

## DESCRIPTION

THE MODEL SDLVAC-0120-70M-YK IS A MINIATURE SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER (SDLVA) OPERATES OVER THE 300 TO 800 MHz FREQUENCY RANGE. THESE UNITS HAVE A DYNAMIC RANGE OF 65 TO 70 dB, A TSS OF -65 dBm AND A NOMINAL VIDEO BANDWIDTH OF 10 MHz.

## SPECIFICATIONS

- FREQUENCY RANGE ..... 300 TO 800MHz
- DYNAMIC RANGE ..... >65 dB
- TANGENTIAL SENSITIVITY ..... -65 dBm MAX  
(TEST DATA TO BE TAKEN AT -54°C, +25°C, +95°C)
- LOG SLOPE ..... 23mV/dB MIN TO 28mV/dB MAX  
WITH ADJUSTABLE RESISTOR
- LOG LINEARITY ..... ±1.2 dB MAX. (-65 dBm TO 0 dBm AT 25°C), (TEST DATA TO BE TAKEN AT -54°C, +25°C, +95°C)  
±1.5 dB MAX. (-65 dBm TO +5 dBm AT -54°C TO +85°C), (TEST DATA TO BE TAKEN AT -54°C, +25°C, +85°C)  
±1.7 dB MAX. (-65 dBm TO +5 dBm AT -54°C TO +95°C), (TEST DATA TO BE TAKEN AT -54°C, +25°C, +95°C)
- MAXIMUM RF INPUT POWER ..... +10 dBm
- VSWR INPUT ..... 2.0:1 MAX
- LIMITED IF OUTPUT ..... -16 dBm ±3dBm
- LIMITED IF OUTPUT FLATNESS ..... ±3dBm
- IF SMALL SIGNAL GAIN ..... 45dB MIN
- IF OUTPUT VSWR ..... 2.0:1
- IF OUTPUT IMPEDANCE ..... 50Ω
- LOG VIDEO OUTPUT:  
OUTPUT COUPLING ..... DC  
MAXIMUM OUTPUT VOLTAGE ..... 2.7 VOLTS (TEST DATA TO BE TAKEN AT -54°C, +25°C, +95°C)  
RISE TIME ..... 25 ns MAXIMUM (300 TO 800MHz)  
FALL TIME ..... 80 ns MAXIMUM (300 TO 800MHz)  
PROPOGATION DELAY ..... 40 ns MAXIMUM (300 TO 800MHz)  
DC OFFSET ..... ±75mV (EXTERNALLY ADJUSTABLE)  
VIDEO BANDWIDTH ..... 10MHz MIN  
VIDEO LOAD ..... 100Ω (NOMINAL)
- DC POWER SUPPLY (REGULATED TO 0.1%)  
+V ..... +5 VOLTS @ 70mA  
-V ..... -5.2 VOLTS @ 200mA
- SIZE ..... 0.395" x 0.280" x 0.090"

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REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	ORIGINAL RELEASE	01/14/19	

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

## ENVIRONMENTAL RATINGS

- **TEMPERATURE:** ..... -54°C TO +95°C (OPERATING)  
-54°C TO +101°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

## PLANAR MONOLITHICS INDUSTRIES, INC.

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ISO 9001:2008 CERTIFIED



APPROVALS		DATE	TITLE			
DRAWN <i>afk</i>		01/14/19	PRODUCT FEATURE SDLVAC-0120-70M-YK 300 TO 800MHz DETECTOR LOG VIDEO AMPLIFIER			
CHECKED			SIZE A	FSCM NO. 05XQ0	DWG NO. 27008323	REV. A
ISSUED			SCALE N:S		SHEET	1 OF 3

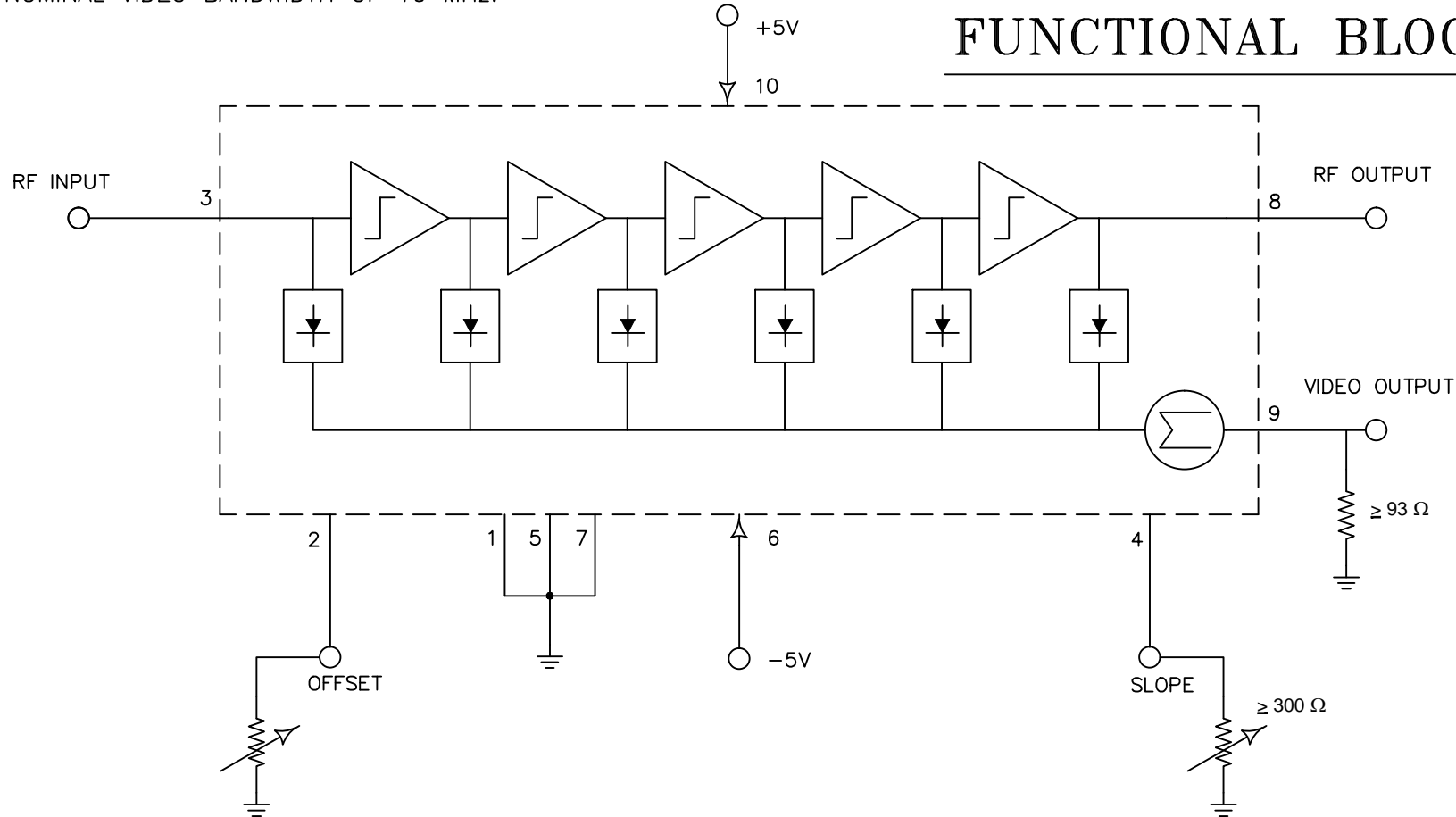


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## FUNCTIONAL BLOCK DIAGRAM



## 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

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					SHEET 3 OF 3