



AVTECH ELECTROSYSTEMS LTD.

NANOSECOND WAVEFORM ELECTRONICS
SINCE 1975

P.O. BOX 265
OGDENSBURG, NY
U.S.A. 13669-0265
TEL: (315) 472-5270
FAX: (613) 226-2802

TEL: 1-800-265-6681
FAX: 1-800-561-1970
U.S.A. & CANADA

e-mail: info@avtechpulse.com

BOX 5120 STN. F
OTTAWA, ONTARIO
CANADA K2C 3H4
TEL: (613) 226-5772
FAX: (613) 226-2802

INSTRUCTIONS

MODEL AVX-SRB-AS1-MI BIAS INSERTION UNIT

S.N.: 7662

WARRANTY

Avtech Electrosystems Ltd. warrants products of its manufacture to be free from defects in material and workmanship under conditions of normal use. If, within one year after delivery to the original owner, and after prepaid return by the original owner, this Avtech product is found to be defective, Avtech shall at its option repair or replace said defective item. This warranty does not apply to units which have been disassembled, modified or subjected to conditions exceeding the applicable specifications or ratings. This warranty is the extent of the obligation or liability assumed by Avtech with respect to this product and no other warranty or guarantee is either expressed or implied.

GENERAL INSTRUCTIONS

- 1) Gently insert the H1 package into the socket assembly on the black heat sink flange. Install the two oval head Phillips 6-32 screws finger tight.
- 2) Connect the MI port to a scope set to 100 mV/div and with a 50 Ohm input impedance.
- 3) The PINS on the D connector (AMP No. 57-60140) correspond to the PINS on the H1 package with the exception that PINS 4 (cathode) and 5 (anode) are not connected.
- 4) With RF input either set to zero (or not connected) apply ± 15 VDC (simultaneously). The 15 Volt supplies will supply about ± 175 mA.
- 5) Connect a negative current source to the OS terminal. A lab power supply operating in the current limiting mode is recommended. The source must have a compliance voltage of at least -3 Volts. Slowly increase the offset current to -500 mA (as indicated by the meter on the lab power supply). The scope output should increase to -200 mV (i.e. 0.4 mV/mA). To avoid transients when connecting the lab power supply, the voltage control knob should be fully CCW and the prime power should be ON. Slowly and cautiously increase the voltage and monitor the current control knob (and ammeter) to insure that the offset does not exceed 500 mA. Final control should be via the current knob.
- 6) Connect the RF source (1 to 30 MHz) and slowly increase the amplitude to a maximum of 5 Volts peak to peak (which corresponds to a load current of 600 mA peak to peak). The sinusoidal variation will be evident on the scope display. CAUTION: It is critically important that the DC offset be applied before the RF is applied as otherwise the laser diode may be damaged. Also, when adjusting the RF input and the OFFSET level, always observe the scope MI display to insure that the current waveform does not become positive or otherwise clip (on either peak).
- 7) To power down the unit, first reduce and remove the RF source and then turn down and remove the DC offset and then turn OFF the ± 15 Volt supplies. Again, the diode may be damaged if this sequence is not followed.

8) If heat sinking is required, it may be connected to the black flange or to the side of the chassis with the two oval head Phillips 6-32 screws. CAUTION: The black flange is connected to the blue body of the unit by four countersunk Phillips 8-32 screws. It is critically important that at least two of these screws be tightly connected at all times (preferably two diagonal screws). Therefore, if an additional heat sink is connected, remove only two of these screws.

9) For additional assistance:

Tel: (613) 226-5772

Fax: (613) 226-2802



AVTECH ELECTROSYSTEMS LTD.

NANOSECOND WAVEFORM ELECTRONICS
SINCE 1975

P.O. BOX 265
OGDENSBURG, NY
U.S.A. 13669-0265
TEL: (315) 472-5270
FAX: (613) 226-2802

TEL: 1-800-265-6681
FAX: 1-800-561-1970
U.S.A. & CANADA

e-mail: info@avtechpulse.com

☒ BOX 5120 STN. F
OTTAWA, ONTARIO
CANADA K2C 3H4
TEL: (613) 226-5772
FAX: (613) 226-2802

Fax Ref No: 349 From: Avtech Electrosystems Ltd.
To: Autospect Inc. Our Fax No: (613) 226-2802
Date: March 21, 1996
Attn: Jeffrey White Receivers Fax No: 313-213-2604
Tel: 313-213-1700
Subject: Quotation No. of pages: 2

Following our recent series of telephone conversations, I am pleased to provide a price and delivery quotation for a special purpose active laser diode bias insertion unit meeting the following specifications:

Model designation: AVX-SRB-MI-AS1.

