

## DESCRIPTION

THE MODEL SDLVA-0R71R3-75-CD-1 IS A SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER (SDLVA) THAT OPERATES BETWEEN THE 700 TO 1300 MHz FREQUENCY RANGE. IT HAS A DYNAMIC RANGE OF 75 dB, A LOG SLOPE OF 40 mV / dB, AND A NOMINAL VIDEO BANDWIDTH OF 20 MHz. FURTHERMORE, IT HAS BEEN DESIGNED USING CUTTING EDGE GaAs TECHNOLOGY WHICH PROVIDES STUNNING PERFORMANCE AND RELIABILITY IN A COMPACT PACKAGE MAKING IT AN OPTIMUM SOLUTION FOR HIGH SPEED CHANNELIZED RECEIVER APPLICATIONS.

## SPECIFICATIONS

- FREQUENCY RANGE: .....700MHz TO 1300MHz
- DYNAMIC RANGE: .....> 75dB
- LOG LINEARITY: ..... $\pm 0.8$  dB Typ,  $\pm 1.2$  dB Max @ (-60 dBm TO 0 dBm)  
..... $\pm 1.2$  dB Typ,  $\pm 1.5$  dB Max @ (-65 dBm TO +5 dBm)
- MINIMUM LOGGING RANGE: .....-70 dBm
- MAXIMUM LOGGING RANGE: .....+5 dBm
- VSWR INPUT: .....1.5:1 Typ, 1.8:1 Max
- TANGENTIAL SENSITIVITY: .....-70 dBm TYPICAL
- LIMITED IF OUTPUT: .....+5 dBm TYPICAL
- MAXIMUM RF INPUT POWER: .....+10 dBm CW
- LOG VIDEO OUTPUT:
  - OUTPUT COUPLING: .....DC
  - RISE TIME: .....15 ns Typ, 25 ns Max
  - FALL TIME: .....15 ns Typ, 30 ns Max
  - SETTLING TIME: .....40 ns Max
  - DC OFFSET: .....0.1 V NOMINAL (ADJUSTABLE)
  - LOG SLOPE: .....40 mV/dB NOMINAL
  - LOG SLOPE VARIATION
    - WITH FREQUENCY: ..... $\pm 0.5$  mV/dB TYPICAL (OVER 80 MHz RF BANDWIDTH)
    - LOG SLOPE VARIATION
      - WITH TEMPERATURE: ..... $\pm 1$  mV/dB TYPICAL
  - PROPAGATION DELAY: .....10 ns MAXIMUM, 7 ns TYPICAL
- VIDEO LOAD: .....50 $\Omega$   $\pm$  10%
- DC POWER SUPPLY:
  - +V: .....+12V TO +15V @ 200 mA
  - V: .....-12V TO -15V @ 190 mA
  - \*NOTE: DO NOT SUPPLY +V WITHOUT -V SUPPLIED AS WELL AS THIS MAY DESTROY THE UNIT

