

## DESCRIPTION:

PMI MODEL LSP-0518-SK IS AN ANALOG LEVEL, SCAN AND PULSE MODULATION MODULE THAT IS CAPABLE OF EXPONENTIAL (LINEAR IN dB) MODULATION, FOR RUGGED AND HIGH RELIABILITY APPLICATIONS USING DIGITAL PROCESS TECHNIQUES, THAT WORKS FROM 0.5 TO 18.0 GHZ.

## SPECIFICATIONS:

|   |                            |
|---|----------------------------|
| • FREQUENCY RANGE                       | 0.5 GHz TO 18.0 GHz        |
| • OUTPUT P1 dB                          | +12 dBm MINIMUM            |
| • IP3                                   | +22 dB MINIMUM             |
| • RF INPUT POWER                        | +14 dBm MAXIMUM            |
|   | +12 dBm OPERATIONAL        |
| • HARMONICS AT P1 dB                    | -20.0 dBc MINIMUM          |
| • SPURIOUS OUTPUTS                      | -60 dBc MINIMUM            |
| • VSWR (RF INPUT)                       | 2.2:1 MAXIMUM              |
| • VSWR (RF OUTPUT)                      | 2.2:1 MAXIMUM              |
| • LEVEL SET (POWER ATTENUATION)         | 70 dB RANGE                |
| • SCAN MODULATION (ATTENUATION)         | 70 dB RANGE                |
| • COMBINED ATTENUATION (LEVEL AND SCAN) | 100 dB MINIMUM             |
| • SCAN AND LEVEL BANDWIDTH              | 10 kHz                     |
| • SCAN PULSE RESPONSE                   |                            |
| SETTLING                                | 50 $\mu$ SEC MAXIMUM       |
| RISE AND FALL                           | 15 $\mu$ SEC MAXIMUM       |
| • DIGITAL PROCESSING JITTER             | 10 $\mu$ SEC MAXIMUM       |
| • SYSTEM FREQUENCY FLATNESS             | $\pm 2$ dB                 |
| • ATTENUATION FREQUENCY FLATNESS        |                            |
| 0 TO 40 dB ATTENUATION                  | $\pm 2$ dB                 |
| 40 TO 60 dB ATTENUATION                 | $\pm 3$ dB                 |
| • ATTENUATION LINEARITY                 | $\pm 1.5$ dB               |
| • PULSE MODULATION DEPTH                | 60 dB MINIMUM              |
| • RF PULSE WIDTH RANGE                  | 50 nSEC TO CW              |
| • RF PULSE                              |                            |
| RISE TIME (10% TO 90%)                  | 9 nSEC MAXIMUM             |
| FALL TIME (90% TO 10%)                  | 9 nSEC MAXIMUM             |
| • RF PULSE REPETITION RATE              | 10 MHz MAXIMUM             |
| • RF PULSE DISTORTION                   | 0.3 dB MAXIMUM             |
| • PULSE/CW DIFFERENTIAL                 | 0.4 dB MAXIMUM             |
| • PULSE WIDTH FIDELITY                  | $\pm 10$ nSEC MAXIMUM      |
| • SENSITIVITY                           | 6 dB / VOLT                |
| • BIAS VOLTAGES / CURRENTS              | +15 VDC @ 1.5 AMPS MAXIMUM |
|   | -15 VDC @ 1.0 AMPS MAXIMUM |
| • SIZE                                  | 4.00" X 3.30" X 0.70"      |

