

Narrow Band Phase Shifter

50Ω 180° Voltage Variable 400 to 660 MHz

JSPHS-661+



CASE STYLE: BK276
PRICE: \$32.95 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
RF Input Power	20 dBm max.
Control Voltage	20V

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

Pin Connections

IN	1
OUT	7
BIAS	4,6^
GROUND	2,3,5,8,9,10,11,12,13,14

^ pins must be connected together externally

Features

- low insertion loss, 1.2 dB typ.
- good VSWR, 1.2:1 typ.
- J-leads for excellent solderability and strain relief
- aqueous washable

Applications

- signal processing

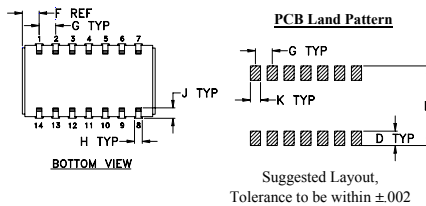
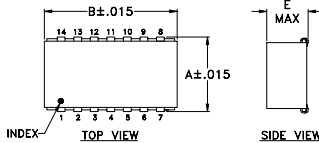
Phase Shifter Electrical Specifications

FREQUENCY (MHz)	PHASE RANGE (Degrees)	INSERTION LOSS (dB)		CONTROL VOLTAGE (V)	CONTROL BANDWIDTH (kHz)	VSWR (:1)	
	Min.	Typ.	Max.		Typ.	Typ.	Max.
400-660	180	1.2	2.5	0-12	DC-50	1.2	2.2

Maximum operating power, 0 dBm

DC input resistance at Control port: 2000 ohms typ.

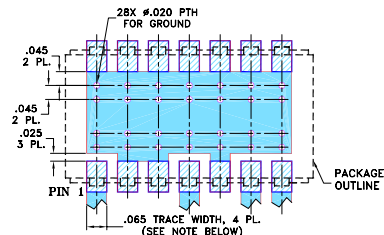
Outline Drawing



Outline Dimensions (inch mm)

A	B	C	D	E	F	G
.450	.803	--	.100	.250	.102	.100
11.43	20.40	--	2.54	6.35	2.59	2.54
H	J	K	L	wt		
.047	.065	.065	.470	grams		
1.19	1.65	1.65	11.94	3.0		

Demo Board MCL P/N: TB-122 Suggested PCB Layout (PL-030)

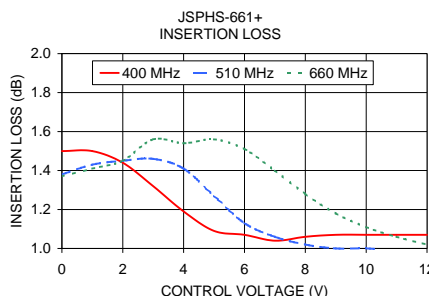
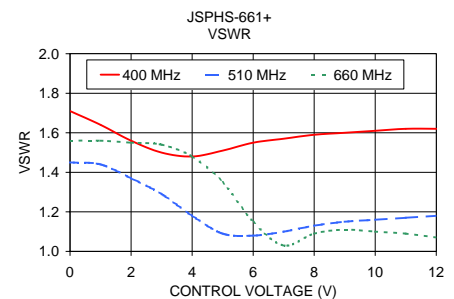
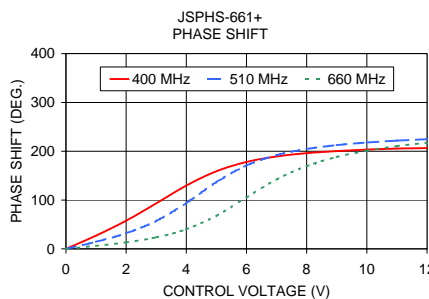


- NOTE: 1. TRACE WIDTH IS SHOWN FOR ROGERS R04350B WITH DIELECTRIC THICKNESS 0.030" ± 0.002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
 - DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

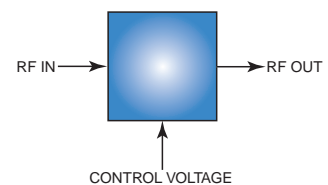
Typical Performance Data

Control Voltage (V)	Phase Shift* (Degrees)			VSWR (:1)			Insertion Loss (dB)		
	400 MHz	510 MHz	660 MHz	400 MHz	510 MHz	660 MHz	400 MHz	510 MHz	660 MHz
0.0	0.01	0.01	0.02	1.71	1.45	1.56	1.50	1.38	1.37
1.0	27.08	14.39	6.14	1.64	1.44	1.56	1.50	1.43	1.41
2.0	57.73	32.00	13.34	1.56	1.37	1.55	1.44	1.45	1.45
3.0	93.24	57.12	23.57	1.50	1.29	1.54	1.32	1.46	1.56
4.0	129.69	93.86	40.22	1.48	1.18	1.48	1.19	1.41	1.54
5.0	159.07	136.75	67.58	1.51	1.09	1.35	1.09	1.27	1.56
6.0	178.10	170.91	105.08	1.55	1.08	1.15	1.07	1.13	1.51
7.0	189.31	192.06	141.95	1.57	1.10	1.03	1.04	1.06	1.40
8.0	196.02	204.60	169.46	1.59	1.13	1.09	1.06	1.02	1.28
9.0	200.35	212.48	188.21	1.60	1.15	1.11	1.07	1.00	1.18
10.0	203.35	217.84	201.16	1.61	1.16	1.10	1.07	1.00	1.11
11.0	205.58	221.75	210.54	1.62	1.17	1.09	1.07	0.99	1.06
12.0	207.31	224.74	217.61	1.62	1.18	1.07	1.07	0.99	1.02

* Normalized at control voltage = 0V



electrical schematic



For detailed performance specs & shopping online see web site

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