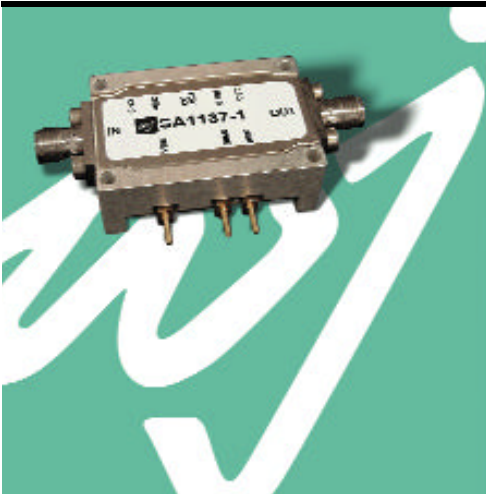


SA1137-2 OPTICAL MODULATOR DRIVER

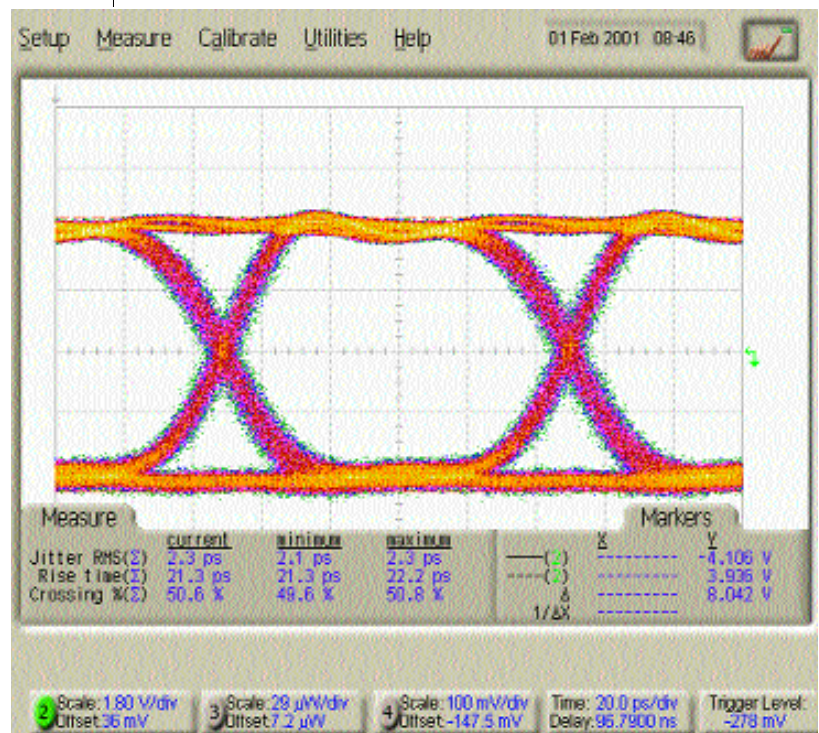
WJ's 10Gbps modulator drivers
An RF evolution for OC-192



Non Inverting Data Driver

- Low Power Consumption
+11V @ 250 mA typical
-5 V @ 27 mA typical
- Greater than 12 Gbps
- 8 V output amplitude
- 5 V output amplitude control range
- 25 ps rise/fall times
- Electronic crossing % control
- Output level detector
- Reference level detector
- Integral modulator DC bias
- Internally regulated
- Automatic DC bias sequencing

The SA1137 is another addition in WJ's series of hybrid-based products optimized for OC-192 networks. The SA1137 is a full-function amplifier capable of driving LiNbO₃ modulators. The SA1137's limiting action can actually improve on multiplexer rise and fall times. This makes the SA1137 an excellent choice for optical RZ and NRZ systems alike. The SA1137 is designed for the full range of OC-192 data rates from 9.9Gbps through 12.25Gbps (FEC rate).



