Coaxial Switch

50Ω SP4T Pin Diode, Reflective TTL Driver 10 to 2500 MHz

ZSDR-425+

Generic photo used for illustration purposes only

CASE STYLE: GGG126

Connectors	Model
SMA	ZSDR-425+

+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
Power	L(+20 dBm), M(+28 dBm), U(+30 dBm)
Supply V	+6V max.

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

Coaxial/Pin Connections

RF IN	RF-IN
RF OUT 1	RF-1
RF OUT 2	RF-2
RF OUT 3	RF-3
RF OUT 4	RF-4
TTL-1	TTL-1
TTL-2	TTL-2
+5V	+5V

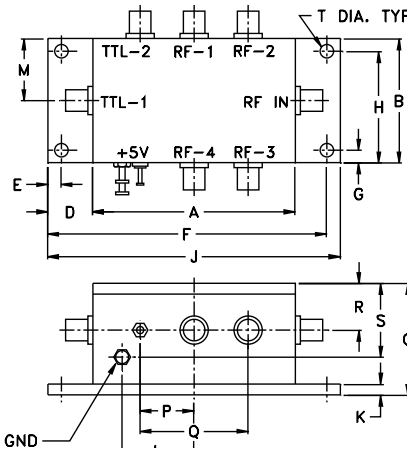
Features

- wideband, 10 to 2500 MHz
- high isolation, 40 dB typ.

Applications

- test set-ups
- antenna switching
- satellite communication

Outline Drawing



Outline Dimensions (inch / mm)

A	B	C	D	E	F	G	H	J	K
2.25	1.38	1.24	.50	.150	3.100	.138	1.238	.30	.12
57.15	35.05	31.50	12.70	3.81	78.74	3.51	31.45	7.62	3.05

L	M	N	P	Q	R	S	T	wt
.80	.69	--	.60	1.200	.52	.82	.150	grams
20.32	17.53	--	15.24	30.48	13.21	20.83	3.81	80.0

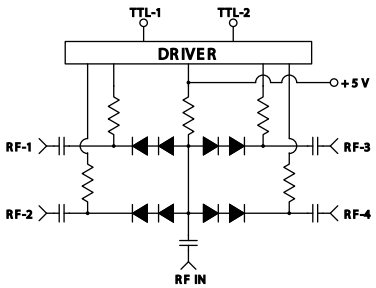
Electrical Specifications (T_{AMB}=25°C)

MODEL NO.	FREQ. (MHz)		INSERTION LOSS (dB)				IN-OUT ISOLATION (dB)					
			Low band lw		Upper band U		Frequency Band L		M		U	
	f_L	f_U	Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.
ZSDR-425(+)	10	2500	1.1	1.7	1.5	2.5	60	40	40	30	35	22

L= low range(f_L to 10 f_L) M=mid range(10 f_L to f_U/2) lw=low band (f_L to f_U/2) U=upper range (f_U/2 to f_U)

Additional Specifications	
VSWR ("ON" STATE)	1.3 Typ., 1.9 Max.
SWITCHING TIME (µSEC)	2.0 Typ., 4.0 Max.
SUPPLY VOLTAGE	+5V
SUPPLY CURRENT	10mA Max.
TTL INPUT HIGH THRESHOLD	2V Min.
TTL INPUT LOW THRESHOLD	0.8V Max.
1 dB COMPRESSION 10 to 100 MHz Above 100 MHz	 +6 increasing to +19 dBm +19 dBm min.

