

Plug-In

Phase Detector

50Ω High Output 50 to 400 MHz

MPD-21+



CASE STYLE: A11
PRICE: \$29.20 ea. QTY (1-9)

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

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

+RoHS Compliant

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

Phase Detector Electrical Specifications

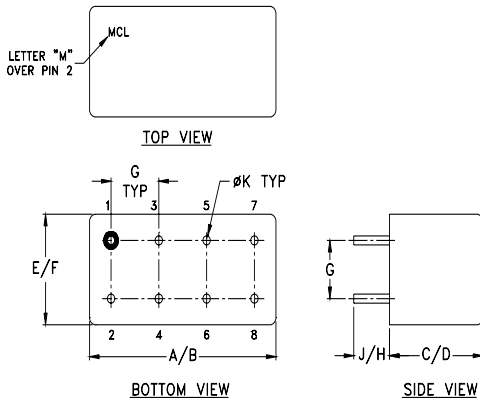
FREQUENCY (MHz)	POWER IN	SCALE FACTOR	IMPEDANCE (ohms) Output Load I	ISOLATION (dB)	OUTPUT POLARITY	DC OUTPUT (mV)	FIGURE OF MERIT
RF1 I RF2	RF1 RF2 (dBm)	mV/deg.		RF1/RF2 Min.	RF1/RF2 In-Phase	Max. Offset Typ. Min. Typ. Max.	Typ.
50-400 DC-50	7	7	500	40*	neg.	800 500 0.5 1	120

* 30 dB from 200 to 400 MHz.

Typical Performance Data

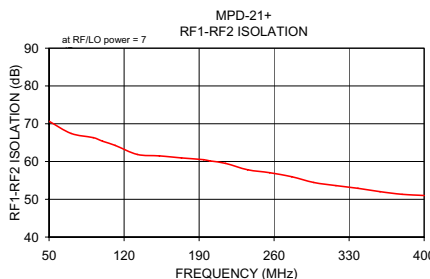
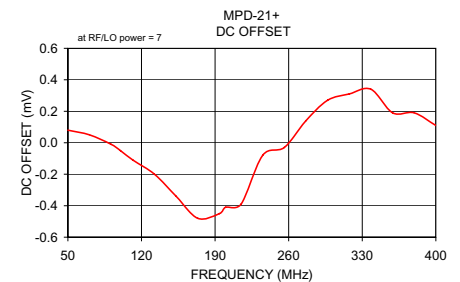
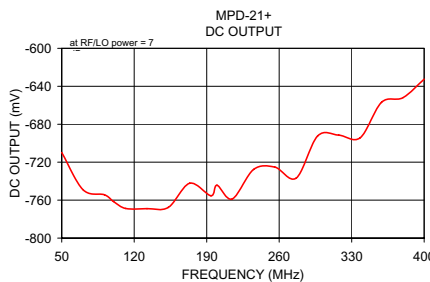
Frequency (MHz)	DC Output mV	DC Offset mV	RF1-RF2 Isolation (dB)
	$\bar{X}$ σ	$\bar{X}$ σ	$\bar{X}$
50.00	-709.82 3.59	0.08 0.04	70.65
70.59	-749.08 3.90	0.05 0.06	67.43
91.18	-754.30 4.74	-0.01 0.08	66.33
100.00	-761.44 5.14	-0.05 0.08	65.36
111.77	-768.79 5.90	-0.11 0.09	64.25
132.35	-768.89 7.05	-0.20 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

Outline Drawing

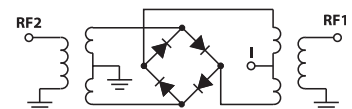


Outline Dimensions (inch mm)

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	



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.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
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