

## DESCRIPTION

PMI MODEL RFFD-618-730049 IS A 6 TO 18 GHz LOW PASS FILTER COMBINED WITH A SCHOTTKY BIASED DETECTOR INCLUDING A REVERSE VOLTAGE PROTECTION DIODE. A DUPLICATE DETECTOR AND PROTECTION DIODE IS INCLUDED FOR DC OFFSET VOLTAGE COMPENSATION.

## SPECIFICATIONS

- FREQUENCY RANGE: 6 TO 18 GHz
- RETURN LOSS: -10 dB (swr 2:1)
- MAXIMUM INPUT POWER: 7 dBm Operation
- MAXIMUM INPUT POWER: 20 dBm SURVIVAL WITH NO DEGRADATION
- FILTER REJECTION: 23 dB MIN 20 TO 26 GHz
- VOLTAGE SENSITIVITY: 80 TO 140 mV
- BARRIER POTENTIAL: 225 TO 270 mV with 100uA bias to 25 deg C
- OPERATING DYNAMIC RANGE: -23 TO +7 dBm
- FREQUENCY FLATNESS: ± 0.8 dB WITH 1dB TO 2dB TYP. SLOPE
- DIODE VOLTAGE PROTECTION: 1.0 V MAX at 30 mA
- TRACKING DETECTOR-BALANCE: ±20mV MAX over operating temperature

- RF INPUT: FIELD REPLACEABLE SMA (MALE)
- VIDEO OUTPUT: FIELD REPLACEABLE SMA (FEMALE)
- DC CONNECTIONS: FEEDTHROUGH SOLDER PINS

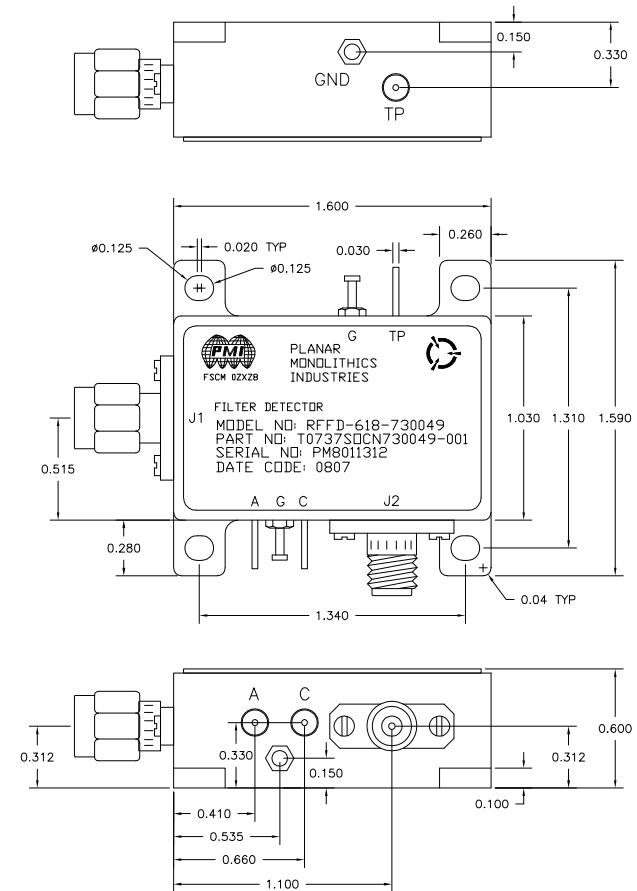
- SIZE: 1.60" x 1.59" x 0.6"

## ENVIRONMENTAL RATINGS

- TEMPERATURE: -54°C TO +110°C (OPERATING)  
-65°C TO +110°C (STORAGE)
- HUMIDITY: MIL-STD-202, METHOD 106
- SHOCK: MIL-STD-202, METHOD 213 COND. A
- VIBRATION: MIL-STD-810C, CATEGORY B2
- ALTITUDE: MIL-STD-810C, METHOD 504.1
- THERMAL SHOCK: MIL-STD-202, METHOD 107 COND. B

ALL DIMENSIONS ARE IN INCHES

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	Original Release	9/11/08	
	B	Various Updates	4/22/09	