Control Logic



TTL LOGIC		
	TTL-1	TTL-2
RF-1	1	0
RF-2	1	1
RF-3	0	1
RF-4	0	0

Notes

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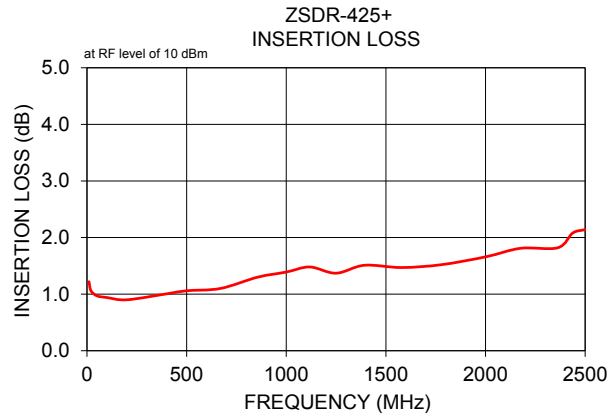
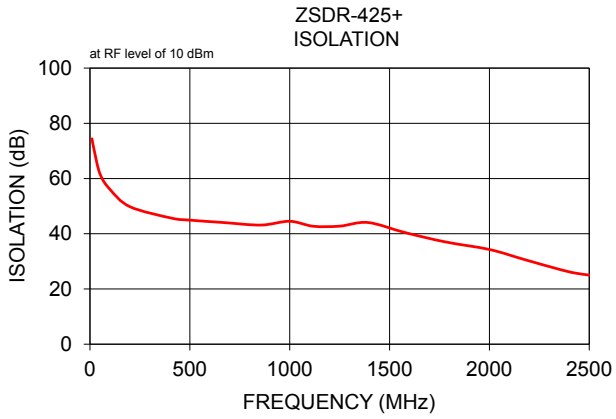
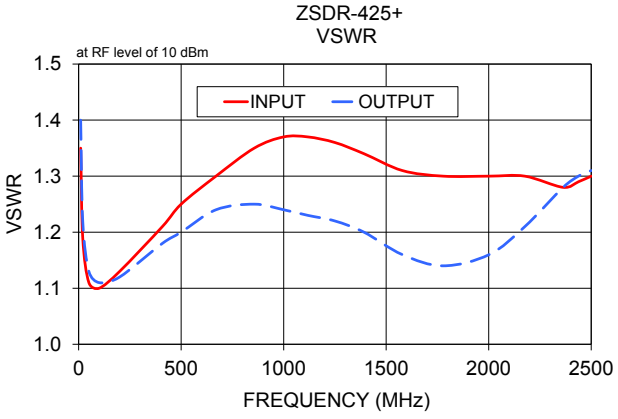
Typical Performance Data

FREQ. (MHz)	ON (TTL LOW @ 0V) IN-OUT		INSERTION LOSS (dB) AMP. UNBAL.		OFF (TTL HIGH @ 5V) IN-OUT		ISOLATION (dB) DELTA		VSWR IN	VSWR OUT (RF 1) ON	VSWR OUT (RF 1) OFF
	$\overline{x}$	σ	$\overline{x}$	σ	$\overline{x}$	σ	$\overline{x}$	σ	$\overline{x}$	$\overline{x}$	$\overline{x}$
10.00	1.22	0.16	0.18	0.15	74.41	4.10	9.64	5.24	1.35	1.40	27.25
20.00	1.06	0.12	0.15	0.12	70.64	2.69	8.25	4.56	1.19	1.22	27.08
50.00	0.97	0.09	0.13	0.09	61.72	2.10	8.97	7.88	1.11	1.13	27.42
100.00	0.94	0.09	0.12	0.09	56.09	1.46	6.48	2.94	1.10	1.11	26.82
200.00	0.90	0.08	0.12	0.08	49.80	1.51	6.32	3.03	1.13	1.12	26.58
408.40	1.01	0.07	0.11	0.07	45.66	1.36	5.61	1.32	1.21	1.18	26.03
500.00	1.06	0.08	0.12	0.09	44.93	1.43	5.49	1.62	1.25	1.20	24.98
669.85	1.10	0.07	0.12	0.07	44.06	1.59	5.94	1.86	1.30	1.24	24.36
856.60	1.30	0.07	0.13	0.08	43.15	1.93	6.13	2.01	1.35	1.25	22.45
1000.00	1.39	0.05	0.11	0.07	44.52	3.69	8.35	2.97	1.37	1.24	20.59
1118.05	1.48	0.05	0.13	0.07	42.72	2.91	8.56	3.40	1.37	1.23	19.44
1250.00	1.37	0.06	0.13	0.06	42.75	2.61	10.05	4.95	1.36	1.22	19.15
1391.95	1.51	0.09	0.16	0.07	44.07	3.21	10.73	3.71	1.34	1.20	18.57
1578.70	1.47	0.05	0.15	0.05	40.41	2.62	9.61	3.27	1.31	1.16	17.15
1777.90	1.52	0.05	0.17	0.05	37.07	2.87	9.43	3.26	1.30	1.14	16.04
2002.00	1.66	0.12	0.20	0.08	34.27	3.55	9.08	1.82	1.30	1.16	13.88
2176.30	1.81	0.09	0.20	0.08	30.64	3.24	7.16	1.46	1.30	1.21	12.25
2363.05	1.82	0.07	0.19	0.04	26.86	2.95	5.63	1.07	1.28	1.28	9.41
2437.75	2.08	0.14	0.24	0.05	25.66	2.78	5.42	1.03	1.29	1.30	7.81
2500.00	2.14	0.16	0.25	0.05	25.03	2.28	5.15	1.27	1.30	1.31	7.10