Frequency range: 1 to 30 MHz.

Max RF current: 600 mA (peak to peak).

Max DC current: 500 mA.

Input amplitude: 5 Volts (peak to peak).
(for 600 mA peak to peak diode current)

Input impedance: 50 Ohms.
(RF)

Prime power: a) ± 15 VDC, 250 mA.
b) 0 to -500 mA diode bias.

Current monitor: A voltage replica of the RF diode current is available from an SMA output connector. This output may be displayed on a scope.

Connectors:

- 1) Laser diode:
8 PIN socket provided to accept H1 SDL package. PIN 5 (anode) is ground and DC and RF applied to PIN 4 (cathode). PINS 1, 2, 3, 6, 7 & 8 are accessible via a small D connector on the side of the chassis (AMPHENOL type 57-50140). The SDL-800-H adapter plate is to be inserted between the H1 package and the chassis. The SDL-800-H mates to the flat face of the chassis to facilitate heat transfer. The chassis should in turn be affixed to a larger heat sink (on the 2.6" x 3.0" face).
- 2) RF IN: SMA.
- 3) I MONITOR: SMA.
- 4) ±15 VOLTS: Solder terminals.
- 5) 0 to -500 mA: Solder terminals

Chassis dimensions
and material:

1.6" x 2.6" x 3.0". Cast aluminum, blue enamel. See Model AVX-S1, page 80, Cat. 9.

Price:

First unit: \$2,598.00 US each
Second unit: \$1,798.00 US each
Third unit: \$1,598.00 US each

FOB Destination.

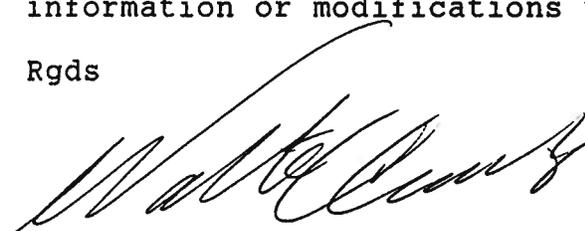
Delivery:

60 days ARO.

This quotation assumes that the laser diode and heat sink plate will be supplied to AVTECH by AUTOSPECT for unit testing purposes. If not, simulated items will be employed.

Thank you for your continuing interest in our products. Please call me again (1-800-265-6681) if you require any additional information or modifications to the above quotation.

Rgds



Dr. Walter Chudobiak
Chief Engineer

WC:pr

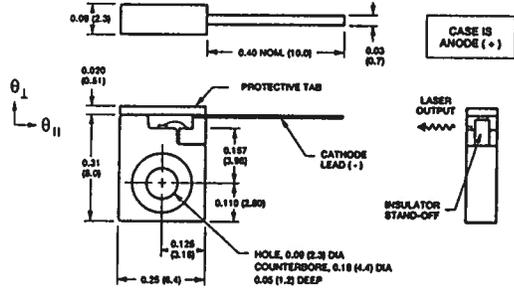
Package Specifications

SDL Standard Tolerances:
(unless otherwise specified)

Inches: X.XX = ±0.02
X.XXX = ±0.010

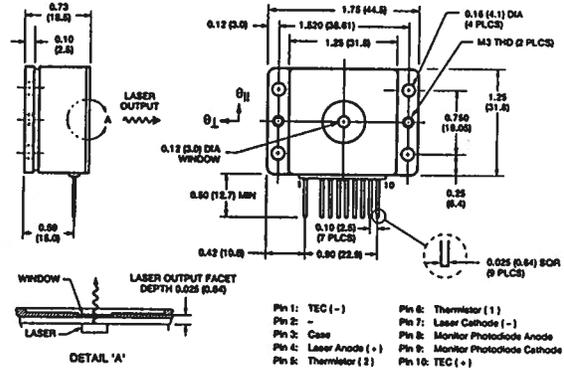
mm: X.X = ±0.5
X.XX = ±0.25

C OPEN HEATSINK PACKAGE



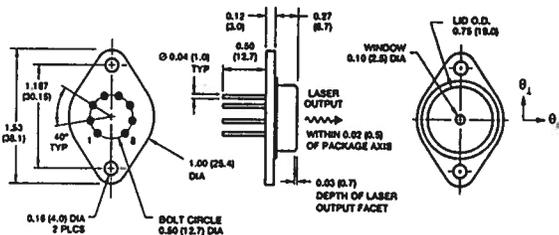
CASE IS ANODE (+)