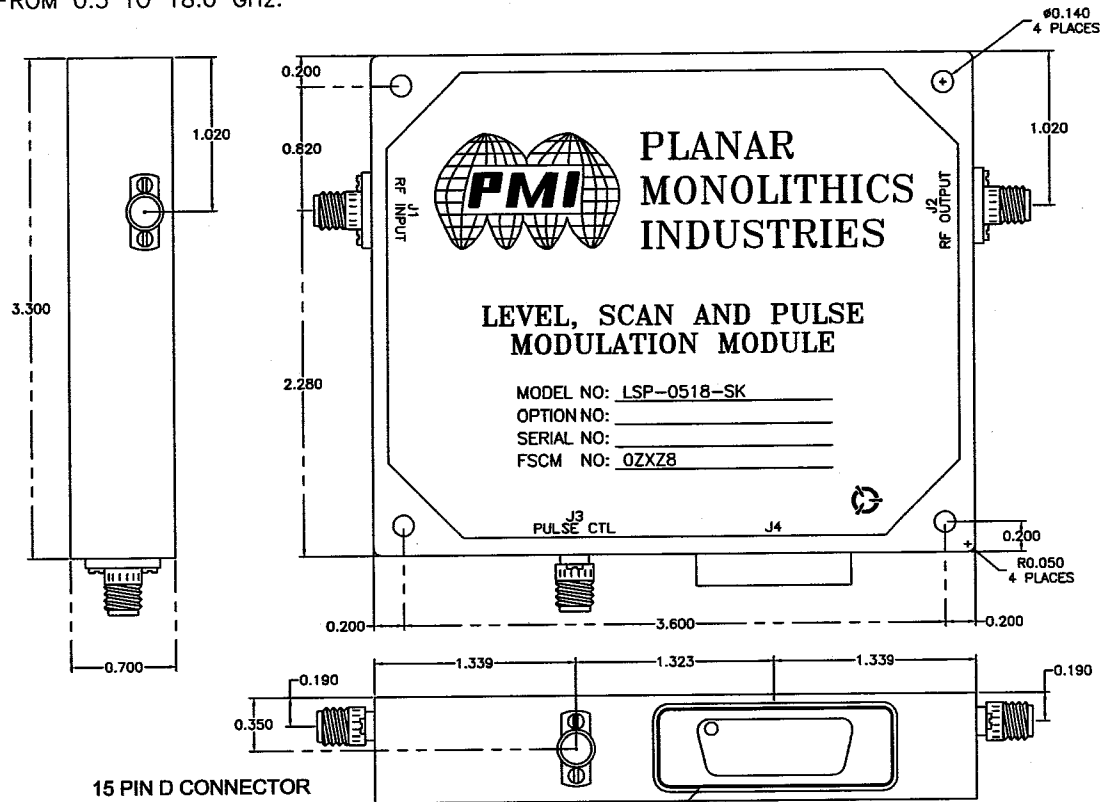
## AVAILABLE OPTIONS:

|        |                                  |
|--------|----------------------------------|
| • A01  | HERMETICALLY SEALED              |
| • A02  | DIGITAL CONTROL MODULATION       |
| • A03  | 10 dB / VOLT SENSITIVITY         |
| • 052  | FREQUENCY RANGE 0.5 TO 2.0 GHz   |
| • 218  | FREQUENCY RANGE 2.0 TO 18.0 GHz  |
| • 412  | FREQUENCY RANGE 4.0 TO 12.0 GHz  |
| • 618  | FREQUENCY RANGE 6.0 TO 18.0 GHz  |
| • 1218 | FREQUENCY RANGE 12.0 TO 18.0 GHz |

## ENVIRONMENTAL RATINGS:

|                      |                                       |
|----------------------|---------------------------------------|
| • TEMPERATURE:       | -55°C TO +85°C (OPERATING)            |
|                      | -65°C TO +125°C (STORAGE)             |
| • HUMIDITY:          | MIL-STD-202F, METHOD 103B CONDITION B |
| • SHOCK:             | MIL-STD-202F, METHOD 312B CONDITION B |
| • VIBRATION:         | MIL-STD-202F, METHOD 204D CONDITION B |
| • ALTITUDE:          | MIL-STD-202F, METHOD 105C CONDITION B |
| • TEMPERATURE CYCLE: | MIL-STD-202F, METHOD 107D CONDITION A |

NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION.



15 PIN D CONNECTOR CONNECTOR (J4)

| PIN  | FUNCTION             |
|------|----------------------|
| 1    | GROUND               |
| 2    | -15 VOLTS            |
| 3    | +15 VOLTS            |
| 4    | GROUND               |
| 5    | BAND SELECT TTL      |
| 6-13 | N/C                  |
| 14   | LEVEL SET MODULATION |
| 15   | SCAN MODULATION      |

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|                     |        |   |          |
|---------------------|--------|---|----------|
| PART NO.            |        | PLANAR MONOLITHICS INDUSTRIES<br>FREDERICK, MARYLAND                      |          |
| APPROVALS           | DATE   | TITLE   |          |
| DRAWN<br><i>KAB</i> | 6/4/03 | PRODUCT FEATURE LSP-0518-SK<br>LEVEL, SCAN AND PULSE<br>MODULATION MODULE |          |
| CHECKED             |        | SIZE  | FSCM NO. |
| ISSUED              |        | A   | OZXZ8    |
|                     |        | DWG NO.   | 100-6661 |
|                     |        | SCALE   | N:S      |
|                     |        | SHEET   | 1 of 2   |

