

DESCRIPTION:

PMI MODEL ERDLVA-8G18G-65-70MV-2 IS A CW IMMUNE ERDLVA THAT OPERATES FROM 8.0 TO 18.0 GHz. THIS MODEL FEATURES AN INTERNAL SWITCH USED TO SWITCH BETWEEN THE BIT IN AND RF IN WITH INPUT BLANKING ON BOTH PORTS. THE VIDEO OUTPUT IS DESIGNED TO DRIVE A 100 FT CABLE.

ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A1	ORIGINAL RELEASE	12/12/2024	

RF SPECIFICATIONS:

- FREQUENCY RANGE:..... 8.0 GHz TO 18.0 GHz
- INPUT VSWR:..... 2.3:1 MAX
- INPUT POWER MAX:..... 1 WATT CW, 100 WATT PEAK @ PW = 1 us & 1% DUTY

SWITCH CHARACTERISTICS:

- SWITCH MODE:..... (1) RF INPUT, (2) BIT, (3) CHOP
- ISOLATION:..... 60 dB MIN ALL PORTS
- SWITCHING SPEED:..... 100 ns MAX

VIDEO OUTPUT SPECIFICATIONS

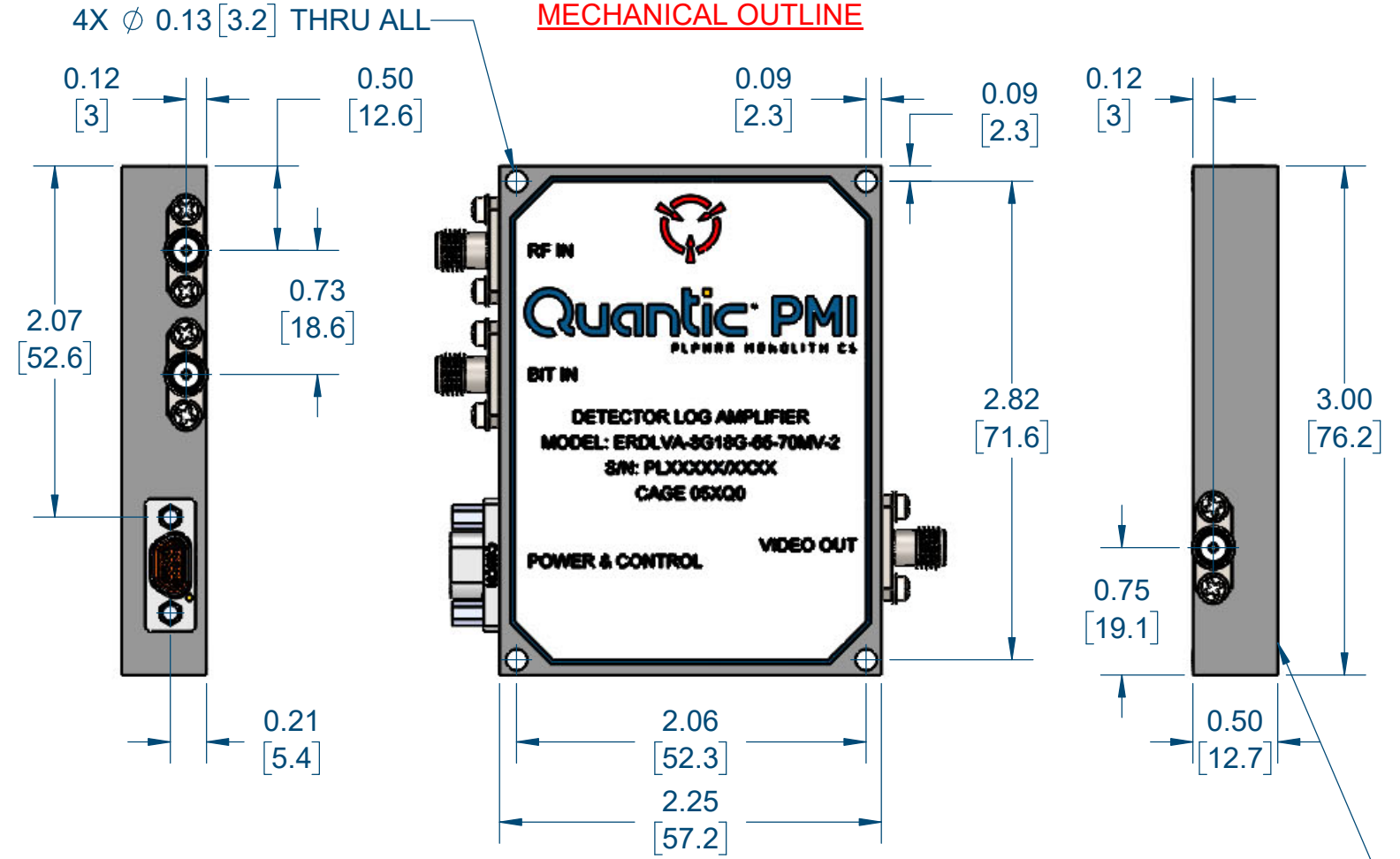
- TSS:..... -71 dBm
- DYNAMIC RANGE:..... -65 TO 0 dBm
- LOG SLOPE:..... 70 mV/dB ± 3 mV/dB
- LOG LINEARITY:..... ±1.0 dB MAX
- LOG ACCURACY @ 25°C:..... ±1.75 dB MAX
- ABSOLUTE LOG ACCURACY:..... ±2.0 dB MAX
- DC OFFSET:..... ±70 mV
- RISE TIME:..... 28 ns MAX (10-90% TESTED FROM -50 TO 0 dBm)
- FALL TIME:..... 28 ns MAX (10-90% FULL DYNAMIC RANGE GUARANTEED)
- SETTLING TIME:..... 300 ns MAX (10-90% TESTED FROM -50 TO 0 dBm)
- RECOVERY TIME:..... 300 ns MAX (10-90% FULL DYNAMIC RANGE GUARANTEED)
- PULSE WIDTH PROCESS RANGE:..... 50 ns MAX (FROM 10% TO WITHIN 70 mV OF FINAL VALUE @ -40 & -10 dBm)
- VIDEO FREQUENCY FLATNESS:..... ±1.75 dB MAX @ 25°C
- PULSE WIDTH PROCESS RANGE:..... 100 ns TO 100 us
- VIDEO OUTPUT LOAD IMPEDANCE:..... 95±1 OHMS
- VIDEO OUTPUT @ -65 dBm:..... 320±123 mV FOR ALL FREQUENCIES
- VIDEO OUTPUT DRIVE CAPABILITY:..... DRIVING 100 ft RG180 INTO 95 OHMS LOAD
- PULSE DENSITY CAPABILITY:..... 10% DUTY @ 100 ns PW, 70% DUTY @ 100 us PW
- NOISE LEVEL:..... 25 mV RMS MAX
- PULSE DROOP @ -65 dBm:..... 70 mV MAX FOR PW 100 us
- PROPAGATION DELAY:..... 50 ns MAX FROM 50% RF TO 10% VIDEO
- CW IMMUNE POWER:..... TSS TO -40 dBm
- BASELINE SHIFT:..... 200 mV MAX @ -40 dBm CW
- PULSE AMPLITUDE LOSS WITH PULSE POWER = -30 dBm
 - @ CW POWER = -50 dBm, NO LOSS
 - @ CW POWER = -40 dBm, 2 dB LOSS MAX
- CW IMMUNE TIME @ CW = -40 dBm:..... 4 ms MAX
- CW RECOVERY TIME @ CW = -40 dBm:..... 120 us MAX
- DC POWER:..... ±15V ±5% @ 0.5A MAX FOR +15V
0.2A MAX FOR -15V
- RIPPLE DC TO 10 MHz:..... 100 mV MAX
- CONNECTORS:
 - RF & VIDEO:..... SMA FEMALE
 - DC POWER & CONTROL:..... 9 PIN MICRO D-SUB FEMALE

