

DESCRIPTION

PMI MODEL NO. EWDM-2G6G-65-70MV IS A CW IMMUNE EW DETECTOR MODULE OPERATING OVER THE 2.0 TO 6.0 GHz FREQUENCY RANGE. THIS MODEL FEATURES AN INTERNAL SWITCH USED TO SWITCH BETWEEN THE "BIT IN" AND "RF IN" WITH INPUT BLANKING ON BOTH PORTS. IN ADDITION, TWO AMPLIFIED RF OUTPUTS ARE PROVIDED A 7 dB GAIN CHANNEL AND A 33 dB GAIN CHANNEL. THE VIDEO OUTPUT IS DESIGNED TO DRIVE A 150 ft. CABLE, WHILE MAINTAINING HIGH SPEED, AND EXCELLENT ACCURACY.

SPECIFICATIONS

- Input Frequency: 2 - 6 GHz
- Input VSWR: 2.3:1, Max., Impedance = 50 Ohm
- Noise Figure: 8 dB, Max.
- Input Power: (1) 1 W CW, Max.
..... (2) 100 W Peak @ PW = 1 us & Duty Cycle = 1%, Max.
- Control & DC Supply Connector: D-type Female 9 pin
- RF Connectors & Video Output (5 Places): SMA (F)
- TTL Control Logic Interface: See Logic Table
- Finish: Gray epoxy paint, bottom surface free of paint

SP3T SWITCH SPECIFICATIONS:

- Switch Mode: See Logic Table
- Isolation: 60 dB, Min., among all ports
- Switching Speed: 100 ns, Max.

OUTPUT TO 8-WAY POWER COMBINER SPECIFICATIONS:

- Linear Gain: +33 dB, Min.
- Frequency Flatness: ±2.0 dB, Max.
- 1 dB Compression Point: +3 dBm, Min.
- Saturated Power: +14 dBm, Max.
- Second Harmonic: -9 dBc, Min.
- Third Harmonic: -12 dBc, Min.
- I/O VSWR: 2.3:1, Max., Impedance = 50 Ohm

OUTPUT TO SWITCH MATRIX SPECIFICATIONS:

- Linear Gain: +7 dB, Min.
- Frequency Flatness: ±1.2 dB, Max.
- 1 dB Compression Point: +3 dBm, Min.
- Saturated Power: +9 dBm, Max.
- Second Harmonic: -9 dBc, Min.
- Third Harmonic: -12 dBc, Min.
- I/O VSWR: 2.3:1, Max., Impedance = 50 Ohm

DC POWER SPECIFICATIONS:

- DC Supply Voltage : ±15 V ±5%
- Ripple From DC to 10 MHz : 100 mV, Max.
- Current: 1.0 A. For +15 VDC, Max.
..... 0.5 A. For -15 VDC, Max.

ENVIROMENTAL SPECIFICATIONS

- Operating Temperature: 0 °C +85 °C
- Stabilization Bake: 24 Hours @ +85 °C
- Thermal Shock: High temperature 85 °C, low temperature 0 °C
..... 5 cycles, dwell time 2 hours
- Random Vibration: 20 Hz to 2000 Hz, random at 16.8 G_{rms}, in all three axis for 15 minutes, Min.
- Burn In: +85 °C for 48 hours with DC power on

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

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

PMI CONFIDENTIAL AND PROPRIETARY

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A1	ORIGINAL RELEASE	2/23/2013	PK 2/23
	B1	ECN # 16-0103	8/19/2016	

LOG VIDEO OUTPUT SPECIFICATIONS:

- TSS: -71 dBm Max.
- Dynamic Range: -65 to 0 dBm
- Log Slope, Fixed : 70 mV/dB, Nominal
- Log Linearity: ±0.75 dB, Max.
(Deviation From 70 mV/dB Straight Line @ 4 GHz & 25 °C)
- Log Accuracy: ±1.25 dB, Max.
(Deviation From 70 mV/dB Straight Line @ 25 °C & Frequency Range)
- Absolute Log Accuracy: ±1.5 dB, Max.
(Deviation From 70 mV/dB Straight Line over Frequency & Temperature Range)
- DC Offset: 0 ±70 mV (RF Input Terminated & DC Power On)
- Rise Time (10% to 90%): 25 ns, Typ.; 28 ns, Max.
- Fall Time (90% to 10%): 300 ns, Max.
- Settling Time: 50 ns Within ±35 mV of final value, Max.
- Recovery Time: 1 us, Max.
Measured from 1 dB below peak of the first 0 dBm, 330 us pulse to where the second -60 dBm, 100 ns pulse is measured within ±1 dB error when the first 0 dBm pulse is not present.
- Video Frequency Flatness: ±0.75 dB Max. At any constant input power from -65 dBm to 0 dBm, as frequency is varied from 2 - 6 GHz (25 °C).
A. CW immune power TSS to -40 dBm baseline shift: 140 mV, Max.
B. Pulse peak amplitude loss: 2 dB, Max.
Measured with a -30 dBm pulse in the presence of a -40 dBm CW signal
C. At CW > -40 dBm, pulse on CW
D. CW immune time at CW = -40 dBm, ≤ 3 ms
E. CW recovery time at CW = -40 dBm, ≤ 100 us
- CW Immunity: Pulse frequency and CW Frequency Difference of 500 MHz Min.
(Combined signals are inputted to DLVA)
- Pulse Response, Input signal: 100 ns to CW
- Output Impedance : 75 ±1 Ohm
- Video Output @ -65 dBm Within Frequency Range: 320 ±53 mV
(Middle Point of Window)
- Output Video Driver Capability: Driving 150 ft RG11 into 75 Ohm load.
- Output Pulse Peak Variation Versus Duty Cycle : ±70 mV, Max.
Power changes from -60 dBm to 0 dBm, pulse width changes from 100 ns to 330 us for a duty cycle up to 60%, except when the minimum time between the first and second pulse is 1.5 us.
- Signal Processing Capability: 100 ns to 330 us pulse, duty cycle up to 60%
- Coupled Mode: Pseudo AC coupled mode
- Noise level (Vp-p): 150 mV, Max.
- Drop of the Output Video Pulse:; 70 mV (1 dB), Max.
- Propagation Delay: 80 ns (50% input RF to 10% output video), Max.