ALL DIMENSIONS ARE IN INCHES  
TOLERANCES:  
X.XX  $\pm 0.010$   
X.XXX  $\pm 0.005$

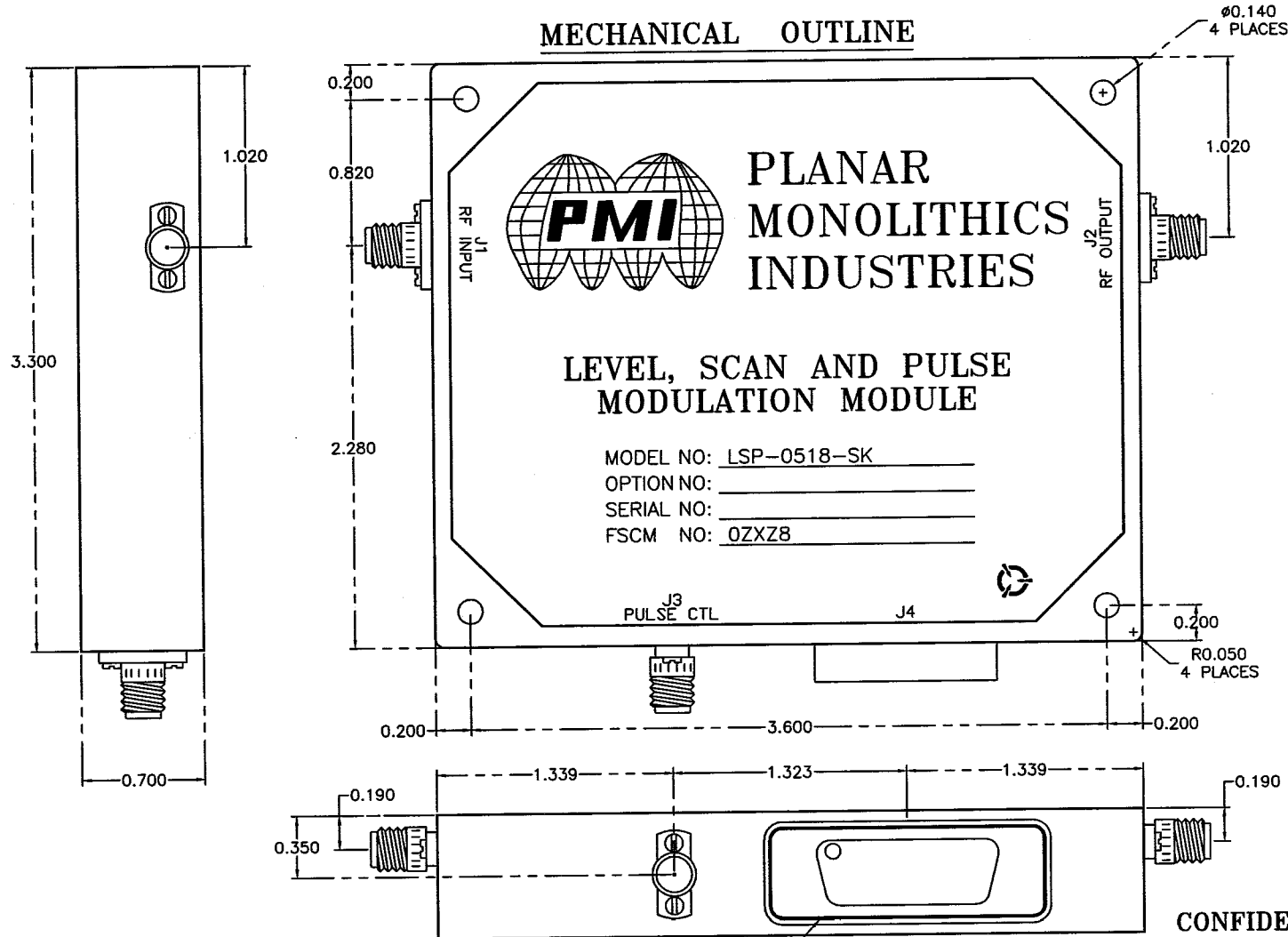
| REVISIONS |      |                  |          |
|-----------|------|------------------|----------|
| ZONE      | REV. | DESCRIPTION      | DATE     |
|           | -    | ORIGINAL RELEASE | 06/04/03 |
|           |      |                  | APPROVED |

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| REVISIONS |      |                  | DATE     | APPROVED |
|-----------|------|------------------|----------|----------|
| ZONE      | REV. | DESCRIPTION      |          |          |
| -         | -    | ORIGINAL RELEASE | 06/04/09 |          |

## MECHANICAL OUTLINE




### 15 PIN D CONNECTOR CONNECTOR (J4)

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CONFIDENTIAL AND PROPRIETARY

MIL-C-24308/9-17  
15 PIN, HERMETIC  
GLASSEAL PRODUCTS

ALL DIMENSIONS ARE IN INCHES  
TOLERANCES:  
X.XX ±0.010  
X.XXX ±0.005

|                     |        |  |          |
|---------------------|--------|--|----------|
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