SONY

CXG1012N

High-Frequency SPDT Antenna Switch

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

Description

The CXG1012N is an 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
- Insertion loss 0.5 dB (Typ.) at 2.0 GHz
- Medium power switching

P1dB (Typ.)	29 dBm	at 2.0 GHz V_{CTL} (H)=3.0V
	33 dBm	at 2.0 GHz V_{CTL} (H)=4.0 V

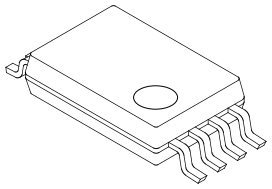
Application

Antenna switch for digital cordless telephones

Structure

GaAs J-FET MMIC

SSOP-8P-L01 (Plastic)



Absolute Maximum Ratings (Ta=25 ˚C)

• Control voltage	Vctl	6	V
• Operating temperature	Topr	–35 to +85	˚C
• Storage temperature	Tstg	–65 to +150	˚C

Operating Condition

Control voltage	0/3	V

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E95444A57-TE

Electrical Characteristics

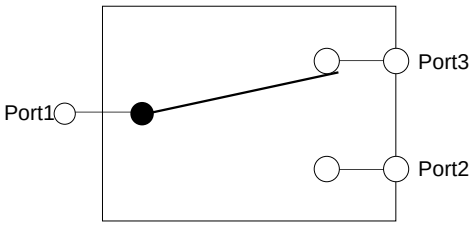
V_{CTL} (L) =0V, V_{CTL} (H) =3V, Pin=21.5dBm (Ta=25 ˚C)

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Insertion loss	IL1	f=1.0 GHz		0.3	0.6	dB
Isolation	ISO1		30	35		dB
Insertion loss	IL2	f=2.0 GHz		0.5	0.8	dB
Isolation	ISO2		20	23		dB
Input VSWR	VSWRIN			1.3	1.5	
Output VSWR	VSWROUT			1.3	1.5	
Switching time	TSW			100		ns
Control pin current	I_{CTL}			70	150	µA

V_{CTL} (L) =0V, f =2.0GHz (Ta=25 ˚C)

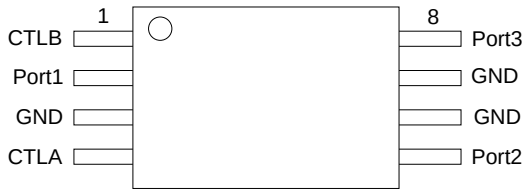
1 dB gain compression point output	P1dB (3)	V_{CTL} (H) =3 V	26	29		dBm
1 dB gain compression point output	P1dB (4)	V_{CTL} (H) =4 V	30	33		dBm

Block Diagram



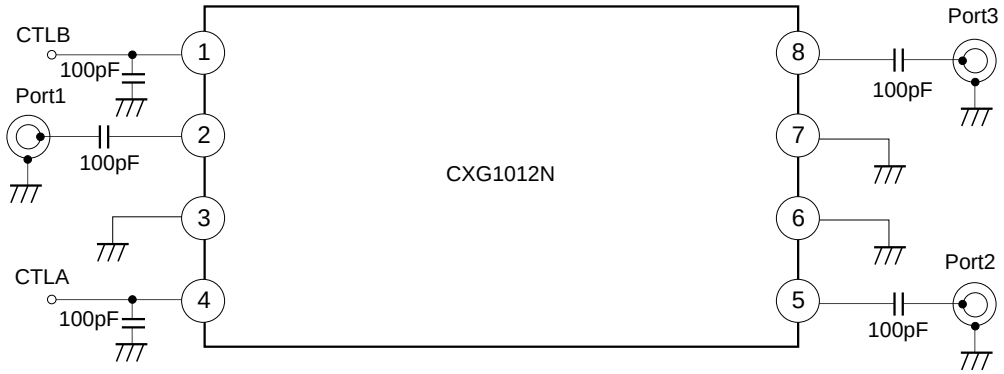
VCTLA	VCTLB	
High	Low	Port1-Port2 ON Port1-Port3 OFF
Low	High	Port1-Port2 OFF Port1-Port3 ON

