

Surface Mount Phase Detector

SYPD-52+

50Ω High Output 400 to 500 MHz



CASE STYLE: TTT167
PRICE: \$14.95 ea. QTY (1-9)

+ RoHS compliant in accordance with EU Directive (2002/95/EC)

The +Suffix has been added in order to identify RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

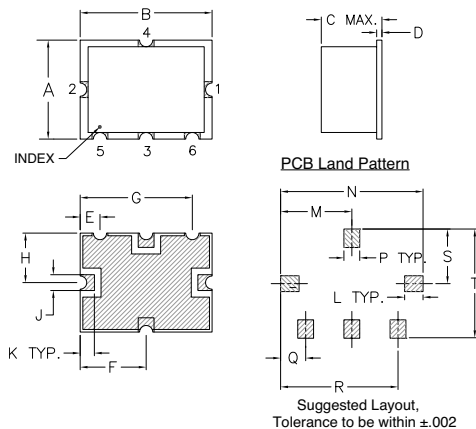
Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Input Power	50 mW
Peak IF current	20 mA

Pin Connections

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

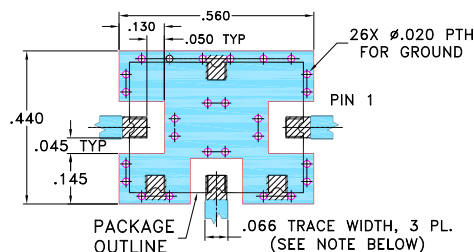
Outline Drawing



Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K
.38	.50	.23	.020	.075	.250	.425	.187	.050	.050
9.60	12.70	5.84	0.51	1.91	6.35	10.80	4.75	1.27	1.27
L	M	N	P	Q	R	S	T	wt.	
.070	.270	.540	.060	.095	.445	.208	.415	grams	
1.78	6.86	13.72	1.52	2.41	11.30	5.28	10.54	0.8	

Demo Board MCL P/N: TB-12 Suggested PCB Layout (PL-079)



- NOTE:
- TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030" ± .002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
 - GROUND PAD SHALL BE FREE OF SOLDER MASK IF REQUIRED FOR SOLDERING.
 - BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
 - DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER), SEE NOTE 2.
 - DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Features

- frequency range, 400 to 500 MHz
- high DC output, 900 mV typ.
- low DC offset, 0.7 mV typ.

Applications

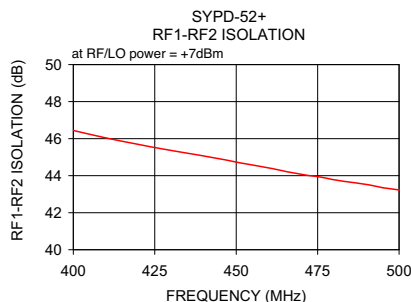
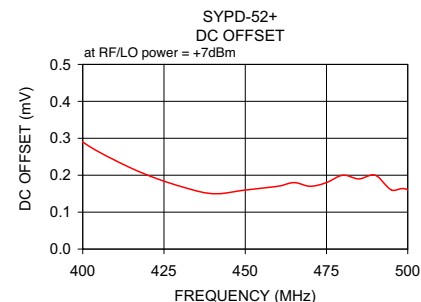
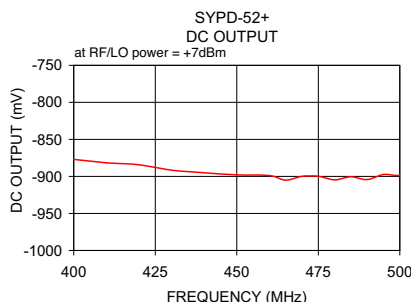
- monitoring circuits
- leveling circuits
- PLL

Phase Detector Electrical Specifications

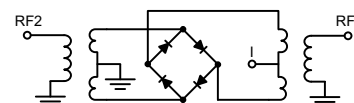
FREQUENCY (MHz)	POWER IN	SCALE FACTOR	IMPEDANCE (ohms) Output Load I	ISOLATION (dB)	OUTPUT POLARITY	DC OUTPUT (mV)		FIGURE OF MERIT		
						Max. Typ.	Offset Typ. Max.			
RF1 RF2	I (dBm)	mV/deg.		RF1/RF2 Min.	RF1/RF2 In - Phase	Max. Typ.	Offset Typ. Max.	Typ.		
400-500	DC-50	+7	500	30	neg.	900	700	0.7	1.2	129

Typical Performance Data

Frequency (MHz)	DC Output mV		DC Offset mV		RF1-RF2 Isolation (dB)
	\bar{X}	σ	\bar{X}	σ	
400.0	-877.0	7.60	0.29	0.35	46.44
410.0	-881.7	7.38	0.24	0.37	46.04
430.0	-891.6	7.18	0.17	0.45	45.36
440.0	-895.0	7.07	0.15	0.49	45.07
450.0	-897.9	6.93	0.16	0.54	44.73
460.0	-898.8	6.80	0.17	0.60	44.42
465.0	-905.1	6.72	0.18	0.62	44.24
470.0	-899.9	6.68	0.17	0.64	44.07
475.0	-899.8	6.65	0.18	0.67	43.95
480.0	-904.6	6.57	0.20	0.69	43.79
485.0	-900.5	6.57	0.19	0.70	43.64
490.0	-904.4	6.52	0.20	0.73	43.53
495.0	-897.4	6.52	0.16	0.74	43.35
500.0	-898.7	6.49	0.16	0.77	43.23



electrical schematic



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Page 1 of 1