



**AVTECH ELECTROSYSTEMS LTD.**

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SINCE 1975

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## INSTRUCTIONS

**MODEL AVX-S1-P2-MSHA BIAS INSERTION UNIT**

**S.N.: 10642**

### 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 assumed by Avtech with respect to this product and no other warranty or guarantee is either expressed or implied.

### TECHNICAL SUPPORT

Phone: 613-226-5772 or 1-800-265-6681

Fax: 613-226-2802 or 1-800-561-1970

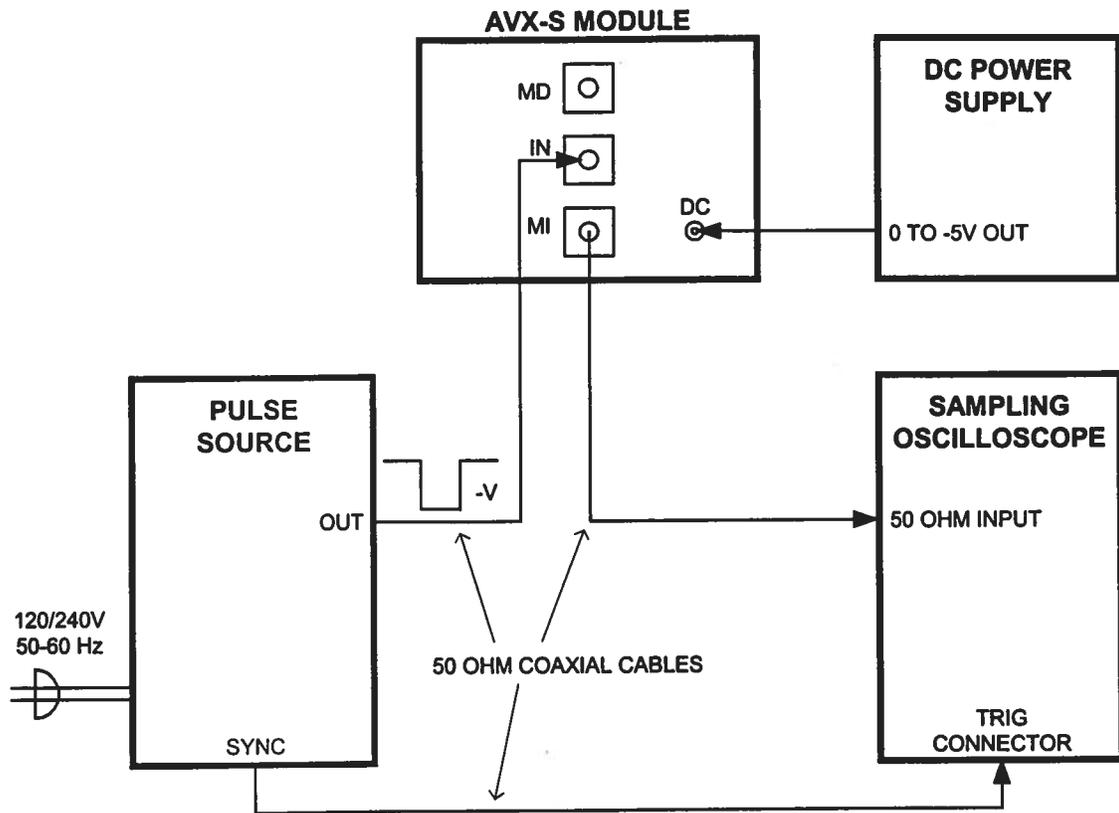
E-mail: [info@avtechpulse.com](mailto:info@avtechpulse.com)

World Wide Web: <http://www.avtechpulse.com>

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Manual Reference: T:\instructword\avx-s\AVX-S1-P2-MSHA.doc, created July 31, 2003

