SONY

CXG1016N

High-Frequency SPDT Antenna Switch

For the availability of this product, please contact the sales office.

Description

The CXG1016N is a high power antenna switch MMIC. This IC is designed using the Sony's GaAs J-FET process and operates at a single positive power supply

Features

- Single positive power supply operation
- Low insertion loss 0.45 dB (Typ.) at 1.5 GHz
- Isolation 20 dB (Typ.) at 1.5 GHz
- High power switching

P1 dB (Typ.)	33 dBm	at 1.5 GHz
		V_{CTL} (H)=3.0 V
	37 dBm	at 1.5 GHz
		V_{CTL} (H)=4.0 V

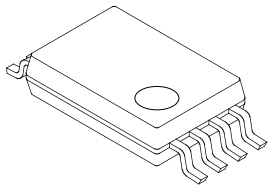
Applications

Antenna switch for digital cellular telephones

Structure

GaAs J-FET MMIC

8 pin SSOP (Plastic)



Absolute Maximum Ratings (Ta=25 °C)

• Control voltage	Vctl	7	V
• Operating temperature	Topr	–35 to +85	°C
• Storage temperature	Tstg	–65 to +150	°C

Operating Condition

• Control voltage	0/4	V

E96525-TE

Electrical Characteristics

V_{CTL} (L)=0 V, V_{CTL} (H)=4 V, P_{IN}=32 dBm, R_{EF}=75 kΩ (Ta=25 °C)

Item	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Insertion Loss	IL1	f=1.0 GHz		0.4	0.7	dB
Isolation	ISO1		20	23		dB
Insertion Loss	IL1.5	f=1.5 GHz		0.45	0.75	dB
Isolation	ISO1.5		17	20		dB
Insertion Loss	IL2	f=2.0 GHz		0.5	0.8	dB
Isolation	ISO2		14	17		dB
VSWR	VSWR				1.5	
Switching Time	TSW			100		ns

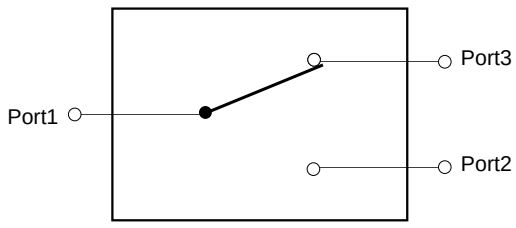
V_{CTL} (L)=0 V, f=2 GHz (Ta=25 °C)

Item	Symbol	Test Condition	Min.	Typ.	Max.	Unit
1 dB Compression Point	P1 dB (3)	V_{CTL} (H)=3 V	31	33		dBm
1 dB Compression Point	P1 dB (4)	V_{CTL} (H)=4 V	35	37		dBm

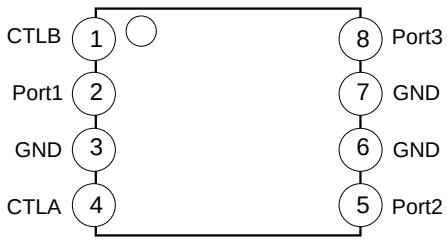
V_{CTL} (L)=0 V, R_{RF}=75 kΩ (Ta=25 °C)

Item	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Control Current	I_{CTL} (1)	V_{CTL} (H)=3 V		120	170	µA
Control Current	I_{CTL} (2)	V_{CTL} (H)=4 V		170	220	µA
Control Current	I_{CTL} (3)	V_{CTL} (H)=5 V		250	300	µA