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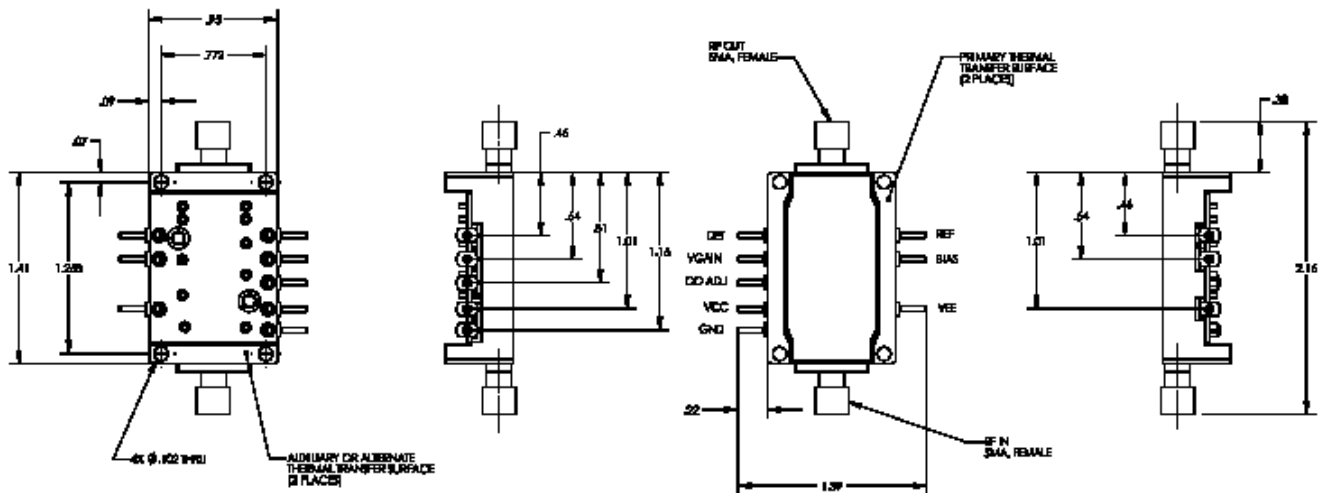
SA1137-2 NON-INVERTING OC-192 OPTICAL MODULATOR DRIVER AMPLIFIER SPECIFICATIONS

| Parameter | Conditions | Minimum | Typical | Maximum | Units |
|--------------------------------|------------------------------------|-------------------|---------------------|---------|-------|
| Data Rate | NRZ | | | 12.25 | Gbps |
| Minimum Operating Frequency | | | | 30 | KHz |
| Input Voltage Range | | 600 | | 900 | mV |
| Output Signal Amplitude (max.) | Vgain = 0V | 7.5 | >8 | | V |
| Output Signal Amplitude (min.) | Vgain -10V | | <3 | 4 | V |
| Level Control Bandwidth | | 30 | | | KHz |
| Rise/Fall Time | 20% to 80% | | ≤25 | 30 | ps |
| Crossing Point Control Range | no connection +5V -5V | 45% -5% +5% | 50% | 55% | |
| Output Level | V _{Ref} | | 380 | | mV |
| Detector | V _{Ref} -V _{Det} | | 90@4Vpp/300@7.5V pp | | mV |
| Input/Output VSWR | 100KHz to 15 GHz | | <2:1 | 2.3:1 | |
| Operating Case Temperature | | -5 | | +75 | °C |

| Pin Reference | Function | Voltage | Current (mA) | |
|-----------------|------------------------------------|---------------------------|--------------|---------|
| | | | typical | maximum |
| Vcc | Positive Bias | +11v | 270 | 300 |
| V _{EE} | Negative Bias | -5v | 27 | 30 |
| Gain | Output level control | 0 to -10V | | 6 |
| Bias | Output DC offset (thru a 1.8K ohm) | -10 to +25V _{DC} | | |
| Det | Output level detector | 0-400mV | | |
| Ref | DC reference for detector | 380mV | | |
| Co Adj | Crossover adjustment | -5 to +5v | | 1 |

Notes:

1. Unit weight .XXX ounces max.
2. Dimensions are expressed in inches
3. Tolerance .XXX ± 0.005
.XX ± .02



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