- SIZE: .....(L) 3.75" X (W) 1.50" X (H) 0.50"
- FINISH: .....GOLD PLATED

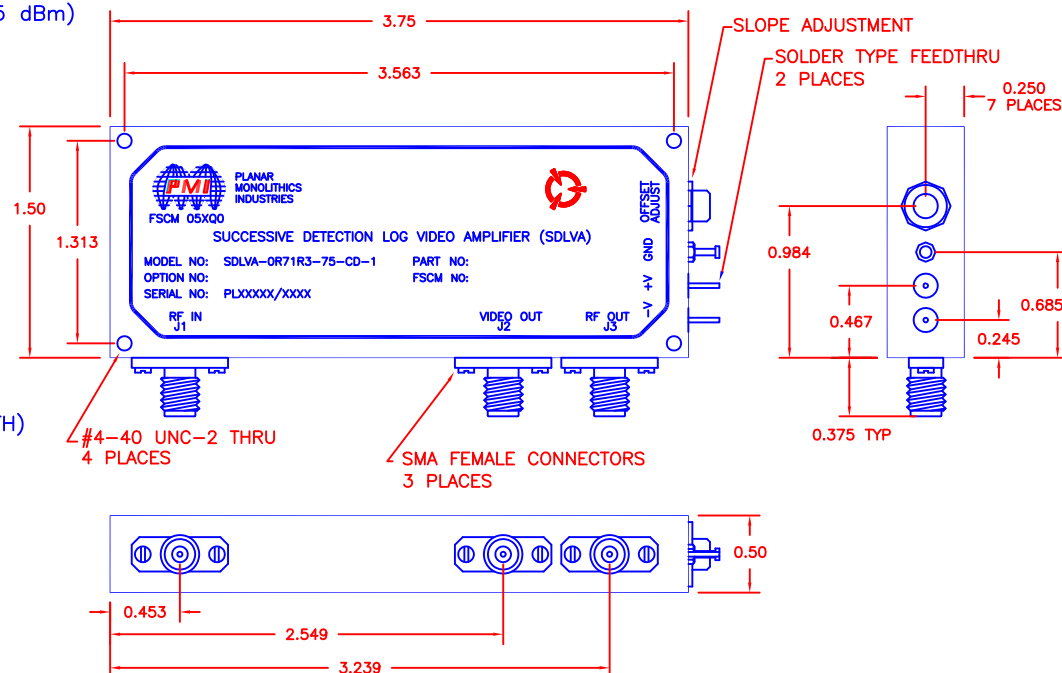
## ENVIRONMENTAL RATINGS

- **TEMPERATURE:** .....-55°C TO +85°C (OPERATING)  
.....-65°C TO +100°C (STORAGE)
- **HUMIDITY:** .....MIL-STD-202F, METHOD 103B COND. B
- **SHOCK:** .....MIL-STD-202F, METHOD 213B COND. B
- **VIBRATION:** .....MIL-STD-202F, METHOD 204D COND. B
- **ALTITUDE:** .....MIL-STD-202F, METHOD 105C COND. B
- **TEMPERATURE CYCLE:** .....MIL-STD-202F, METHOD 107D COND. A

NOTE: SPECIFICATIONS WILL VARY OVER OPERATING TEMPERATURE  
NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

ALL DIMENSIONS ARE IN INCHES  
TOLERANCES:  
X.XX  $\pm 0.020$   
X.XXX  $\pm 0.010$   
WEIGHT: 2.75 oz.

| REVISIONS |      |                  |         |          |
|-----------|------|------------------|---------|----------|
| ZONE      | REV. | DESCRIPTION      | DATE    | APPROVED |
|           | A    | ORIGINAL RELEASE | 2/14/12 |          |



