

## DESCRIPTION

THE MODEL SDLVA-0R71R3-75-MEC 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: ..... ± 0.8 dB Typ, ± 1.2 dB Max @ (-60 dBm TO 0 dBm)  
 ..... ± 1.2 dB Typ, ± 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 nsec Typ, 25 nsec Max
  - FALL TIME: .....15 nsec Typ, 30 nsec Max
  - SETTLING TIME: .....40 nsec Max
  - DC OFFSET: .....0.1 V NOMINAL (ADJUSTABLE)
  - LOG SLOPE: .....40 mV/dB NOMINAL
  - LOG SLOPE VARIATION
    - WITH FREQUENCY: ..... ± 0.5 mV/dB TYPICAL (OVER 80 MHz RF BANDWIDTH)
    - LOG SLOPE VARIATION
      - WITH TEMPERATURE: ..... ± 1 mV/dB TYPICAL
  - PROPAGATION DELAY: .....10 nSec MAXIMUM, 7 nSec TYPICAL
  - VIDEO LOAD: .....50Ω ± 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

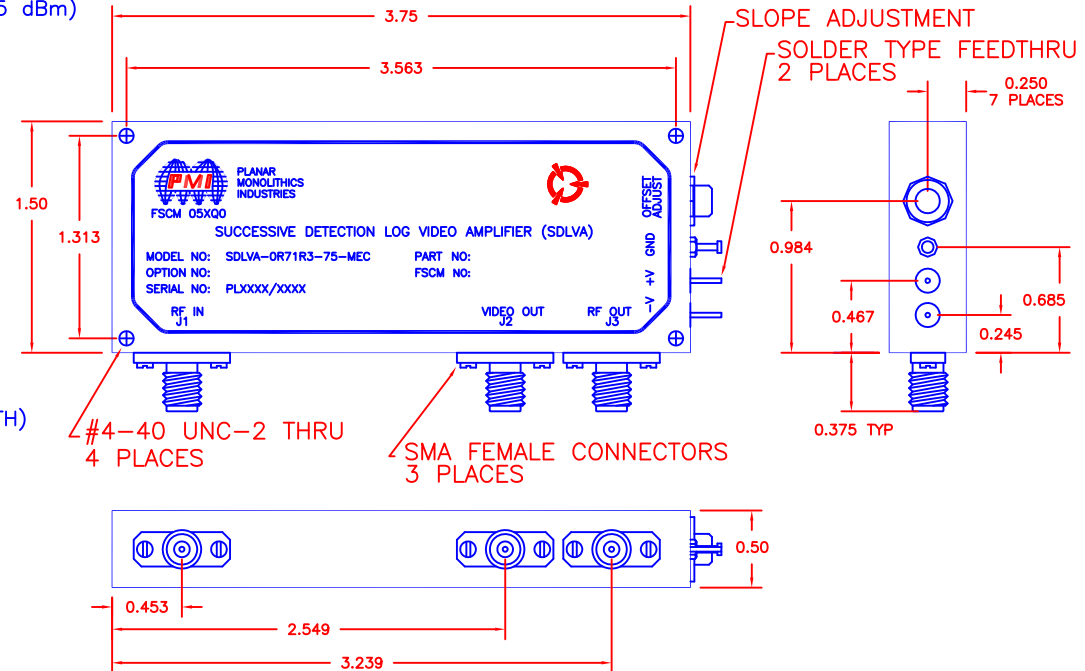
- SIZE: .....(L) 3.75" X (W) 1.50" X (H) 0.50"
- FINISH: .....GOLD PLATED

## 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

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



## PLANAR MONOLITHICS INDUSTRIES, INC.

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 E-MAIL: [sales@pmi-rf.com](mailto:sales@pmi-rf.com)  
 ISO 9001:2000 CERTIFIED



| APPROVALS        |          | DATE     | TITLE                                                    |  |  |  |
|------------------|----------|----------|----------------------------------------------------------|--|--|--|
| DRAWN <i>DPD</i> |          | 1/12/10  | PRODUCT FEATURE                                          |  |  |  |
| CHECKED          |          |          | SDLVA-0R71R3-75-MEC                                      |  |  |  |
| ISSUED           |          |          | 700 TO 1300 MHz, SUCCESSIVE DETECTOR LOG VIDEO AMPLIFIER |  |  |  |
| SIZE             | FSCM NO. | DWG NO.  | REV.                                                     |  |  |  |
| A                | 05XQ0    | 27011505 | A                                                        |  |  |  |
| SCALE N:S        |          |          | SHEET 1 OF 3                                             |  |  |  |