P1 HIGH HEAT LOAD (≤1 W) WINDOW PACKAGE



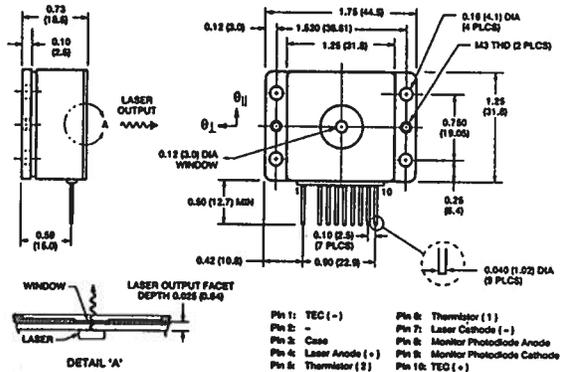
- Pin 1: TEC (-)
- Pin 2: -
- Pin 3: Case
- Pin 4: Laser Anode (+)
- Pin 5: Thermistor (2)
- Pin 6: Thermistor (1)
- Pin 7: Laser Cathode (-)
- Pin 8: Monitor Photodiode Anode
- Pin 9: Monitor Photodiode Cathode
- Pin 10: TEC (+)

H1 TO-3 WINDOW PACKAGE



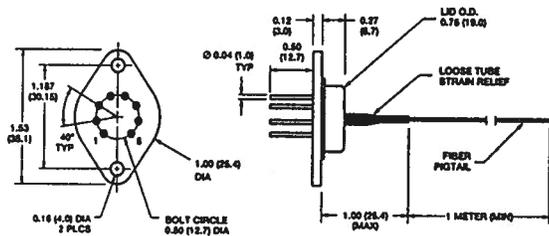
- Pin 1: TEC (+)
- Pin 2: Thermistor (1)
- Pin 3: Thermistor (2)
- Pin 4: Laser Cathode (-)
- Pin 5: Laser Anode (+), Case
- Pin 6: Monitor Photodiode Anode
- Pin 7: Monitor Photodiode Cathode
- Pin 8: TEC (-)

P1 HIGH HEAT LOAD (>1 W) WINDOW PACKAGE



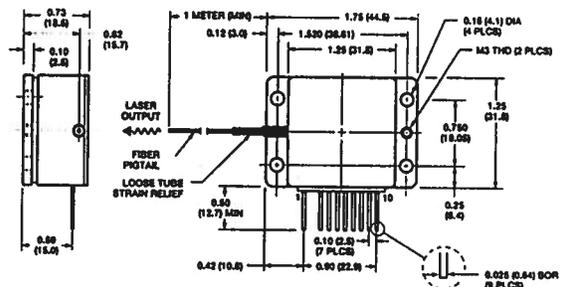
- Pin 1: TEC (-)
- Pin 2: -
- Pin 3: Case
- Pin 4: Laser Anode (+)
- Pin 5: Thermistor (2)
- Pin 6: Thermistor (1)
- Pin 7: Laser Cathode (-)
- Pin 8: Monitor Photodiode Anode
- Pin 9: Monitor Photodiode Cathode
- Pin 10: TEC (+)

H2 TO-3 FIBER PIGTAIL PACKAGE



- Pin 1: TEC (+)
- Pin 2: Thermistor (1)
- Pin 3: Thermistor (2)
- Pin 4: Laser Cathode (-)
- Pin 5: Laser Anode (+), Case
- Pin 6: Monitor Photodiode Anode
- Pin 7: Monitor Photodiode Cathode
- Pin 8: TEC (-)

P2, P3 HIGH HEAT LOAD FIBER PACKAGE



- Pin 1: TEC (-)
- Pin 2: -
- Pin 3: Case
- Pin 4: Laser Anode (+)
- Pin 5: Thermistor (2)
- Pin 6: Thermistor (1)
- Pin 7: Laser Cathode (-)
- Pin 8: Monitor Photodiode Anode
- Pin 9: Monitor Photodiode Cathode
- Pin 10: TEC (+)

May 17/96

Disk: AVX-S

Name: SRBAS1MI.INS