Package outline/Pin Configuration

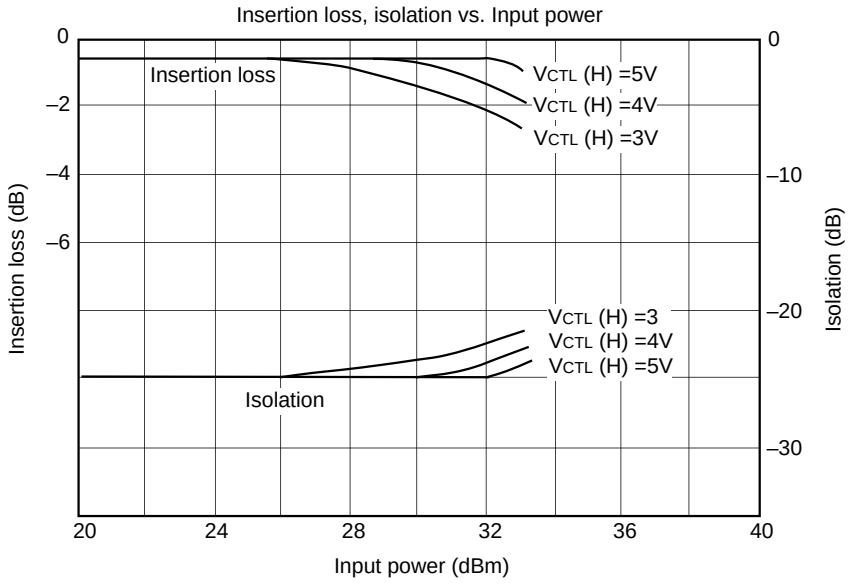


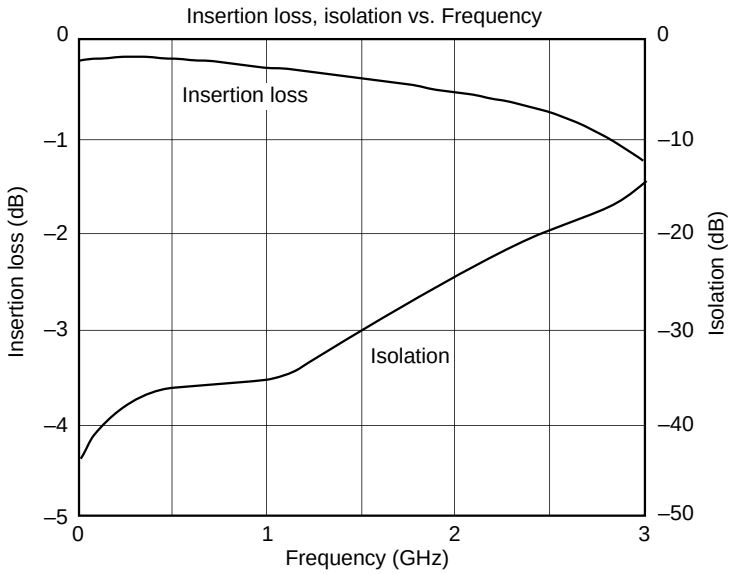
8-pin SSOP (plastic)

Recommended Circuit



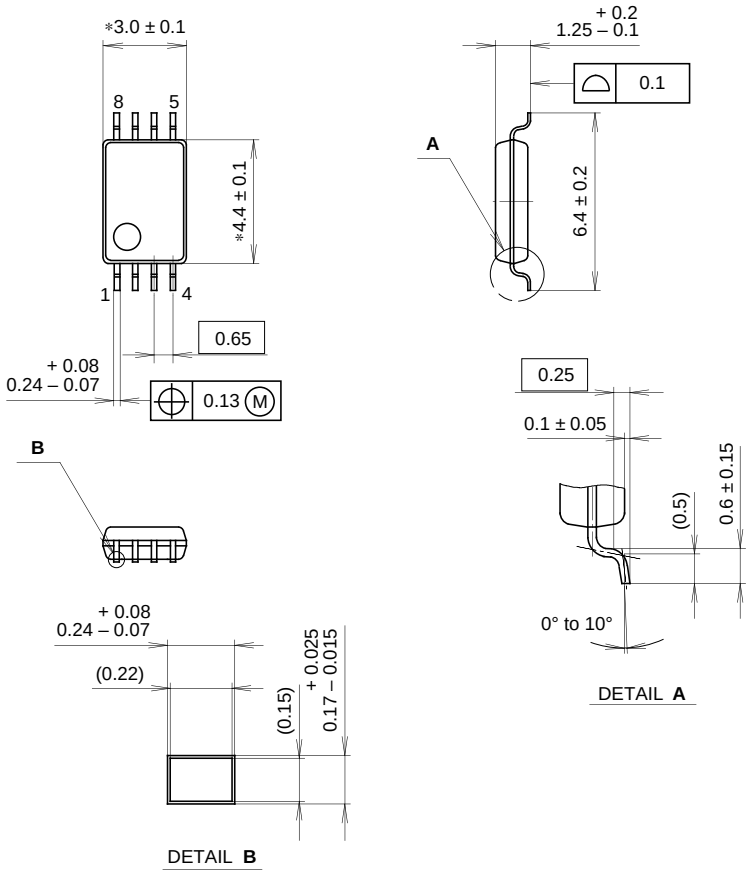
Example of Representative Characteristics (Ta=25 ˚C)





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