DESCRIPTION

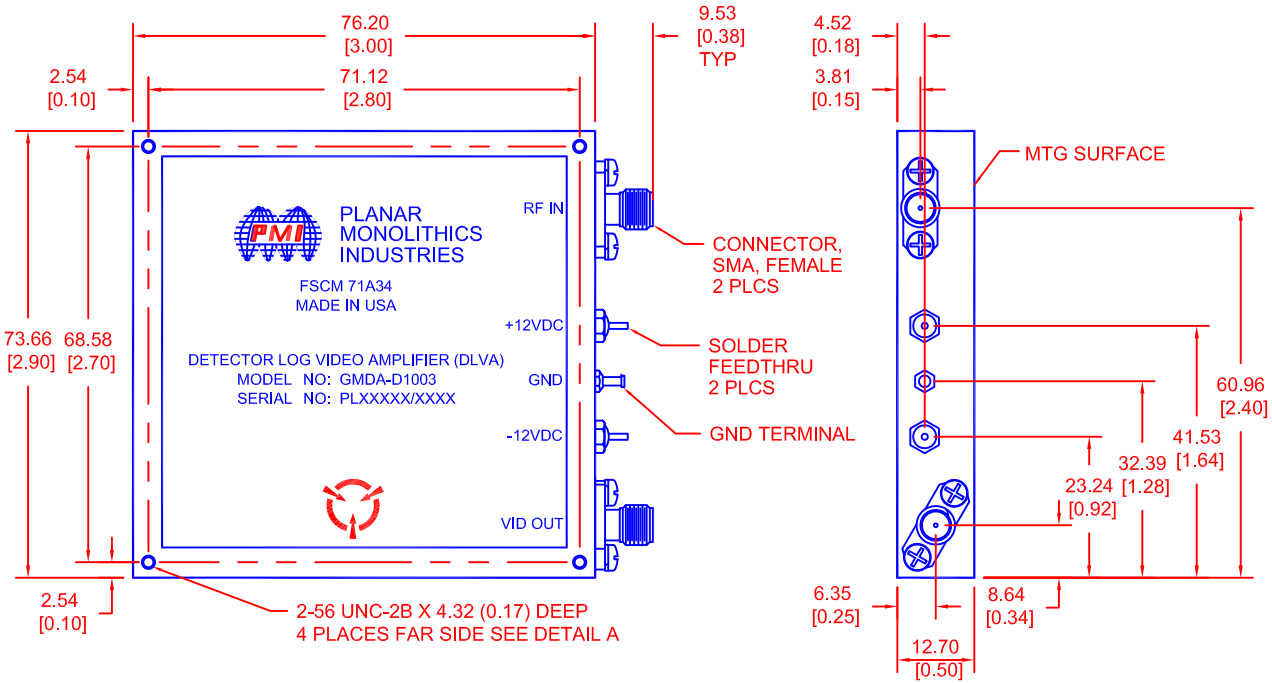
THE MODEL GMDA–D1003 IS A DETECTOR LOG VIDEO AMPLIFIER (DLVA) THAT OPERATES BETWEEN THE 7 TO 18 GHz FREQUENCY RANGE. IT HAS A DYNAMIC RANGE OF 75 dB, A LOG SLOPE OF 25 mV/dB, AND A NOMINAL VIDEO BANDWIDTH OF 12 MHz. FURTHERMORE, IT HAS BEEN DESIGNED USING CUTTING EDGE GaAs TECHNOLOGY WHICH PROVIDES STUNNING PERFORMANCE AND RELIABILITY IN A COMPACT PACKAGE.

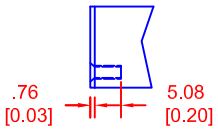
REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A1	ECN # 16–0056	4/5/16	
	A2	ECN # 17–0007	5/12/17	