## PLANAR MONOLITHICS INDUSTRIES, INC.

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ISO 9001:2008 CERTIFIED

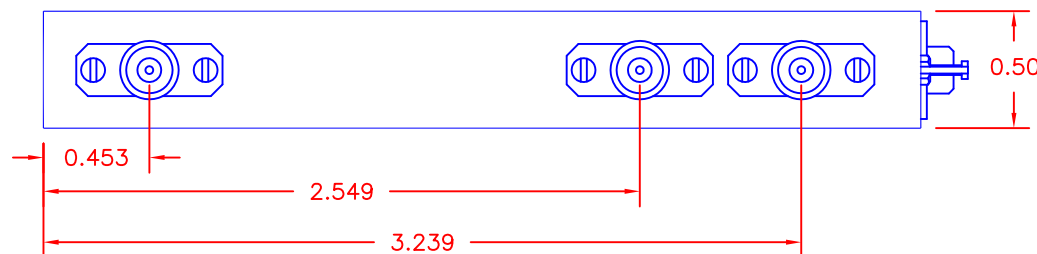
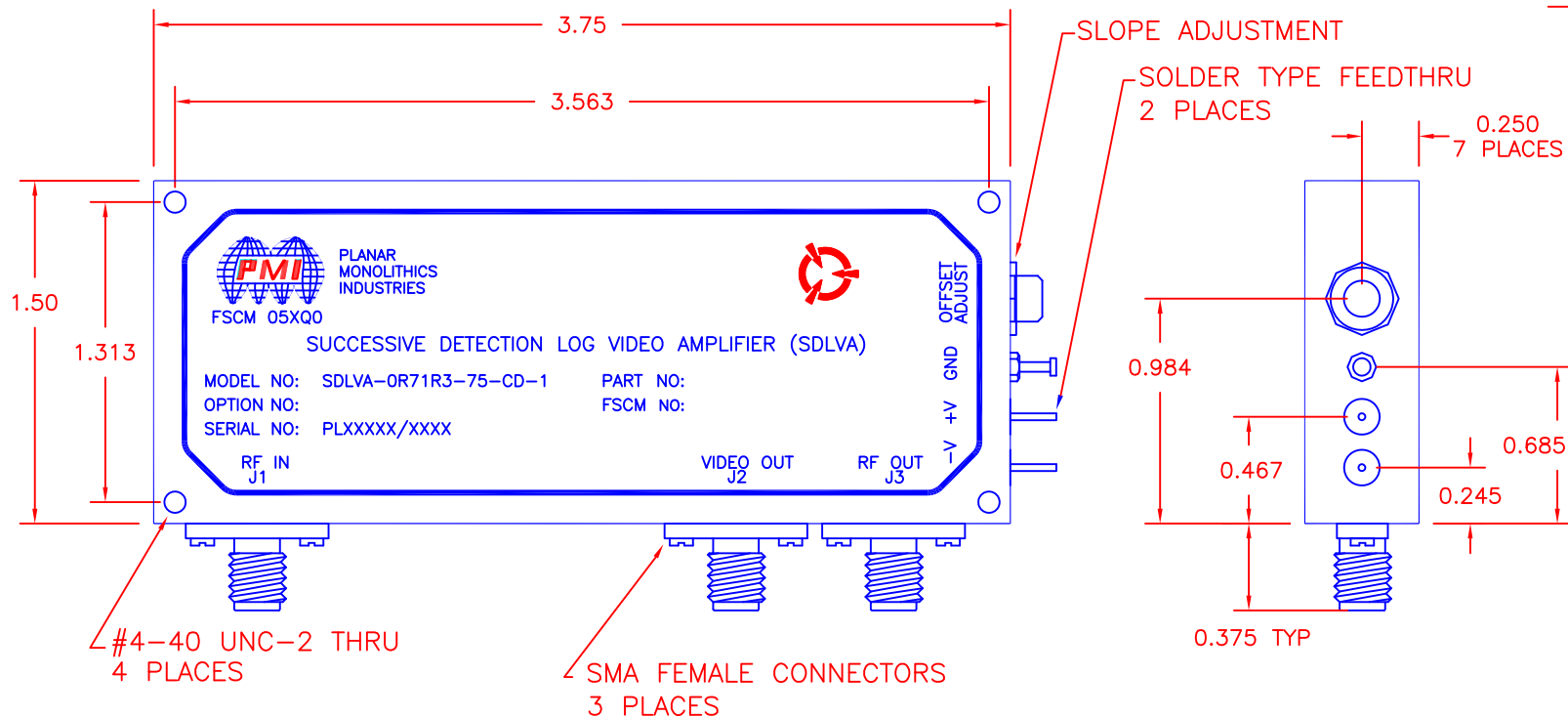


| APPROVALS       |  | DATE     |  | TITLE  |  |
|-----------------|--|----------|--|--|--|
| DRAWN <i>KM</i> |  | 2/14/12  |  | PRODUCT FEATURE  |  |
| CHECKED         |  |          |  | SDLVA-0R71R3-CD-1  |  |
| ISSUED          |  |          |  | 700 TO 1300 MHz, SUCCESSIVE DETECTOR LOG VIDEO AMPLIFIER |  |
| SIZE            |  | FSCM NO. |  | DWG NO.  |  |
| A               |  | 05XQ0    |  | 27016321   |  |
| SCALE           |  | N:S      |  | SHEET  |  |
|                 |  |          |  | 1 OF 1   |  |

## DESCRIPTION

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## MECHANICAL OUTLINE



ALL DIMENSIONS ARE IN INCHES  
TOLERANCES:  
X.XX ±0.020  
X.XXX ±0.010  
WEIGHT: 2.75 oz.

| REVISIONS |      |                  |         |
|-----------|------|------------------|---------|
| ZONE      | REV. | DESCRIPTION      | DATE    |
|           | A    | ORIGINAL RELEASE | 1/12/10 |
|           |      |                  |         |

