Coaxial

Phase Shifter

ZXPHS-431+

50Ω 360° Voltage Variable 250 to 430 MHz

CASE STYLE: BY493

Connectors	Model
SMA	ZXPHS-431-S+

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

Maximum Ratings

Operating Temperature	-40°C to 75°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.

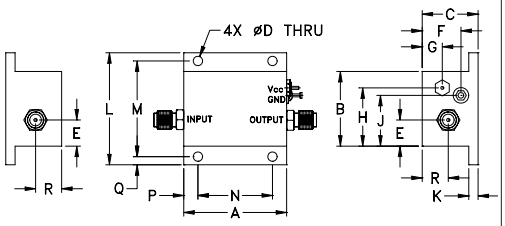
Features

- low insertion loss, 3.0 dB typ.
- wide phase shift, 360°

Applications

- signal processing
- military communication

Outline Drawing

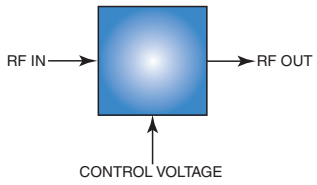


Outline Dimensions (inch / mm)

A	B	C	D	E	F	G	H
1.38	1.00	.75	.125	.35	.52	.27	.78
35.05	25.40	19.05	3.18	8.89	13.21	6.86	19.81

J	K	L	M	N	P	Q	R	wt
.68	.125	1.50	1.281	1.000	.19	.11	.35	grams
17.27	3.18	38.10	32.54	25.40	4.83	2.79	8.89	40

electrical schematic



Electrical Specifications at 25°C

Parameter	Condition (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		250		430	MHz
Phase Range	250 - 430	360	—	—	Degrees
Insertion Loss	250 - 280	—	2.0	4.0	dB
	280 - 380	—	3.0	5.0	
	380 - 430	—	3.5	5.5	
Control Voltage	250 - 430	—	0-15	—	V
Control Bandwidth	250 - 430	—	DC-50	—	kHz
VSWR	250 - 280	—	1.25	1.7	:1
	280 - 380	—	1.50	—	
	380 - 430	—	1.75	—	

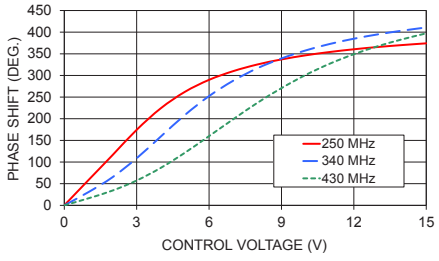
DC input resistance at Control port: 10000 ohms typ.

Typical Performance Data

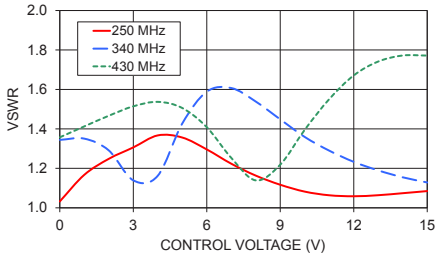
Control Voltage (V)	Phase Shift* (Degrees)			VSWR (:1)			Insertion Loss (dB)		
	250 MHz	340 MHz	430 MHz	250 MHz	340 MHz	430 MHz	250 MHz	340 MHz	430 MHz
0.0	0.00	0.00	0.00	1.03	1.34	1.36	2.22	1.88	1.68
1.0	58.21	30.50	16.21	1.17	1.35	1.41	2.61	2.15	1.86
2.0	116.05	65.01	34.17	1.25	1.29	1.47	2.80	2.47	2.09
3.0	174.47	108.80	57.36	1.31	1.14	1.51	2.85	2.87	2.40
4.0	224.23	158.95	86.60	1.37	1.16	1.54	2.75	3.31	2.82
5.0	262.24	208.82	121.57	1.36	1.43	1.51	2.48	3.56	3.32
6.0	289.89	252.38	159.97	1.30	1.59	1.41	2.19	3.49	3.79
7.0	310.00	287.84	198.87	1.22	1.61	1.25	1.95	3.23	4.19
8.0	325.33	316.64	236.73	1.16	1.54	1.14	1.77	2.95	4.43
9.0	337.03	339.27	270.72	1.12	1.45	1.22	1.65	2.70	4.52
10.0	346.51	357.78	301.13	1.08	1.36	1.40	1.55	2.49	4.48
11.0	354.19	372.72	327.16	1.06	1.29	1.55	1.48	2.32	4.34
12.0	360.48	384.89	349.10	1.06	1.23	1.67	1.42	2.18	4.15
13.0	365.76	394.99	367.69	1.06	1.19	1.74	1.38	2.07	3.94
14.0	370.23	403.46	383.44	1.07	1.15	1.77	1.34	1.98	3.72
15.0	374.20	410.91	397.35	1.08	1.13	1.77	1.31	1.90	3.52

* Normalized at control voltage = 0V

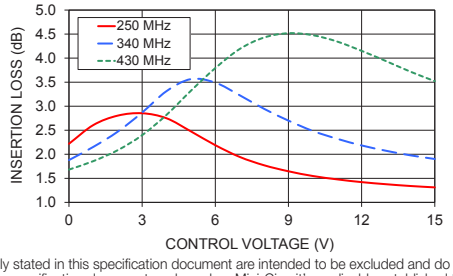
ZXPHS-431+
PHASE SHIFT



ZXPHS-431+
VSWR



ZXPHS-431+
INSERTION LOSS



Notes

A. 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.
B. 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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