Block Diagram



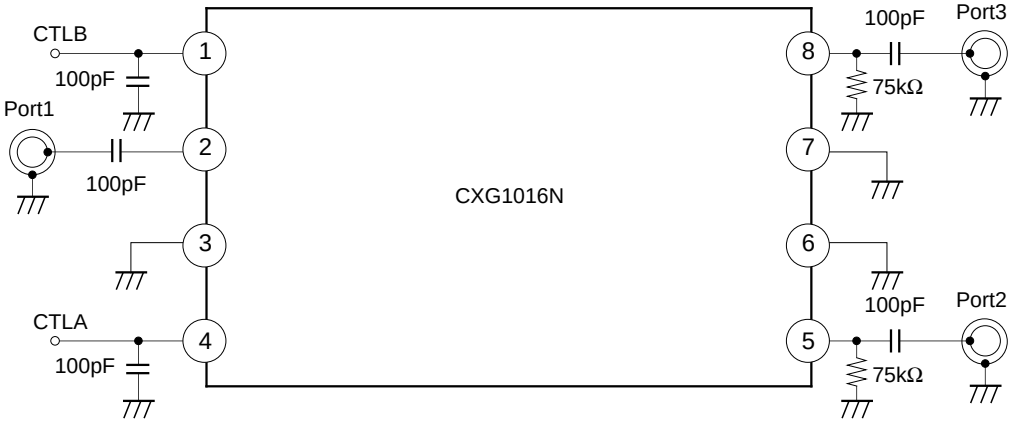
Package Outline/Pin Configuration



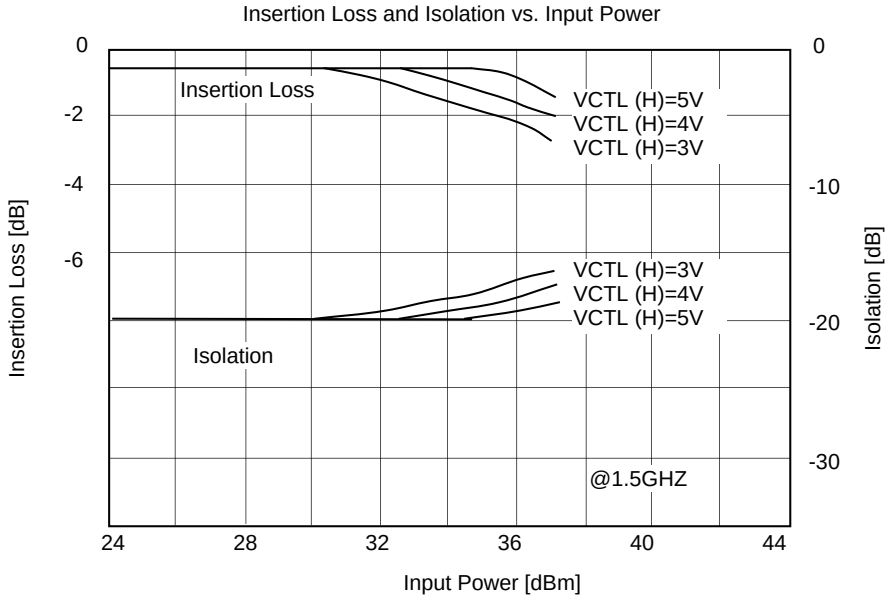
8pin SSOP (PLASTIC)

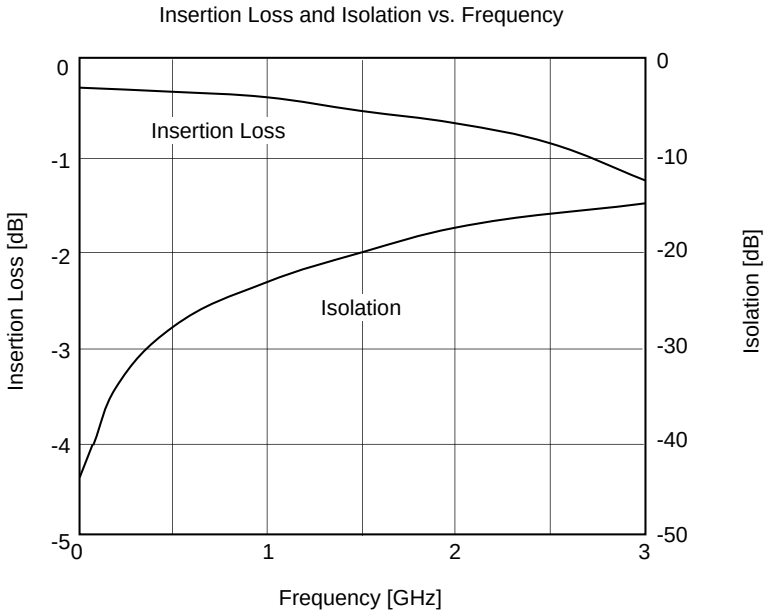
V_{CTLA}	V_{CTLB}	
High	Low	Port1-Port2 ON Port1-Port3 OFF
Low	High	Port1-Port2 OFF Port1-Port3 ON

Recommended Circuit



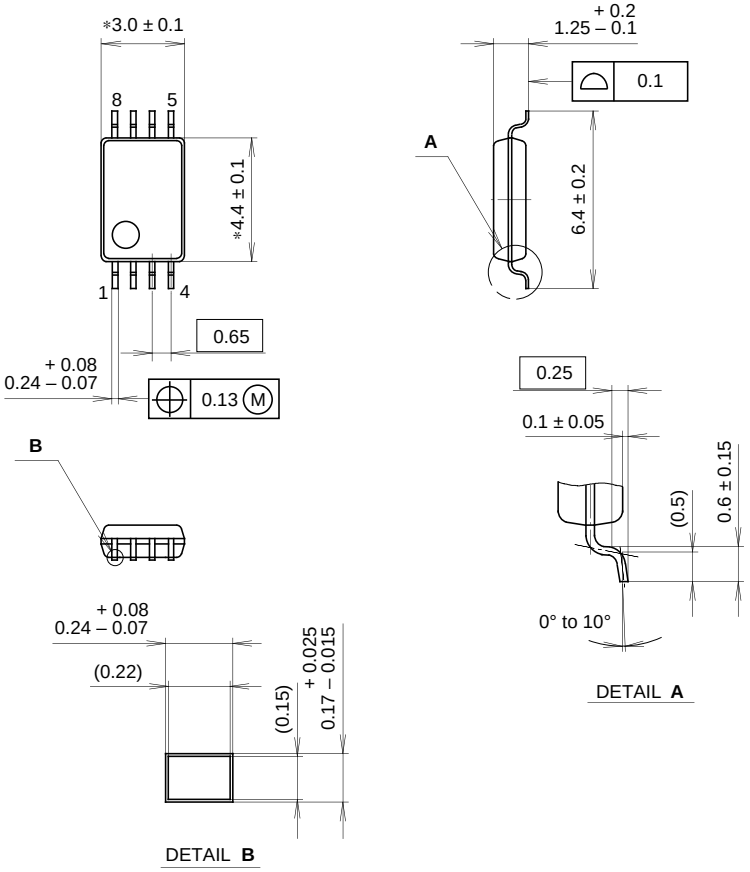
Example of Representative Characteristics (Ta=25 °C)





Package Outline Unit : mm

8PIN SSOP (PLASTIC)



NOTE: Dimension "∗" does not include mold protrusion.

SONY CODE	SSOP-8P-L01
EIAJ CODE	SSOP008-P-0044
JEDEC CODE	————

PACKAGE STRUCTURE

PACKAGE MATERIAL	EPOXY RESIN
LEAD TREATMENT	SOLDER / PALLADIUM PLATING
LEAD MATERIAL	COPPER ALLOY
PACKAGE WEIGHT	0.04g