

Plug-In

Phase Detector

50Ω High Output 1 to 100 MHz

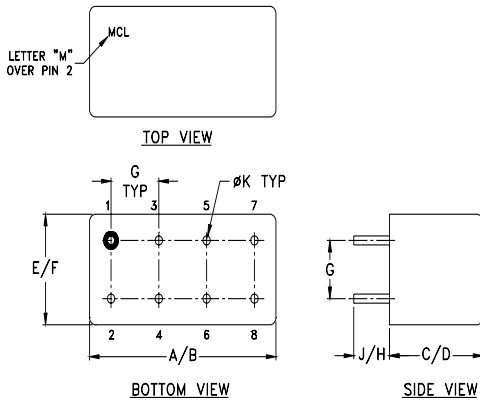
Maximum Ratings

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

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	

Features

- wideband, 1 to 100 MHz
- hermetic case
- low DC offset, 0.2 mV typ.
- high DC output, 1000 mV typ.
- high isolation, 40 dB min.

Applications

- monitoring circuits
- leveling circuits
- PLL

MPD-1+



CASE STYLE: A11

PRICE: \$23.70 ea. QTY (1-9)

+RoHS Compliant

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

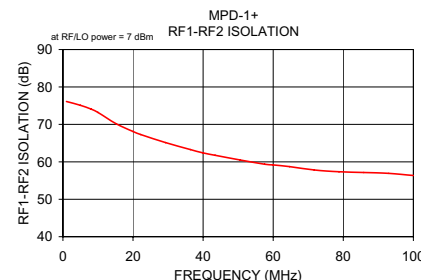
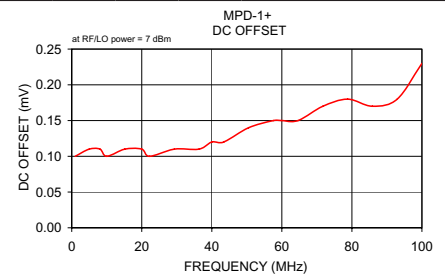
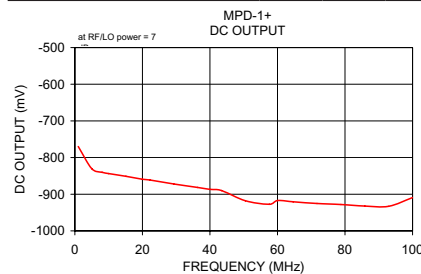
Phase Detector Electrical Specifications

FREQUENCY (MHz)	POWER IN	SCALE FACTOR	IMPEDANCE (ohms)	ISOLATION (dB)	OUTPUT POLARITY	DC OUTPUT (mV)	FIGURE OF MERIT
RF1 RF2	RF1 RF2 (dBm)		Output Load I	RF1/RF2 Min.	RF1/RF2 In-Phase	Max. Offset Typ. Min. Typ. Max.	Typ.
1-100	DC-50	7	8	500	40	neg.	1000 700 0.2 1 143

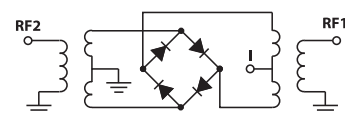
DC output decreases to 550mV over 1-10 MHz as temperature decreases to -55°C

Typical Performance Data

Frequency (MHz)	DC Output mV	DC Offset mV	RF1-RF2 Isolation (dB)
	$\bar{X}$ σ	$\bar{X}$ σ	$\bar{X}$
1.00	-769.98 14.85	0.10 0.16	76.12
5.00	-830.34 8.90	0.11 0.18	75.09
8.07	-840.24 14.44	0.11 0.18	74.07
10.00	-843.71 14.61	0.10 0.18	73.19
15.14	-851.12 17.01	0.11 0.19	70.19
20.00	-859.20 18.91	0.11 0.19	68.10
22.21	-861.26 20.52	0.10 0.20	67.28
29.29	-872.02 22.55	0.11 0.21	65.14
36.36	-881.57 24.77	0.11 0.22	63.29
40.00	-886.86 25.39	0.12 0.23	62.38
43.43	-889.93 26.41	0.12 0.23	61.76
50.50	-917.82 25.99	0.14 0.25	60.51
57.57	-927.50 28.69	0.15 0.27	59.35
60.00	-917.14 33.08	0.15 0.26	59.18
64.64	-920.62 38.60	0.15 0.27	58.73
71.71	-925.22 45.18	0.17 0.31	57.82
78.79	-928.03 51.83	0.18 0.31	57.35
85.86	-932.34 57.31	0.17 0.31	57.15
92.93	-932.98 60.65	0.18 0.38	56.93
100.00	-909.17 74.27	0.23 0.43	56.36



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.
- The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp



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