**FIG. 1: PULSE GENERATOR TEST ARRANGEMENT**

## GENERAL OPERATING INSTRUCTIONS

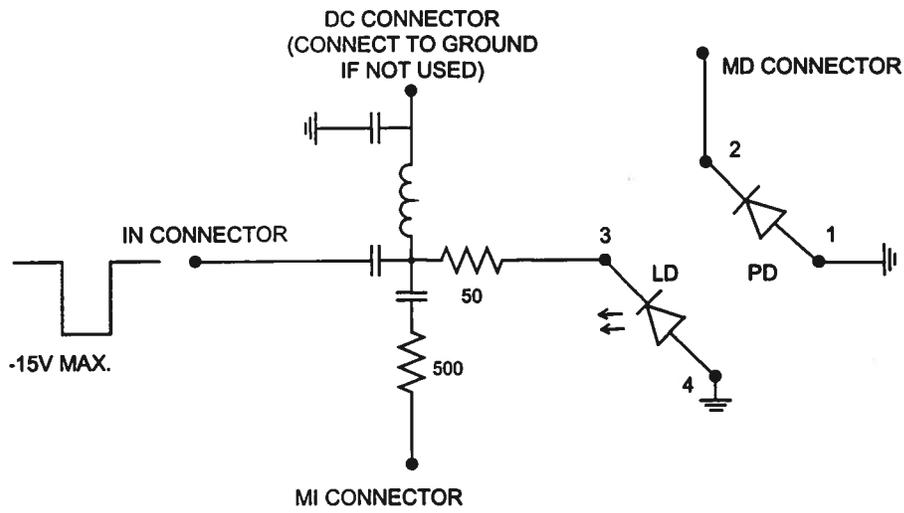
- 1) A general description of the AVX-S1 module is given in the enclosed data sheet.
- 2) The AVX-S1 module should be connected to your pulse source via a 50-Ohm cable (supplied).
- 3) The laser diode plugs directly into the socket on the side of the AVX-S1 module. Take care to gently insert (and remove) the diode and insure that the diode leads do not exceed 0.7 cm in length.

An adjustable mounting flange is provided on the side of the AVX-S1 module to mate to the flange on the FU-627SDF-E1M5x diode package. It will be necessary to loosen the two 4-40 Phillips screws to adjust the mounting flange positioning.

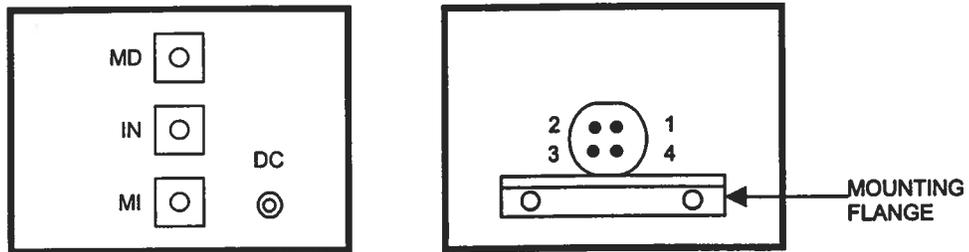
- 4) A forward DC bias may be applied to the laser diode by connecting a DC potential of 0 to -5 Volts to the DC solder terminal. Note that the DC solder terminal must be shorted to ground if the DC bias is not used.
- 5) The diode pulse current may be monitored by connecting the MI and MV output ports to the sampling scope. The output amplitude ( $V_{MI}$  and  $V_{MV}$ , Volts) and diode current ( $I_D$ , Amp) are related as follows:

$$I_D = 0.2 (V_{MI} - V_{MV})$$

## AVX-S1 FUNCTIONAL EQUIVALENT CIRCUIT



## AVX-S1 FUNCTIONAL EQUIVALENT CIRCUIT (S/N 10642)



## PACKAGE

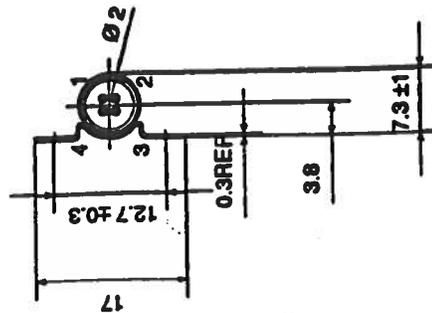
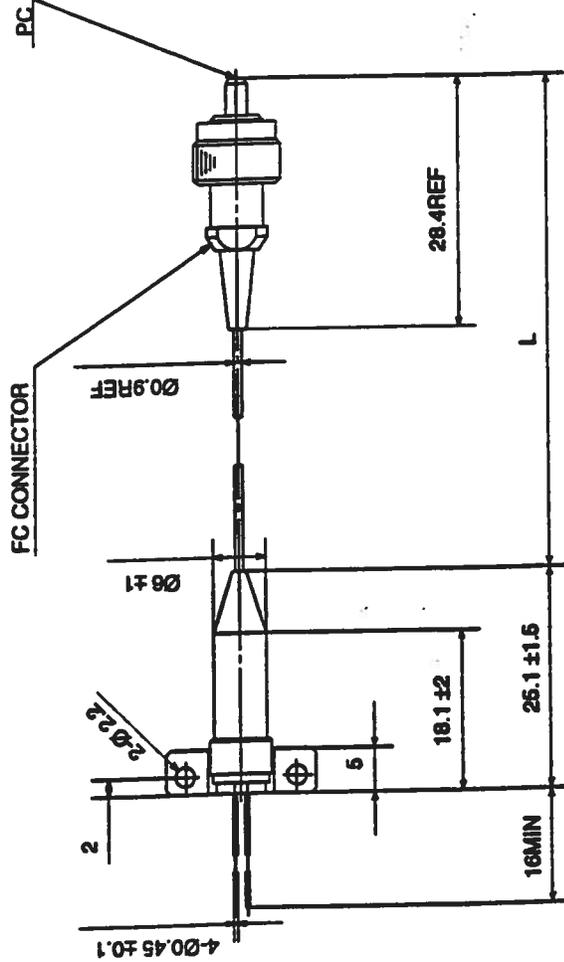
MITSUBISHI (OPTICAL DEVICES)  
**FU-627SDF-E1M5x**