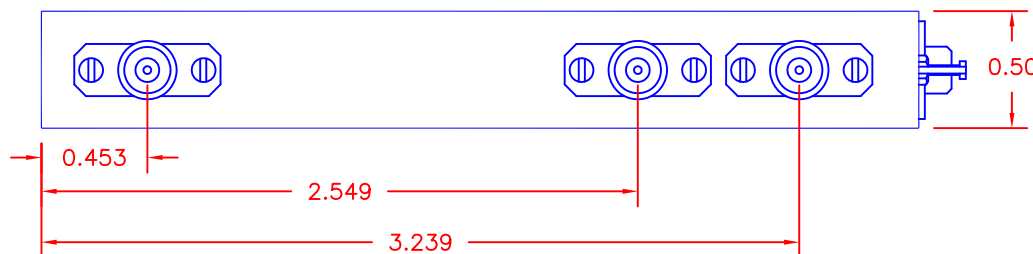
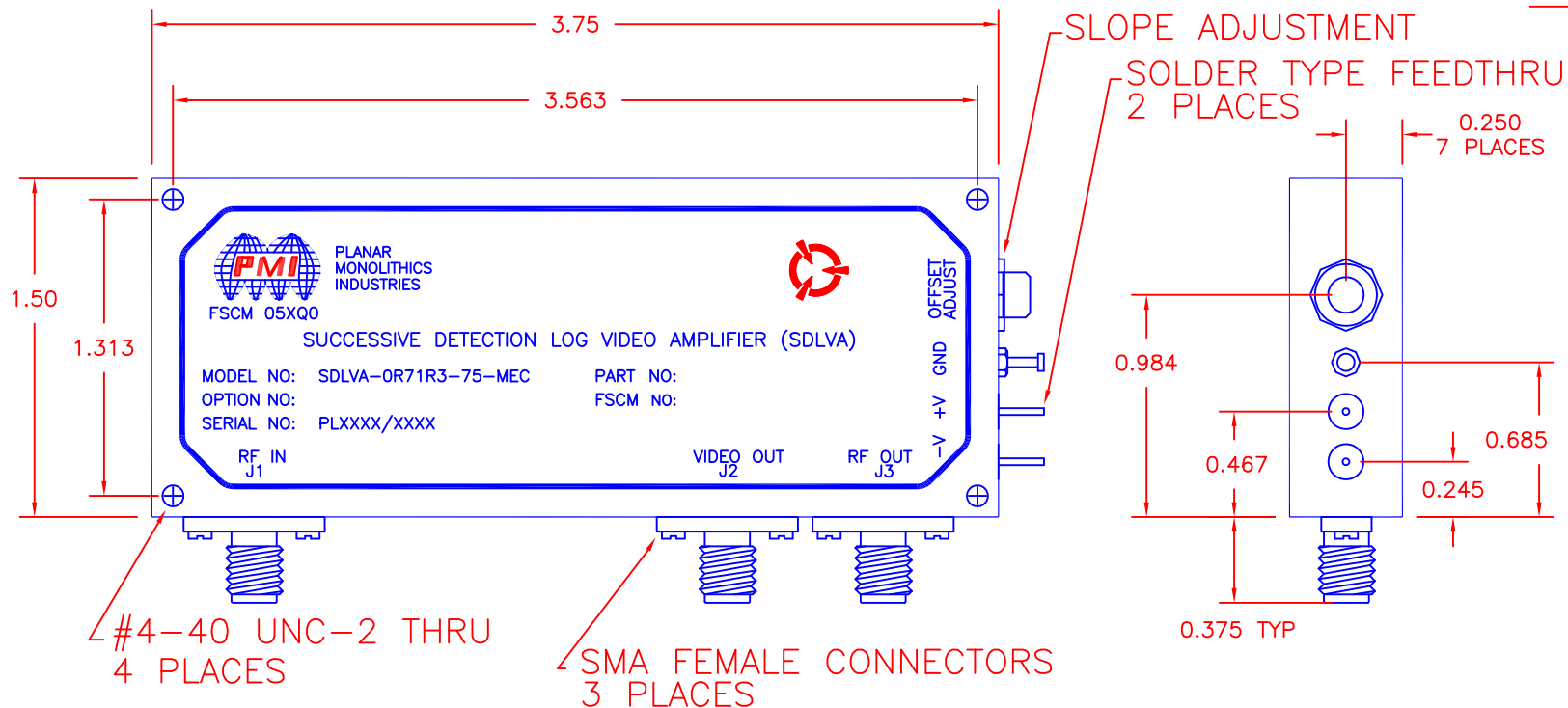
ALL DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 X.XX ±0.020  
 X.XXX ±0.010  
 WEIGHT: 2.75 oz.

