

**DESCRIPTION:**

PMI MODEL NO. SDLVA-218-70-70MV-3 IS A CW IMMUNE SDLVA (SUCCESSIVE DETECTION LOG VIDEO AMPLIFIER). THIS UNIT OPERATES FROM 2.0 TO 18.0 GHZ. IT HAS THE ABILITY TO INTERFACE WITH A LONG CABLE (100 FT), WHILE MAINTAINING HIGH SPEED, FLATNESS AND ACCURACY.

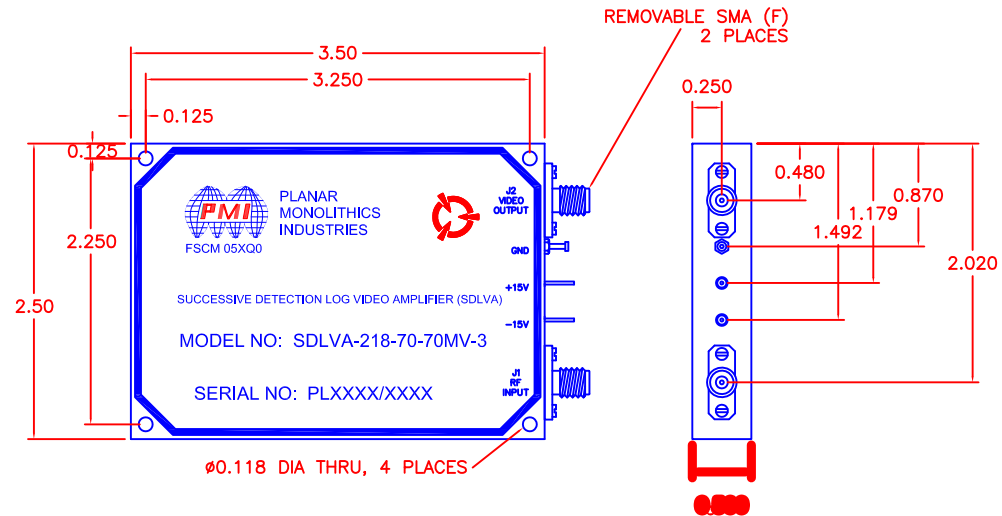
**SPECIFICATIONS:**

- FREQUENCY: 2.0 GHz TO 18.0 GHz
- FREQUENCY FLATNESS: ±1.75dB MAX @ CONSTANT TEMP & POWER FROM -65 TO 0 dBm
- VIDEO OUT @ -65dBm AT 10GHz: 350±80mV
- PULSE WIDTH PROCESS RANGE: 100ns - 300µs
- PULSE DENSITY CAPABILITY: DC:20% FOR PW:100ns @ PEAK POWER -10dBm  
DC:70% FOR PW:300us @ PEAK POWER -10dBm  
1dB PULSE AMPLITUDE AND BASELINE VARIABLE
- COUPLED MODE: PSEUDO AC COUPLED MODE
- PROPAGATION DELAY: 50ns MAX FROM 50% RF IN TO 10% VIDEO OUT (NOT INCLUDING CABLE)
- CW IMMUNE POWER: TSS TO -40 dBm
- BASELINE SHIFT UP (DC) WITH CW: 200mV MAX @ -40dBm
- CW IMMUNE TIME @ CW: -40 dBm: 4ms MAX
- CW RECOVERY TIME @ CW: -40 dBm: 50us MAX
- DROOP OF THE OUTPUT VIDEO PULSE AT POWER -65dBm FOR PULSE WIDTH 300us: 1dB MAX
- PULSE AMPLITUDE LOSS WITH CW  
@ PULSE INPUT POWER = -30dBm WHEN CW POWER = -50dBm, PULSE AMPLITUDE NO LOSS  
WHEN CW POWER = -40dBm, PULSE AMPLITUDE LOSS <2dB  
WHEN CW POWER > -40dBm, PULSE ON CW
- TSS: -71dBm MAX
- LOG DYNAMIC RANGE: -65dBm TO 0dBm MIN
- LOG SLOPE: 70 +/-3 mV/dB MAX
- LOG LINEARITY @ 25 DEG C: ±1.0dB MAX
- RIPPLE FROM DC TO 10MHz: 100mV MAX
- DC OFFSET: ±70 mV
- NOISE LEVEL: 160mV p-p TYP
- LOG ACCURACY FROM AVERAGE SLOPE: ±2.25 dB MAX AT 25 DEG. C
- ABSOLUTE LOG ACCURACY FROM AVERAGE SLOPE: ±2.5 dB MAX FROM 0 TO +85 DEG. C (2 TO 18 GHz)
- RISE TIME: 28ns MAX @ OVER FULL DYNAMIC RANGE
- FALL TIME: 200ns MAX @ PULSE PEAK POWER -40 & -10 dBm
- SETTLING TIME: 50 ns MAX, 10% RISING WITHIN +/-70mV OF FINAL VALUE  
