



**AMERICAN MICROWAVE  
CORPORATION**

**LVDM-218-70/75  
OPTION 818-65-60**  
**8.0 TO 18.0 GHz**

**HIGH RELIABILITY  
65 dB DYNAMIC RANGE  
DETECTOR LOG VIDEO AMPLIFIER**

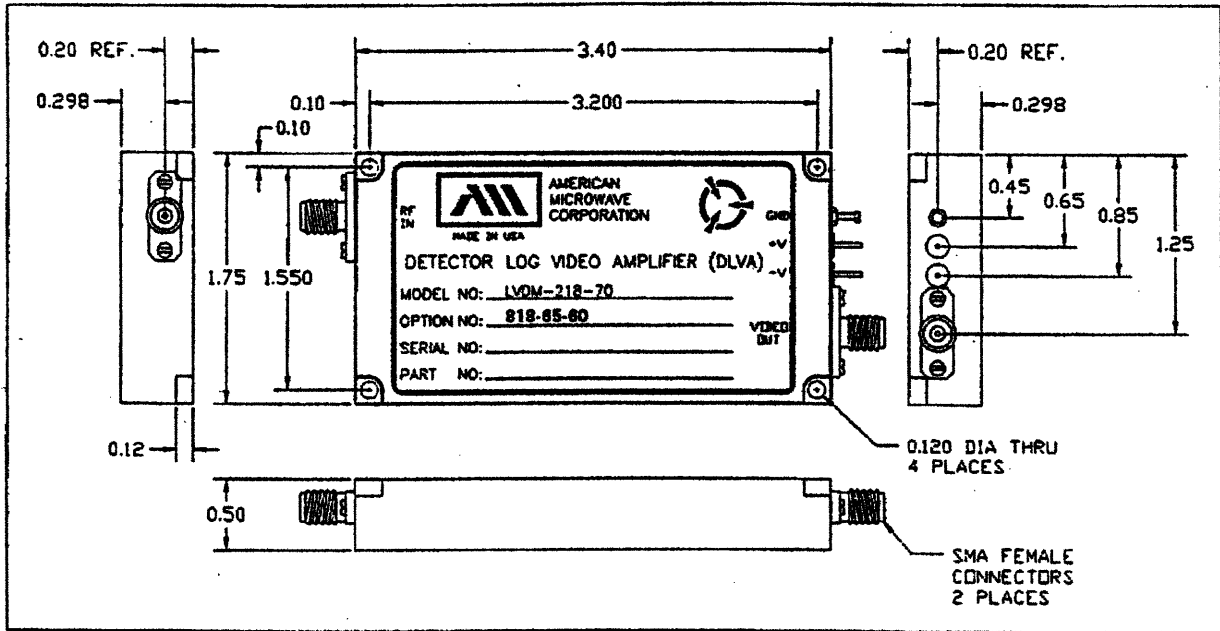
- **MINIATURE**
- **VERY STABLE**
- **FAST SETTLING**
- **HIGH RELIABILITY**
- **LOW CURRENT DRAW**
- **WIDE DYNAMIC RANGE**

