

## DESCRIPTION

THE MODEL SLVAC-06135M-A08-LA MINIATURE SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER (SDLVA) OPERATES OVER THE 600 MHz TO 1.35 GHz FREQUENCY RANGE. THESE UNITS HAVE A DYNAMIC RANGE OF 65 TO 70 dB, A TSS OF -67 dBm AND A NOMINAL VIDEO BANDWIDTH OF 20 MHz. FURTHERMORE, THESE UNITS ARE 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. THESE UNITS OFFER TYPICAL FAST RISE TIME  $\leq 20$ ns, RAPID FALL TIME  $\leq 25$ ns AS WELL AS SUPERIOR DELAY TIME OF 8 nsec.

THE LOG SLOPE IS 25mV/dB AND THE ACCURACY IS LESS THAN  $\pm 1.0$  dB OVER THE -60 TO 0 dBm POWER INPUT RANGE. DYNAMIC RANGE CAN BE EXTENDED TO -65/+5 WITH LOG ERROR OF  $\pm 1.5$  dB. OPTIONS ARE AVAILABLE WITH ADJUSTABLE LOGGING SLOPE AND DC OFFSETS.

GUARANTEED RISE TIMES ARE LESS THAN 25 ns AND MAXIMUM RECOVERY TIMES ARE LESS THAN 30 ns. RECOVERY TIMES AT LOWER POWER ARE FASTER.

THE SLVAC-06135M-A08-LA SDLVA IS HERMETICALLY SEALED AND SCREENED TO MIL-STD-883. SIZE IS 0.395" x 0.280" x 0.090"

## SPECIFICATIONS

- FREQUENCY RANGE: ..... 0.6 TO 1.35 GHz (OTHER FREQUENCY RANGES AVAILABLE)
- DYNAMIC RANGE: ..... > 65 dB
- LOG LINEARITY: .....  $\pm 1.2$  dB MAX. (-60 dBm TO 0 dBm),  $\pm 0.8$  dB TYPICAL  
 $\pm 1.5$  dB MAX. (-65 dBm TO +5 dBm),  $\pm 1.2$  dB TYPICAL
- MINIMUM LOGGING RANGE: ..... -60 dBm (-65 dBm TYPICAL)
- MAXIMUM LOGGING RANGE: ..... +5 dBm (+8 dBm TYPICAL)
- VSWR INPUT: ..... 1.8:1 MAXIMUM (1.5:1 TYPICAL)
- TANGENTIAL SENSITIVITY: ..... -65 dBm MINIMUM (-70 dBm TYPICAL)
- LIMITED IF OUTPUT: ..... -14 dBm (MINIMUM)
- MAXIMUM RF INPUT POWER: ..... +10 dBm
- LOG VIDEO OUTPUT:
  - OUTPUT COUPLING ..... DC
  - MAXIMUM OUTPUT VOLTAGE ..... 2.7 VOLTS
  - RISE TIME ..... 25 ns MAXIMUM
  - FALL TIME ..... 30 ns MAXIMUM
  - SETTLING TIME ..... 40 ns MAXIMUM
  - DC OFFSET ..... EXTERNALLY ADJUSTABLE
  - SLOPE ..... ADJUSTABLE TO 30mV/dB
  - LOG SLOPE VARIATION WITH FREQUENCY .....  $\pm 0.5$  mV/dB (OVER 80 MHz RF BANDWIDTH)
  - LOG SLOPE VARIATION WITH TEMPERATURE .....  $\pm 1$  mV MAXIMUM
  - PROPAGATION DELAY ..... 10 ns MAXIMUM, 7 ns TYPICAL
  - VIDEO LOAD ..... 100 $\Omega$  (MINIMUM)
- DC POWER SUPPLY (REGULATED TO 0.1%):
  - +V ..... +5 VOLTS @30mA (NO VIDEO LOAD)
  - V ..... -5 VOLTS @170mA
- SIZE: ..... 0.395" x 0.280" x 0.090"
- WEIGHT: ..... 0.2 OUNCE

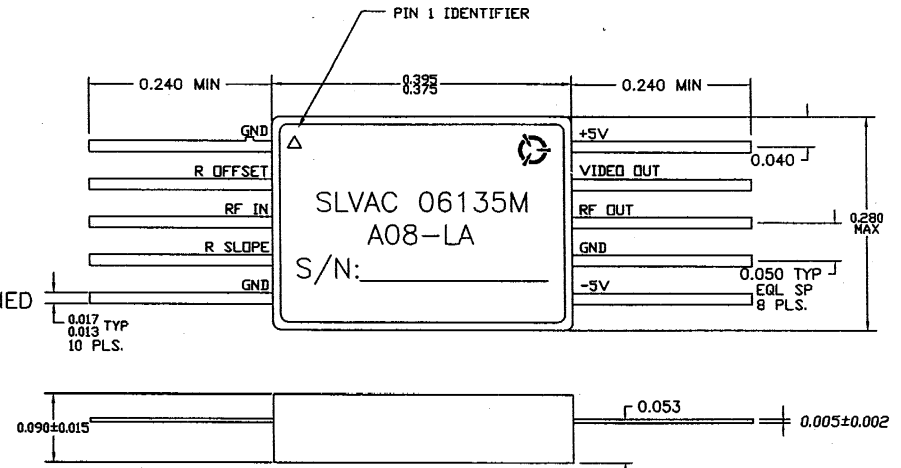
### NOTES:

- 1) DIMENSIONS ARE IN INCHES
- 2) TOLERANCES: X.XX  $\pm 0.020$   
 X.XXX  $\pm 0.010$
- 3) WEIGHT: 0.2 OZ

NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
-		ORIGINAL JOB # 00421P	5/7/02	

## MECHANICAL OUTLINE



## ENVIRONMENTAL RATINGS

- TEMPERATURE ..... -40°C TO +85°C (OPERATING SPEC COMPLIANT)  
 -54°C TO +85°C (OPERATING NO DAMAGE)
- HUMIDITY ..... MIL-STD-810, METHOD 509.3
- SALT FOG (SPRAY) ..... MIL-STD-810, METHOD 509.3
- ALTITUDE ..... OPERATING 10,000 FEET  
 NON-OPERATING 40,000 FEET 8 HOUR EXPOSURE
- VIBRATION ..... RANDOM VIBRATION LEVEL, 1 HOUR PER AXIS  
 FOR 3 MUTUALLY PERPENDICULAR AXES
- SHOCK ..... MIL-STD-810 5164.6 PROCEEDURE 1
- ACCELERATION ..... AFTER EXPOSURE TO CONSTANT 10.5 G'S IN ALL DIRECTIONS  
 DURING EXPOSURE TO CONSTANT 7.0 G'S IN ALL DIRECTIONS
- EMI ..... MIL-STD-461C, CL-A1B, PART 2

## CONFIDENTIAL AND PROPRIETARY

PART NO.		PLANAR MONOLITHICS INDUSTRIES FREDERICK, MARYLAND	
APPROVALS		TITLE	
DATE		PRODUCT FEATURE	
DRAWN		SLVAC-06135M-A08-LA	
CHECKED		0.6 - 1.35 GHz, MINIATURE DC-COUPLED SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER	
ISSUED		SIZE	FSCM NO.
		A	OZXR8
		DWG NO.	REV.
		100-6353	-
SCALE N:S		SHEET 1 of 3	