SPECIFICATIONS

- FREQUENCY RANGE ——— 7 GHz to 18 GHz
- LOGGING RANGE (FIG. 1) ——— –70 dBm to +5 dBm
- TSS ——— –75 dBm MAX
- LOGGING SLOPE (FIG. 1,2)— +25.0±1.0 mV/dB MAX
- LOGGING LINEARITY (FIG. 1)— ±1.0 dB MAX @ +25°C
  ±1.2 dB MAX @ –25°C & +85°C
- FLATNESS (FIG. 3) ——— 100mV MAX
- RF SAFE INPUT POWER ——— +23 dBm MIN
- MAX OUTPUT VOLTAGE ——— +2.5V MAX
- INPUT VSWR (50 Ω) ——— 2.5:1 MAX
- RF INPUT IMPEDANCE ——— 50Ω NOM
- VIDEO LOAD IMPEDANCE ——— 75Ω NOM
- VIDEO RISE TIME (FIG. 4) ——— 30 nS MAX
- RECOVERY TIME (FIG. 4) ——— 1 uS MAX
- THROUGHPUT TIME (FIG. 4)— 30 nS MAX
- LEADING AND TRAILING EDGE ——— SEE FIGURE 5
- REVERSE SHOOT AND SLOPE REVERSE ——— SEE FIGURE 6
- VIDEO BANDWIDTH ——— 10 MHz MIN
- OFFSET VOLTAGE ——— 50 mV MAX
- DC POWER SUPPLY
  - +V ——— +12VDC ±5% @ 300 mA MAX
  - –V ——— –12VDC ±5% @ 150 mA MAX
- SIZE ——— 73.66 mm X 76.20 mm X 12.70 mm
  2.90" X 3.00" X 0.50"
  (EXCLUDING CONNECTORS)
- WEIGHT ——— 150 g [5.29 OZ] MAX
- FINISH ——— NICKEL PLATE

MECHANICAL OUTLINE





DETAIL A

ENVIRONMENTAL RATINGS

- TEMPERATURE ——— –25°C TO +85°C (OPERATING)
  –30°C TO +85°C (STORAGE)
- ALTITUDE ——— N/A
- HUMIDITY ——— 100%RH
- SHOCK ——— 15 G 11±1 mSec
- VIBRATION ——— 10 MM P–P, 2 TO 7 Hz
  1 G, 7 TO 50 Hz

PMI CONFIDENTIAL AND PROPRIETARY

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ISO 9001: CERTIFIED

APPROVALS	DATE
DRAWN JOHN M	4/5/16
CHECKED	
ISSUED	

ALL DIMENSIONS ARE IN mm [INCH]
TOLERANCES:
X.XX = ±0.762 [0.030]
X.XXX = ±0.254 [0.010]

TITLE: PRODUCT FEATURE
GMDA–D1003
7.0 – 18.0 GHz DLVA

SIZE	FSCM NO.	DWG NO.	REV.
A	71A34	DWG000004–PMI	A2

SCALE NONE SHEET 1 OF 2

DESCRIPTION

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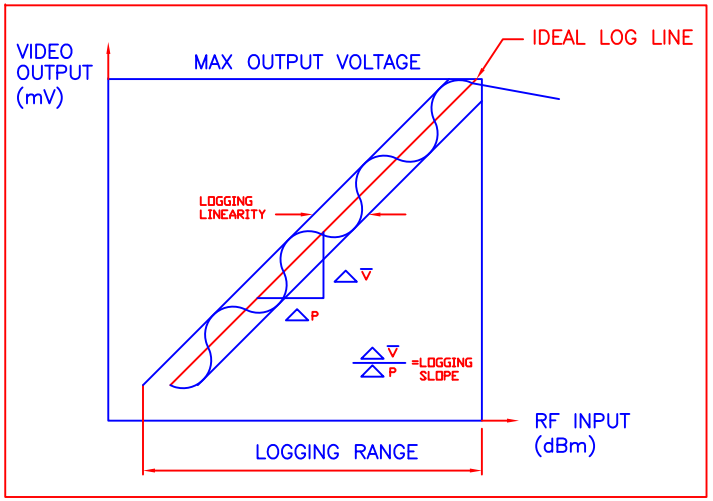