**SPECIFICATIONS**

- **FREQUENCY** : 8.0 TO 18.0 GHz  
(6 TO 18 GHz, 2 TO 6 GHz, 2 TO 18 GHz,  
OR 0.5 TO 18 GHz UNITS ARE AVAILABLE)
- **LOG SLOPE (WITH 100  $\Omega$   $\pm$ 5% LOAD)** : 50 mV/dB  $\pm$ 5 mV NOMINAL (OTHER SLOPES  
AVAILABLE)
- **LOGGING DYNAMIC RANGE** : -60 TO +5 dBm MIN.  
(OUTPUT VOLTAGE 0.2 TO 3.35 VOLTS) (60 dB, 65 DB,  
70 dB, OR 75 dB DYNAMIC RANGE UNITS ARE  
AVAILABLE)
- **LOG LINEARITY** :  $\pm$ 1.75 dB MAX.,  $\pm$ 1.5 dB TYP. (FROM BEST  
FIT STRAIGHT LINE)
- **FREQUENCY FLATNESS (8.0 TO 18.0 GHz)** :  $\pm$ 1.75 dB MAX.,  $\pm$ 1.5 dB TYP.
- **OUTPUT STABILITY OVER TEMPERATURE** :  $\pm$ 1.0 dB MAX. (0°C TO +60°C)
- **TSS LEVEL** : -60 dBm MIN. (-65 dBm UNITS ARE AVAILABLE)
- **RISE TIME (10% TO 90% POINTS)** : 20 nS MAX.
- **SETTLING TIME** : 40 nS MAX., 30nS TYP.
- **RECOVERY TIME** : 400 nS MAX., 250 nS TYP.
- **INPUT VSWR@ -20 dBm (8.0 to 18.0 GHz)** : 3.0:1 MAX., 2.5:1 TYP.
- **D. C. OFFSET** :  $\pm$ 1.5 dB MAX.,  $\pm$ 1.0 dB TYP.
- **VIDEO LOAD IMPEDANCE** : 100  $\Omega$
- **RF INPUT POWER** : +15 dBm MAX.
- **D. C. POWER (EXTERNALLY REGULATED  
AND NO LOAD CONDITION)** : +9 vdc  $\pm$ 5%, @ +275 mA MAX.  
: -9 vdc  $\pm$ 5%, @ -150 mA MAX.
- **SIZE** : 3.4" x 1.75" x 0.5"
- **WEIGHT** :  $\leq$ 4.0 oz.



**MECHANICAL OUTLINE**



**ENVIRONMENTAL SPECIFICATIONS**

**STANDARD RATINGS:**

- TEMPERATURE -54°C TO +85°C (OPERATING)  
-65°C TO +100°C (STORAGE)
- HUMIDITY MIL-STD-202F, METHOD 103B CONDITION B
- SHOCK MIL-STD-202F, METHOD 213B CONDITION B
- VIBRATION MIL-STD-202F, METHOD 204D CONDITION B
- ALTITUDE MIL-STD-202F, METHOD 105C CONDITION B
- TEMPERATURE CYCLE MIL-STD-202F, METHOD 107D CONDITION A

**HIGH RELIABILITY RATINGS:**

- \* (THESE SPECIFICATIONS ARE AVAILABLE, INQUIRE WITH FACTORY FOR DETAILS)
- ACCELERATION 0.2G<sup>2</sup>/Hz FROM 10-500Hz X,Y & Z AXIS, 2 HOURS PER AXIS  
(POWER SPECTRAL DENSITY)
  - RANDOM VIBRATION X AXIS TO 100 Hz @ 0.04 G<sup>2</sup>/Hz, 150 - 400 Hz @ 1.0 G<sup>2</sup>/Hz  
(POWER SPECTRAL DENSITY) Y AXIS TO 130 Hz @ 0.04 G<sup>2</sup>/Hz, 130 - 250 Hz @ 4.0 G<sup>2</sup>/Hz,  
250-500 Hz, 6 dB  
Z AXIS TO 100 Hz @ 0.1 G<sup>2</sup>/Hz, 100 - 300 Hz @ 4.0 G<sup>2</sup>/Hz,  
300-500 Hz, 6 dB
  - SINESOIDAL VIBRATION X AXIS 35 - 100 Hz @ 6 G RMS, 100 - 250 Hz @ 15 G RMS  
Y & Z AXIS 35 - 100 Hz @ 6 G RMS, 100 - 250 Hz @ 30 G RMS

(ACTUAL TESTING HAS BEEN PERFORMED FOR VIBRATIONS PER MIL-STD-202F, METHOD 204, 0.2G<sup>2</sup>/Hz FROM 10-500Hz X,Y & Z AXIS, 15 MINUTES PER AXIS)