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## MECHANICAL OUTLINE



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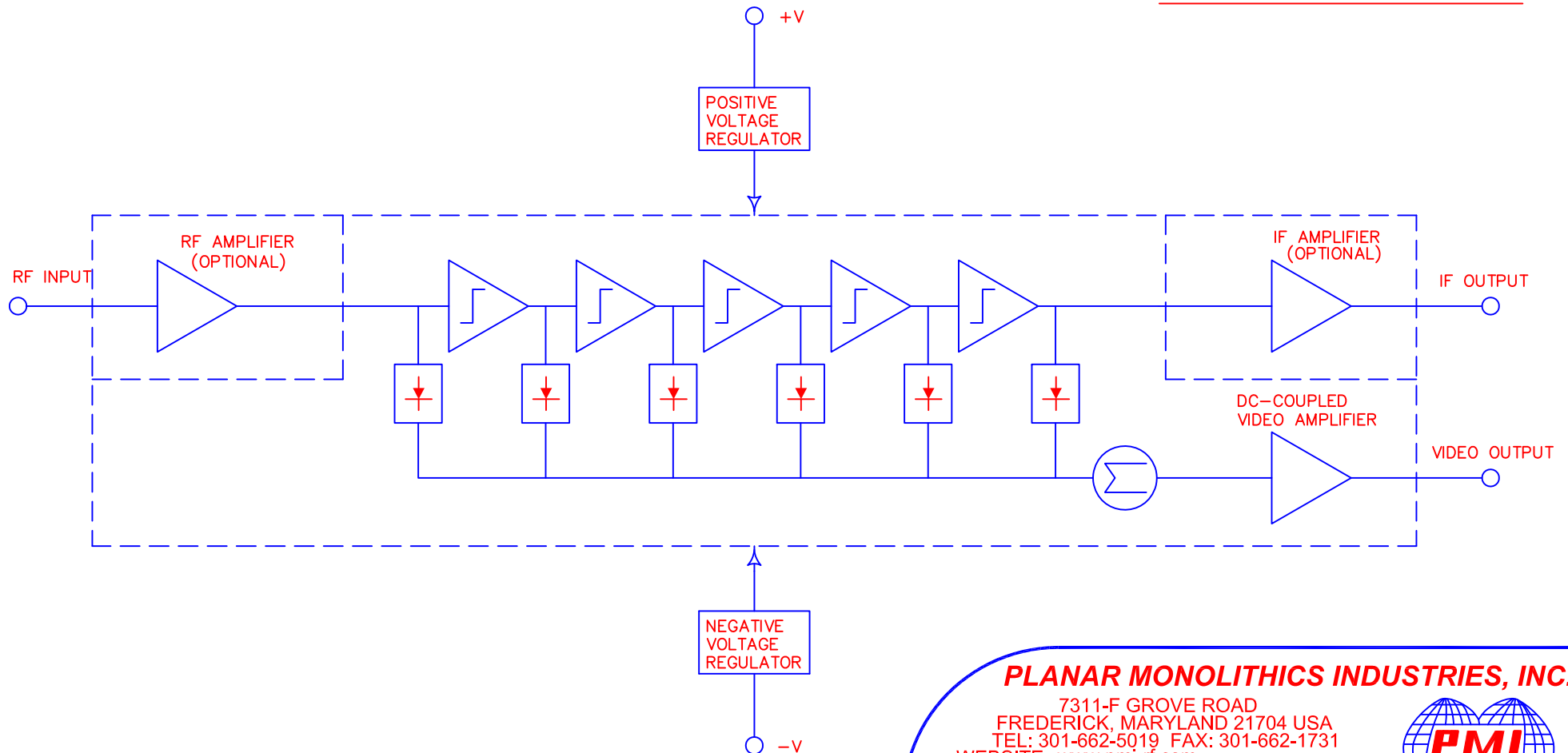
| APPROVALS        |  | DATE    | TITLE                                                     |                   |                     |           |
|------------------|--|---------|-----------------------------------------------------------|-------------------|---------------------|-----------|
| DRAWN <i>DPD</i> |  | 1/12/10 | PRODUCT FEATURE<br>SDLVA-0R71R3-75-MEC                    |                   |                     |           |
| CHECKED          |  |         | 700 TO 1300 MHz , SUCCESSIVE DETECTOR LOG VIDEO AMPLIFIER |                   |                     |           |
| ISSUED           |  |         | SIZE<br>A                                                 | FSCM NO.<br>05XQO | DWG NO.<br>27011505 | REV.<br>A |
| SCALE N:S        |  |         | SHEET 2 OF 3                                              |                   |                     |           |

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## FUNCTIONAL BLOCK DIAGRAM



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| A         | 05XQ0    | 27011505 | A                                                        |  |  |  |
| SCALE N:S |          |          | SHEET 3 OF 3                                             |  |  |  |