1.48 TO 1.56 $\mu$ m DFB-LD MODULE WITH SINGLE MODE FIBER PIGTAIL

OUTLINE DIAGRAM

Unit : mm

TOLERANCES UNLESS NOTED  $\pm 0.5$



PIN	FUNCTION
1	PD ANODE
2	PD CATHODE
3	LD CATHODE
4	LD ANODE.GND

FU-627SDF-E1M5x

**Dr. Michael J. Chudobiak**

---

**From:** Avtech Sales  
**Sent:** Tuesday, April 22, 2003 1:27 PM  
**To:** '??'  
**Cc:** Avtech Sales  
**Subject:** RE: Inquiry from NEC



end use  
statement .do

To: S. Koshikawa  
Meisho Corp.

I am pleased to quote as follows:

Quote number: 11526.01

Model number: AVO-9A-C-P2-N-MSHA

Description: Laser Diode Driver (Pulsed Voltage)

Output module socket (-MSHA): Will accept Mitsubishi FU-627SDF-E1M5x diodes in the 4-pin 5.6mm diode package described in the datasheet that you supplied.

Datasheet & pricing: <http://www.avtechpulse.com/laser/avo-9a>

Price: US each, Ex-works, Ottawa, Canada. Before discount.

Delivery: 60-75 days after receipt of order (excluding export permit\* delays).

Quote number: 11526.02

Model number: AVM-2-C-N

Description: Ultra High Speed Pulse Generator

Polarity: negative

Datasheet & pricing: <http://www.avtechpulse.com/speed/avm-2>

Price: US each, Ex-works, Ottawa, Canada. Before discount.

Delivery: 60-75 days after receipt of order (excluding export permit\* delays).

\*Export Permit: This instrument is a very high performance pulse generator, which is considered to be "Nuclear-Related Dual-Use Goods" under government regulations. As such, an "End Use Statement" must be completed when ordering. The necessary form is attached (in Microsoft Word format). We will use the information in the completed form to apply for an export license from the Canadian government, which will take 1 to 6 weeks to obtain. We cannot ship your order without the license. Please return the completed form to us by fax.

Quote number: 11526.03

Model number: AVX-S1-P2-MSHA

Description: Laser Diode Bias Insertion Unit with Socket

Socket (-MSHA): Will accept Mitsubishi FU-627SDF-E1M5x diodes in the 4-pin 5.6mm diode package described in the datasheet that you supplied.

Datasheet & pricing: <http://www.avtechpulse.com/laser-bias/avx-s1>

Price: US each, Ex-works, Ottawa, Canada. Before discount.

Delivery: 60-75 days after receipt of order.

Regards,  
Dr. Michael J. Chudobiak  
VP, New Product Development

--- Avtech Electrosystems Ltd. ----- since 1975 ---

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	<a href="http://www.avtechpulse.com/">http://www.avtechpulse.com/</a>	

Nanosecond Waveform Generators  
for general purpose, R&D and OEM applications

Pulse Generators - Laser Diode Drivers - Pulse Amplifiers  
Impulse Generators - Current Pulsers - Delay Generators - Splitters  
Function Generators - Monocycle Generators - Frequency Dividers + more!  
-----

-----Original Message-----

From: [koshikawa@78meisho.co.jp](mailto:koshikawa@78meisho.co.jp) [mailto:[koshikawa@78meisho.co.jp](mailto:koshikawa@78meisho.co.jp)]  
Sent: Friday, April 18, 2003 2:38 AM  
To: Dr. Michael J. Chudobiak  
Subject: Inquiry from NEC

Dear Dr. M. Chudobiak,

1. NEC is planning to purchase  
1) AVO-9A-C (with 4-pin 5.6mm socket AVX-S1)  
2) AVM-2C  
3) AVX-S1 (wit 4-pin 5.6mm socket)  
Please advise their delievery lead time by return.

2. As per attached pdf file, they desire to use LD with 4-pin.  
Is the AVX-S1 with 4-pin 5.6mm socket for above 1) & 3) available?

With best regards,

S. Koshikawa  
Meisho Corp.

july 31, 2003