FIGURE 1 RF INPUT POWER vs VIDEO OUTPUT VOLTAGE

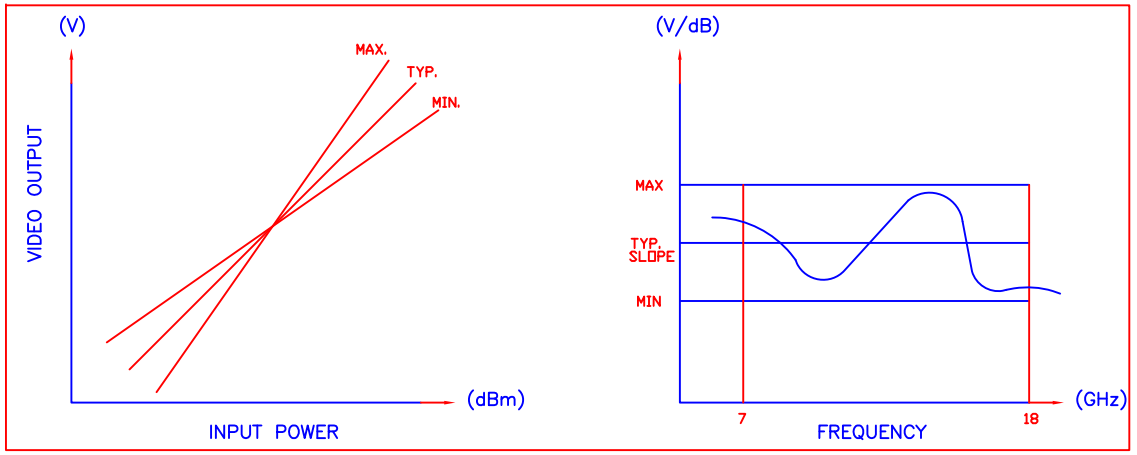

FIGURE 2 LOGGING SLOPE

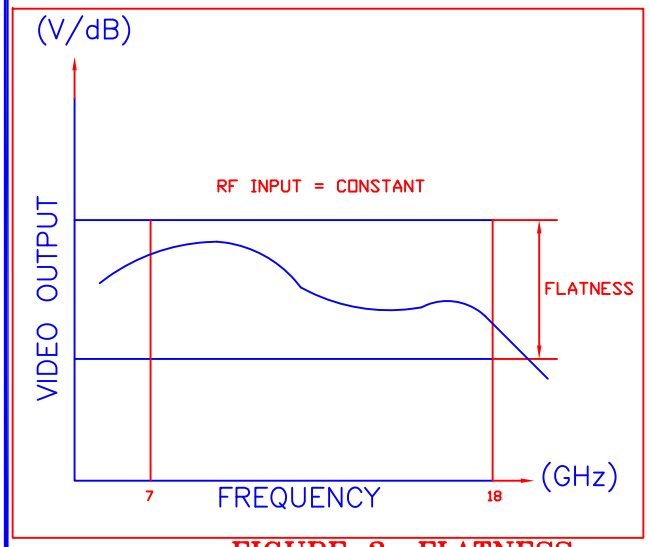

FIGURE 3: FLATNESS

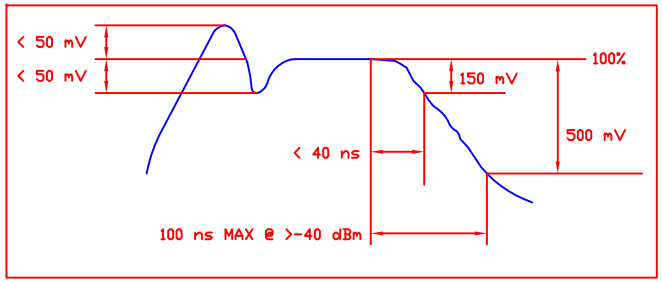

FIGURE 5: PULSE

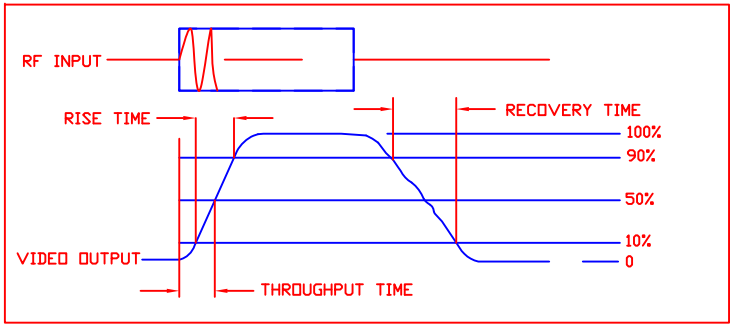

FIGURE 4: PULSE RESPONSE

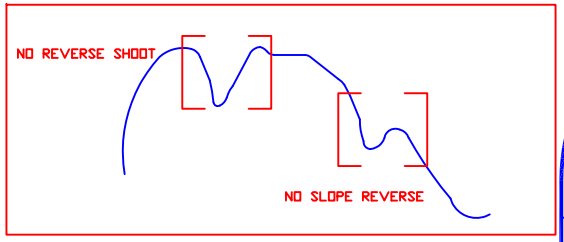

FIGURE 6: REVERSE

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