

Plug-In

Phase Detector

50Ω High Output 1 to 100 MHz

MPD-1+



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, 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

Phase Detector Electrical Specifications

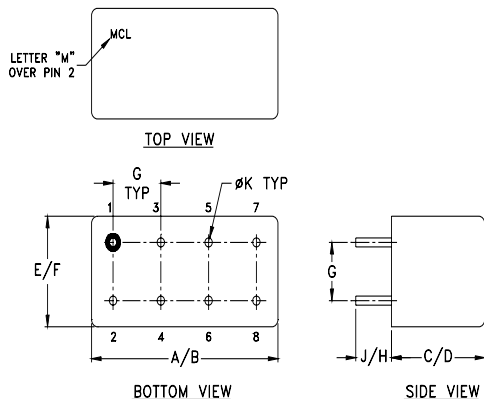
FREQUENCY (MHz)	POWER IN	SCALE FACTOR	IMPEDANCE (ohms)	ISOLATION (dB)	OUTPUT POLARITY	DC OUTPUT (mV)	FIGURE OF MERIT
RF1 I RF2	RF1 RF2 (dBm)	mV/deg.	Output Load I	RF1/RF2 Min.	RF1/RF2 In-Phase	Max. Typ. Min. Offset Typ. Max.	Typ.
1-100	DC-50	7	8	500	40	neg.	1000 700 0.2 1 143

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

Typical Performance Data

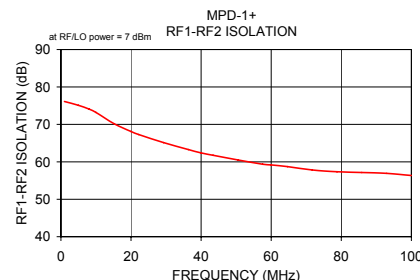
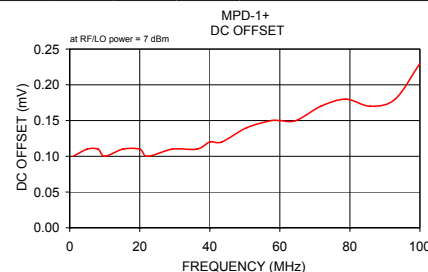
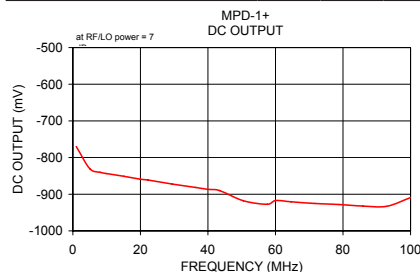
Frequency (MHz)	DC Output mV	DC Offset mV	RF1-RF2 Isolation (dB)
	$\bar{X}$ σ	$\bar{X}$ σ	$\bar{X}$
1.00	-769.98 14.85	0.10 0.16	76.12
5.00	-830.34 8.90	0.11 0.18	75.09
8.07	-840.24 14.44	0.11 0.18	74.07
10.00	-843.71 14.61	0.10 0.18	73.19
15.14	-851.12 17.01	0.11 0.19	70.19
20.00	-859.20 18.91	0.11 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

Outline Drawing

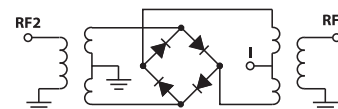


Outline Dimensions (inch mm)

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.
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