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Switch SP4T , 50W

ZSDR-425+

Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS TTL Low @ 0V (dB) IN-OUT , "ON"	ISOLATION TTL High @ 5V (dB) IN-OUT , "OFF"	VSWR (:1) IN	VSWR (:1) OUT , "ON"	VSWR (:1) OUT , "OFF"
10.00	1.22	74.41	1.35	1.40	27.25
20.00	1.06	70.64	1.19	1.22	27.08
50.00	0.97	61.72	1.11	1.13	27.42
100.00	0.94	56.09	1.10	1.11	26.82
200.00	0.90	49.80	1.13	1.12	26.58
408.40	1.01	45.66	1.21	1.18	26.03
500.00	1.06	44.93	1.25	1.20	24.98
669.85	1.10	44.06	1.30	1.24	24.36
856.60	1.30	43.15	1.35	1.25	22.45
1000.00	1.39	44.52	1.37	1.24	20.59
1118.05	1.48	42.72	1.37	1.23	19.44
1250.00	1.37	42.75	1.36	1.22	19.15
1391.95	1.51	44.07	1.34	1.20	18.57
1578.70	1.47	40.41	1.31	1.16	17.15
1777.90	1.52	37.07	1.30	1.14	16.04
2002.00	1.66	34.27	1.30	1.16	13.88
2176.30	1.81	30.64	1.30	1.21	12.25
2363.05	1.82	26.86	1.28	1.28	9.41
2437.75	2.08	25.66	1.29	1.30	7.81
2500.00	2.14	25.03	1.30	1.31	7.10

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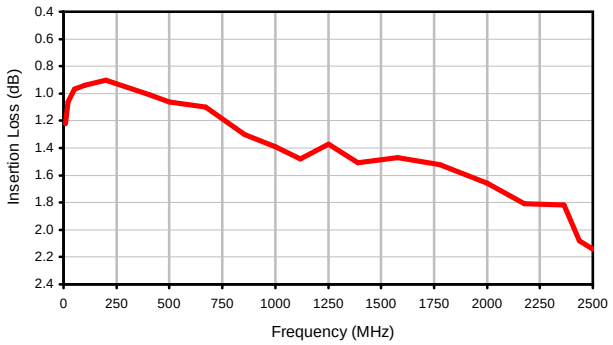
Switch SP4T , 50W

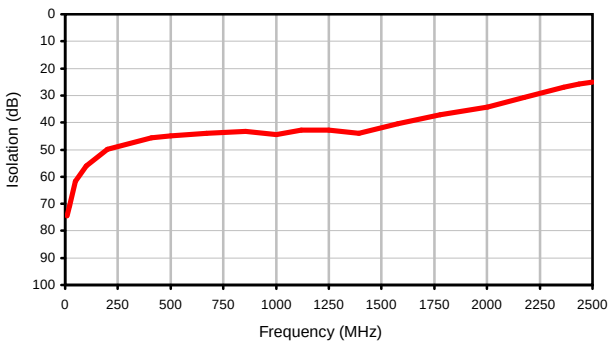
ZSDR-425+

Typical Performance Curves

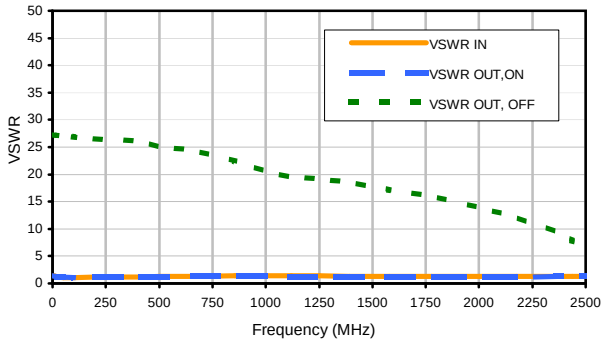
In-Out Insertion Loss, "ON"