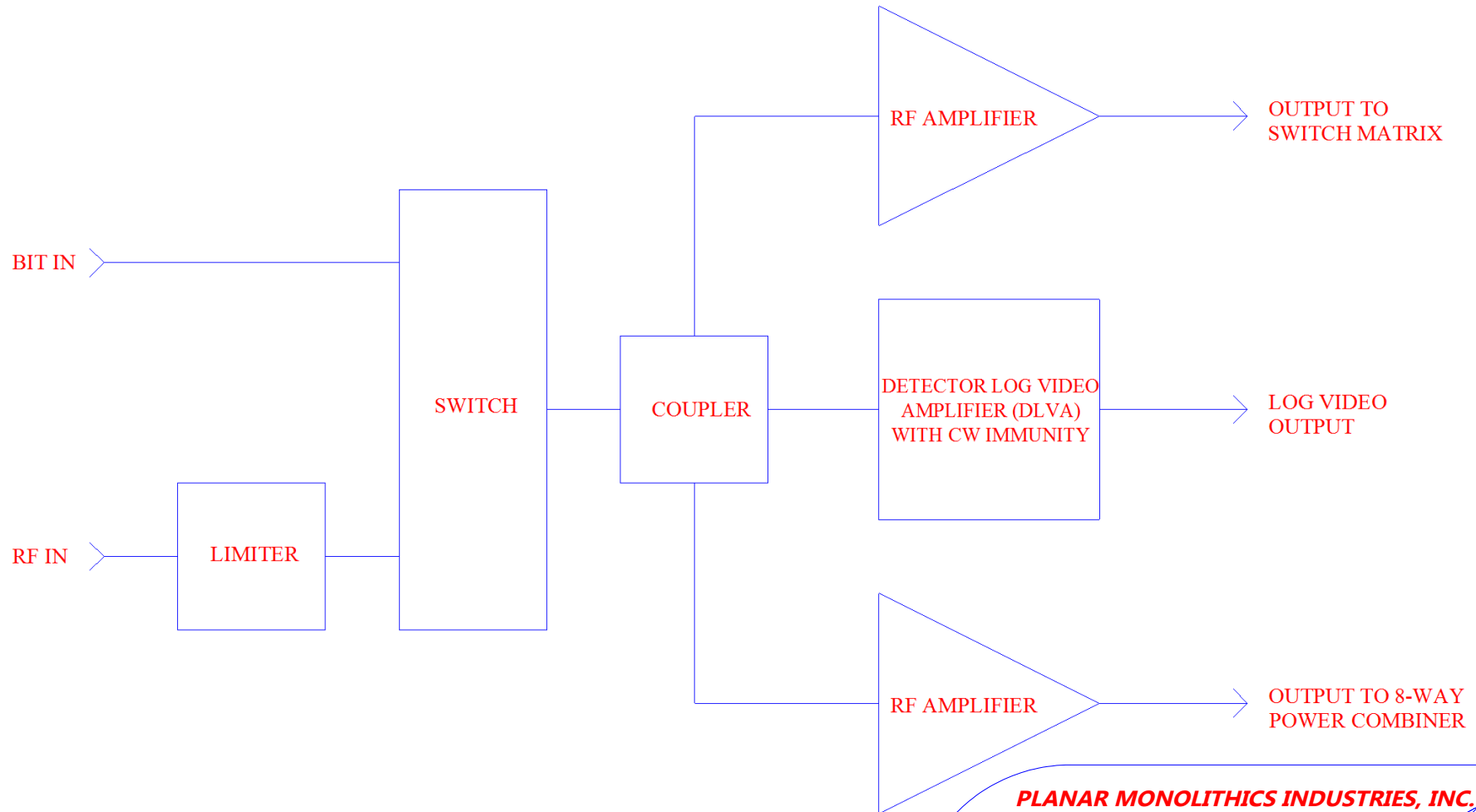
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APPROVALS		DATE	TITLE			REV.
DRAWN			PRODUCT FEATURE EWDM-2G6G-65-70MV			B1
M. Benjamins		2/23/2013				
CHECKED			SIZE	FSCM NO.	DWG NO.	
ISSUED			A	05XQ0	27024940	
			SCALE	N:S	SHEET	1 OF 3

FUNCTIONAL BLOCK DIAGRAM

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