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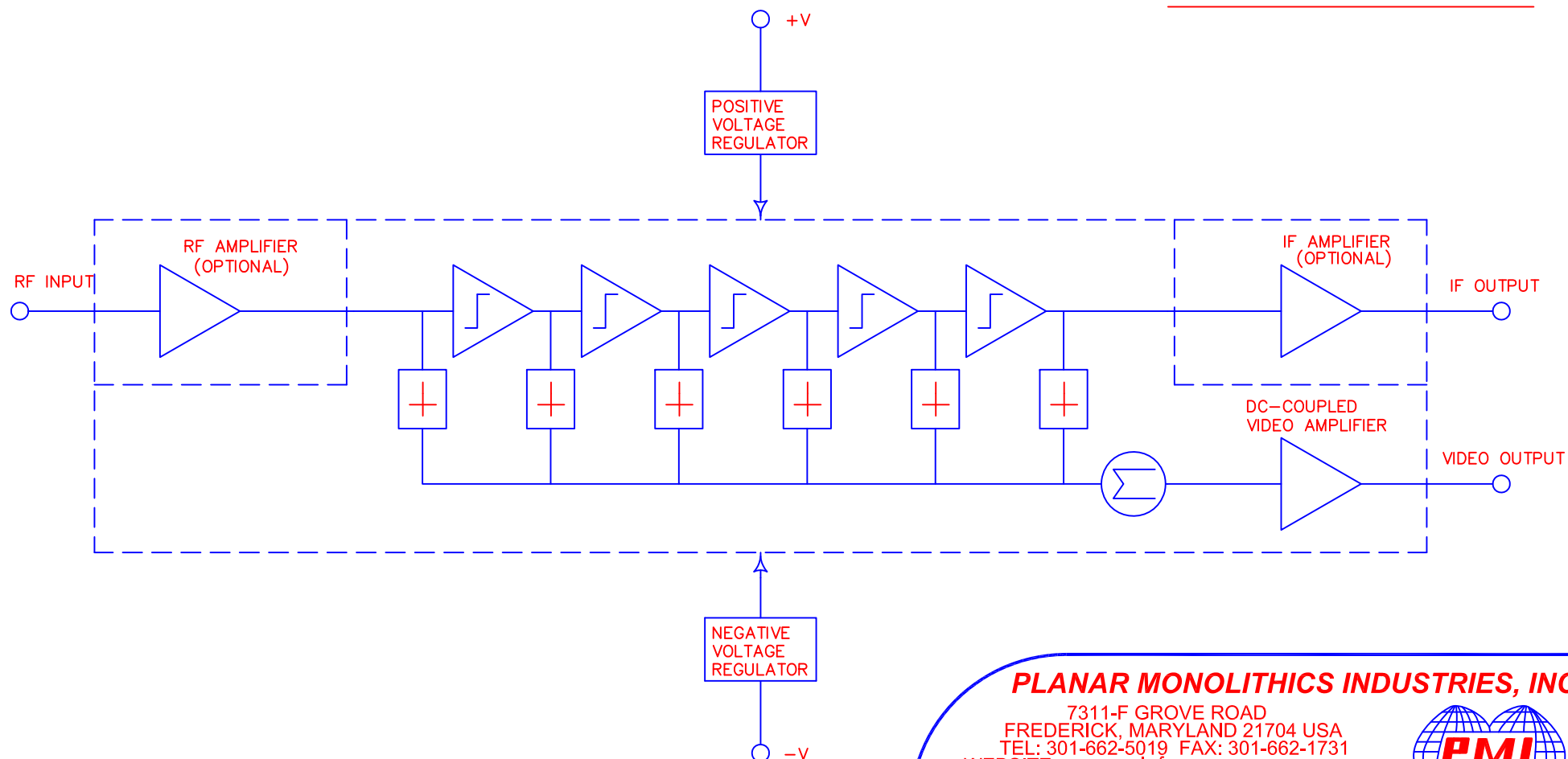
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| SIZE      |  | FSCM NO. |  | DWG NO.   |  | REV.   |  |
| A         |  | 05XQ0    |  | 27011505  |  | A      |  |
| SCALE     |  | N:S      |  | SHEET   |  | 2 OF 3 |  |

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## FUNCTIONAL BLOCK DIAGRAM



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| ISSUED    |  |         |  | 700 TO 1300 MHz, SUCCESSIVE DETECTOR LOG VIDEO AMPLIFIER |          |              |      |
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|           |  |         |  | SCALE N:S  |          | SHEET 3 OF 3 |      |