In-Out Isolation, "OFF"



VSWR



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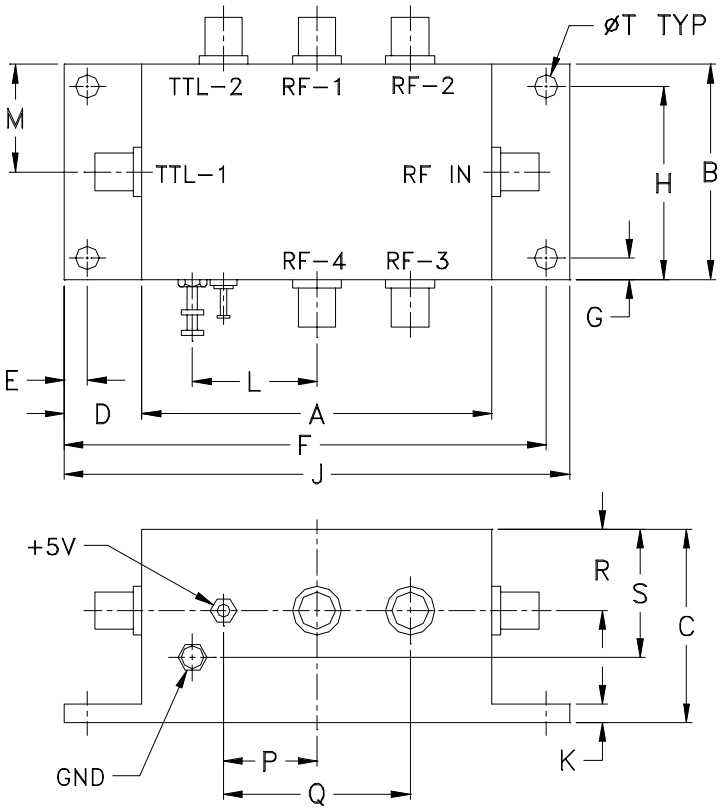
Case Style GGG

GGG126

Outline Dimensions



CASE #.	A	B	C	D	E	F	G	H	J	K	L	M	N
GGG126	2.25 (57.15)	1.38 (35.05)	1.24 (31.50)	.50 (12.70)	.150 (3.81)	3.100 (78.74)	.138 (3.51)	1.238 (31.45)	3.25 (82.55)	.12 (3.05)	.80 (20.32)	.69 (17.53)	-- --

CASE #.	P	Q	R	S	T	WT, GRAM
GGG126	.60 (15.24)	1.200 (30.48)	.52 (13.21)	.82 (20.83)	.150 (3.81)	80.0

Dimensions are in inches (mm). Tolerances: 2Pl. ± .03; 3Pl. ± .015

Notes:

1. Case material: Aluminum alloy.
2. Case finish:
   For RoHS Case Styles: Clear chemical conversion coating, non-chrome or trivalent chrome based.

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Environmental Specifications ENV28

All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-55° to 100°C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Barometric Pressure	100,000 Feet	MIL-STD-202, Method 105, Condition D
Humidity	90% RH, 65°C Units may require bake-out after humidity to restore full performance.	MIL-STD-202, Method 103
Thermal Shock	-65° to 125°C, 5 cycles	MIL-STD-202, Method 107, Condition B
Vibration (High Frequency)	20g peak, 10-2000 Hz, 12 times in each of three perpendicular directions (total 36)	MIL-STD-202, Method 204, Condition D
Mechanical Shock	100g, 6ms sawtooth, 3 shocks each direction 3 axes (total 18)	MIL-STD-202, Method 213, Condition I

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