## PLANAR MONOLITHICS INDUSTRIES, INC.

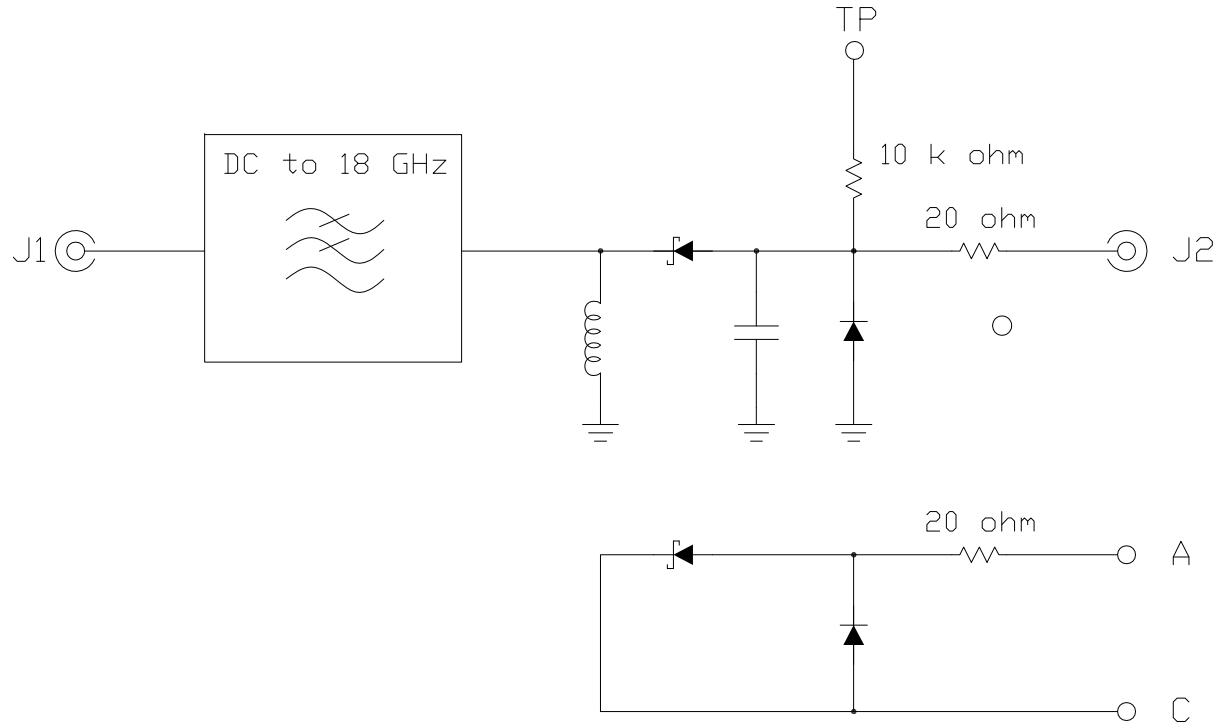
7311-G GROVE ROAD  
 FREDERICK, MARYLAND 21704 USA  
 TEL: 301-631-1579 FAX: 301-662-2029  
 WEBSITE: [www.planarmonolithicsindustries.com](http://www.planarmonolithicsindustries.com)  
 E-MAIL: [sales@planarmonolithics.com](mailto:sales@planarmonolithics.com)  
 ISO 9001:2000 CERTIFIED



APPROVALS		DATE	TITLE		
DRAWN <i>S. PALAGIO</i>		9/11/08	PRODUCT FEATURE RFFD-618-730049		
CHECKED			FILTER DETECTOR		
ISSUED			SIZE A	FSCM NO. 05XQ0	DWG NO. 27008290
			SCALE N:S		SHEET 1 OF 3
					REV. B

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FUNCTIONAL BLOCK DIAGRAM



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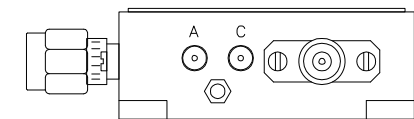
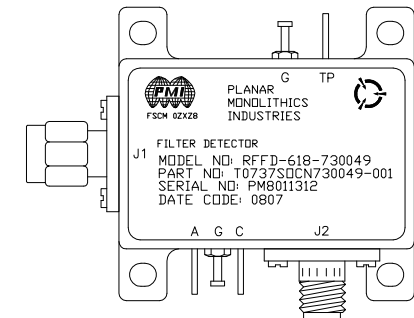
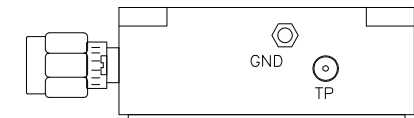
APPROVALS		DATE	TITLE		PRODUCT FEATURE
DRAWN <i>S. PALACIO</i>		9/11/08	RFFD-618-730049		
CHECKED			FILTER DETECTOR		
ISSUED			SIZE	FSCM NO.	DWG NO.
			A	05XQ0	27008290
			SCALE	N:S	SHEET 2 OF 3
			REV.		B

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### EXTERNAL MECHANICAL PARTS

ITEM	PART DESCRIPTION	MANUFACTURERS PART NO.
1	SMA Female Connector (J2)	1206-36-PJ (San-Tron, Inc.)
2	SMA Male Connector (J1)	SWM-213-08SF (Southwest Microwave, Inc.)
3	RF Feedthru (J1, J2)	HA-2940 (Hasco)
4	DC Feedthru (TP, A, C)	SHP1330-250-075-02 (Special Hermetic Products)
5	GND Lug (G)	12-703-2-01 (Concord)
6	Gold Plating	50 u" Min Gold Plate over Copper Flash, Nickel Flash, MIL G 45204 TYPE 2 (Nova Kote)
7	Label	LAT-28-773-25SH & LAT-28-722-25SH (Brady)
8	Grey 2 Part Epoxy Paint	MIL-T-81772 Type 2 Thinner, MIL-C-22750D-36231 Grey Kit & MIL-C-23377F Type1 #1006 Yellow Kit (Spectrum Coatings)
9	Housing	6061-T6 Aluminum
10	Cover	4047 Aluminum



### MATERIAL SAFETY DATA

ALL MATERIALS USED IN THE DEVICE ARE NON-TOXIC AND NO BERYLLIUM OXIDE OR FORMS OF IT OR COMPOUNDS ARE USED IN THE CONSTRUCTION

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DRAWN <i>S. PALACIO</i>		9/11/08	PRODUCT FEATURE RFFD-618-730049 FILTER DETECTOR			
CHECKED			SIZE	FSCM NO.	DWG NO.	REV.
			A	05XQ0	27008290	B
ISSUED			SCALE N:S		SHEET 3 OF 3	

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