

Plug-In Phase Detector

50Ω High Output 50 to 400 MHz

MPD-21+



Generic photo used for illustration purposes only

CASE STYLE: A11

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Input Power	50mW
Peak IF current	20mA

Permanent damage may occur if any of these limits are exceeded.

Pin Connections

RF REF (RF2)	8
RF IN (RF1)	1
DC OUT (I)	3,4^
GROUND	2,5,6,7
CASE GROUND	2

^ pins must be connected together externally

Features

- wideband, 50 to 400 MHz
- hermetic case
- low DC offset, 0.5 mV typ.
- high DC output, 800 mV typ.

Applications

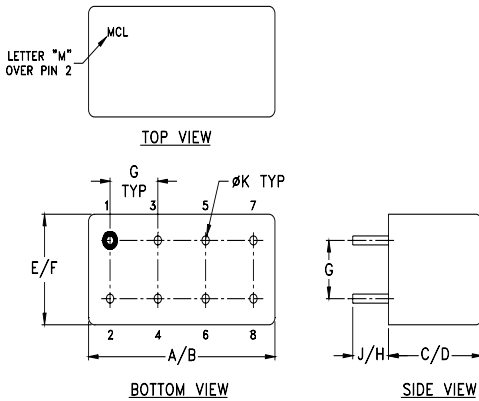
- monitoring circuits
- leveling circuits
- PLL

Phase Detector Electrical Specifications

FREQUENCY (MHz)	POWER IN RF1 RF2 (dBm)	SCALE FACTOR mV/deg.	IMPEDANCE (ohms) Output Load I	ISOLATION (dB) RF1/RF2 Min.	OUTPUT POLARITY RF1/RF2 In-Phase	DC OUTPUT (mV)		FIGURE OF MERIT Typ.		
						Max. Typ.	Offset Typ. Max.			
50-400	DC-50	7	500	40*	neg.	800	500	0.5	1	120

* 30 dB from 200 to 400 MHz.

Outline Drawing

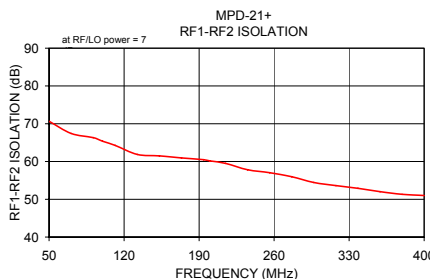
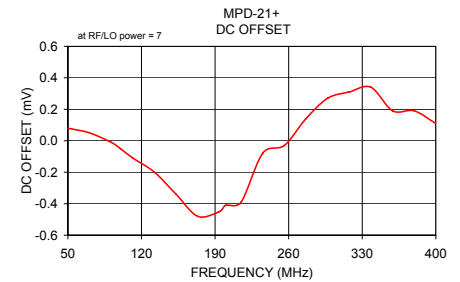
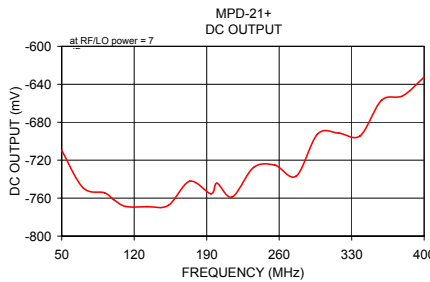


Outline Dimensions (inch/mm)

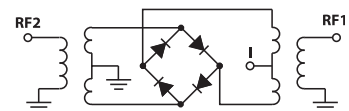
A	B	C	D	E	F
.480	.500	.240	.255	.210	.230
12.19	12.70	6.10	6.48	5.33	5.84
G	H	J	K	wt	
.100	.20	.14	.020	grams	
2.54	5.08	3.56	0.51	1.9	

Typical Performance Data

Frequency (MHz)	DC Output mV		DC Offset mV		RF1-RF2 Isolation (dB)
	\bar{X}	σ	\bar{X}	σ	
50.00	-709.82	3.59	0.08	0.04	70.65
70.59	-749.08	3.90	0.05	0.06	67.43
91.18	-754.30	4.74	-0.01	0.08	66.33
100.00	-761.44	5.14	-0.05	0.08	65.36
111.77	-768.79	5.90	-0.11	0.09	64.25
132.35	-768.89	7.05	-0.20	0.10	61.88
152.94	-767.63	8.30	-0.34	0.11	61.49
173.53	-742.21	9.53	-0.48	0.14	60.94
194.12	-755.32	11.20	-0.45	0.18	60.49
200.00	-744.32	11.29	-0.41	0.18	60.16
214.71	-758.79	12.19	-0.39	0.23	59.51
235.29	-727.66	13.02	-0.08	0.17	57.81
255.88	-725.26	15.07	-0.03	0.18	57.03
276.47	-736.71	17.30	0.14	0.15	55.98
297.06	-692.38	18.31	0.27	0.09	54.45
317.65	-691.52	20.64	0.31	0.11	53.62
338.24	-694.23	21.94	0.34	0.14	52.91
358.82	-656.91	21.62	0.19	0.10	52.02
379.41	-652.04	21.74	0.19	0.12	51.31
400.00	-632.47	20.37	0.11	0.09	50.99



electrical schematic



Notes

- Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
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