-LC	0 V TO +10 V
-NC	0 V TO -10 V
-ZC	-5 V TO +5 V

For additional information and technical assistance,
please contact Ann Collins at (631) 439-9474 or e-mail acollins@miteq.com



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