ENVIRONMENTAL RATINGS / E.S.S.:

(ESS TEST PERFORMED 100%, REPORT PROVIDED FOR 1 UNIT PER LOT)

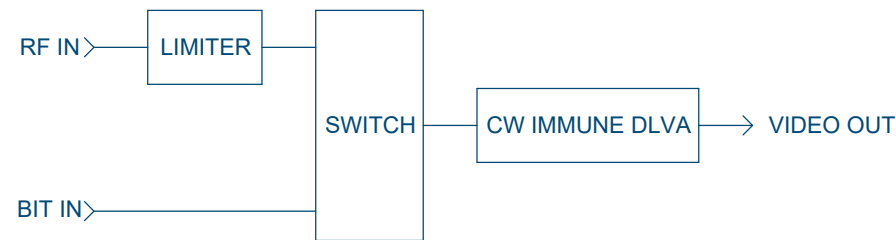
- MTBF:..... 5000H @ 50°C
- STABILIZATION BAKE:..... 24 HOURS @ +85°C
- THERMAL SHOCK:..... -10°C TO +85°C, 10 CYCLES 1 HOUR DWELL TIME AT EACH TEMP, RATE OF TEMP CHANGE 15°C/MIN
- RANDOM VIBRATION:..... 20 Hz TO 2000 Hz, RANDOM 16.8 GRMS IN ALL 3 AXIS FOR 15 MINUTES MIN.
- BURN IN:..... 48 HOURS @ +85°C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

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



NO PAINT ON MOUNTING SURFACE

FUNCTIONAL BLOCK DIAGRAM



MICRO-D CONNECTOR PINS	
PIN NO.	FUNCTION
1	+15VDC
2	GND
3	NC
4	SW CONTROL TTL 1
5	SW CONTROL TTL 2
6	+15VDC
7	-15VDC
8	-15VDC
9	GND

SWITCH CONTROL TTL LOGIC TABLE		
COMMAND MODES	PIN 4	PIN 5
RF INPUT MODE	TTL LOW	TTL LOW
BIT INPUT MODE	TTL HIGH	TTL LOW
RF INPUT CHOP	TTL LOW	TTL HIGH
BIT INPUT CHOP	TTL HIGH	TTL HIGH

PMI CONFIDENTIAL AND PROPRIETARY

<p>UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:</p> <p>FRACTIONS DECIMALS ANGLES</p> <p>± .XX ± 0.02 ±</p> <p>± .XXX ± 0.01</p>		<p>APPROVALS</p> <p>DATE</p> <p>DRAWN J ESCANO</p> <p>REDRAWN</p> <p>ISSUED</p>	<p>DATE</p> <p>12/12/2024</p>	<p>TITLE</p> <p>OUTLINE</p> <p>ERDLVA-8G18G-65-70MV-2</p>	<p>SIZE</p> <p>B</p>	<p>FSCM NO.</p> <p>05XQ0</p>	<p>DWG NO.</p> <p>27050100</p>	<p>REV.</p> <p>A1</p>
<p>SCALE 1:1</p>				<p>SHEET 1 OF 1</p>				

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