@ PULSE PEAK POWER -10 dBm
- RECOVERY TIME: 500 ns MAX, 90% FALL TO +/- 1.0 dB OF BASELINE  
@ PULSE PEAK POWER (50us, -10dBm)
- INPUT VSWR: 2.2:1 MAX
- MAX INPUT LEVEL: 1 WATT CW, 100 WATT PEAK @ PW:1us & DC:1%
- VIDEO OUTPUT DRIVE: THROUGH 100 Feet, RG11 INTO 75 OHMS LOAD
- POWER SUPPLY: +15VDC +/-5% @ 500mA MAX  
-15VDC +/-5% @ 200mA MAX
- OPERATING TEMPERATURE: 0°C TO +85°C
- SIZE: (L) 3.5in X (W) 2.5in X (H) 0.5in  
(L) 88.9mm X (W) 63.5mm X (H) 12.7mm
- FINISH: MIL-SPEC EPOXY PAINT - GRAY  
MOUNTING SURFACE FREE OF PAINT
- COOLING: CONDUCTION COOLING AT MOUNTING SURFACE

NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

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

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	-	PRELIMINARY	7/17/19	JM



**ENVIRONMENTAL SPECIFICATIONS / E.S.S.**  
(ESS TEST PERFORMED 100%, REPORT PROVIDED FOR 10% OF ORDERED QTY)

- MTBF..... 5000H @50°C
- STABILIZATION BAKE.....24 HOURS @ +85°C
- THERMAL SHOCK.....0°C TO +85°C, 10 CYCLES  
1 HOUR DWELL TIME AT EACH TEMP, RATE OF TEMP CHANGE 15°C/MIN
- RANDOM VIBRATION.....20Hz TO 2000Hz, RANDOM  
16.8 GRMS IN ALL 3 AXIS FOR 15 MINUTES MIN.
- BURN IN.....48 HOURS @ +85°C DC POWER ON
- OPERATING TEMPERATURE.....0°C TO +85°C
- FINISH.....GRAY PAINT, NO PAINT ON MOUNTING SURFACE

**PMI CONFIDENTIAL AND PROPRIETARY**

**PLANAR MONOLITHICS INDUSTRIES, INC.**  
7311-F GROVE ROAD  
FREDERICK, MARYLAND 21704 USA  
TEL: 301-662-5019 FAX: 301-662-1731  
WEBSITE: [www.pmi-rf.com](http://www.pmi-rf.com)  
E-MAIL: [sales@pmi-rf.com](mailto:sales@pmi-rf.com)  
ISO 9001 CERTIFIED



APPROVALS		DATE	TITLE			
DRAWN	JM	7/17/19	PRODUCT FEATURE SDLVA-218-70-70MV-3			
CHECKED			SIZE	FSCM NO.	DWG NO.	REV.
ISSUED			A	05XQ0	PRELIMINARY	-
			SCALE	N:S		SHEET 1 OF 1