

**GaAs Very Small SPDT Switch for 0.8~6.0GHz**

□ **Applications**

SPDT for General Purpose

□ **Features**

- Positive Voltage Control.....+2.8V
- Low Insertion Loss.....0.23dB@0.9GHz / 0.25dB@2.4GHz / 0.40dB@5.8GHz
- High Isolation .....24.5dB@0.9GHz / 24.0dB@2.4GHz / 16.6dB@5.8GHz
- Small / Thin Package .....6 pin Leadless Package (1mm×1mm×0.4mm|max,RoHS Compliant)
- MSL .....3

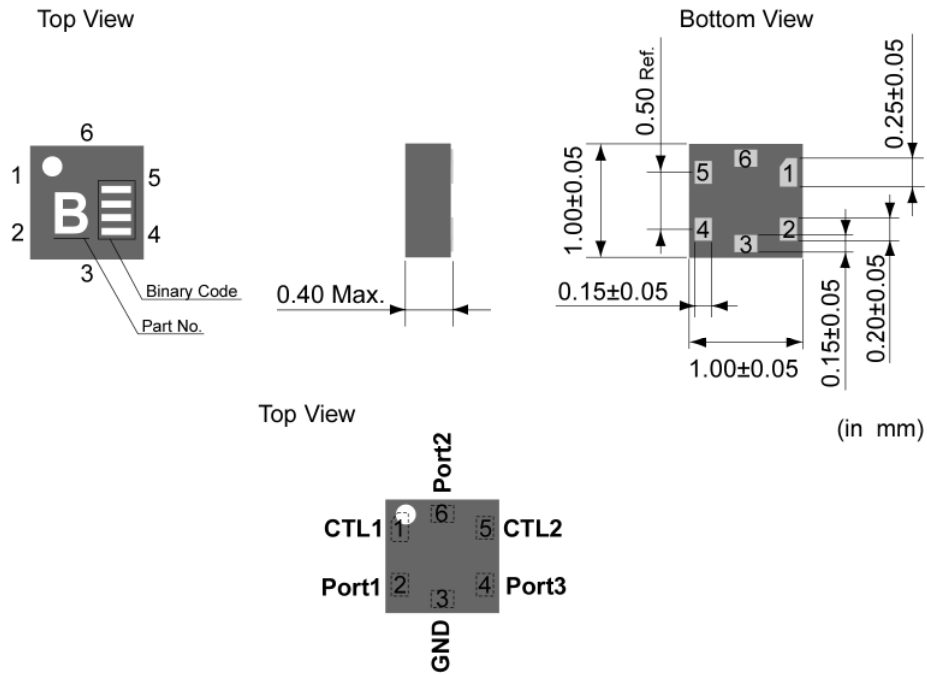
□ **Absolute Maximum Ratings**

Symbol	Parameter	Conditions	Rating	Unit
VCTL(H)	Control Voltage (High)	Ta = 25°C 2.0≤VCTL(H)-VCTL(L)≤4.0	2.0 to 4.0	V
VCTL(L)	Control Voltage (Low)		-0.2 to 0.2	V
Pin	RF Input Power	Ta = 25°C VCTL(H) =2.8V, VCTL(L) =0V	23	dBm
Top	Operating Temperature	-	-40 to 85	°C
Tstg	Storage Temperature	-	-55 to 150	°C

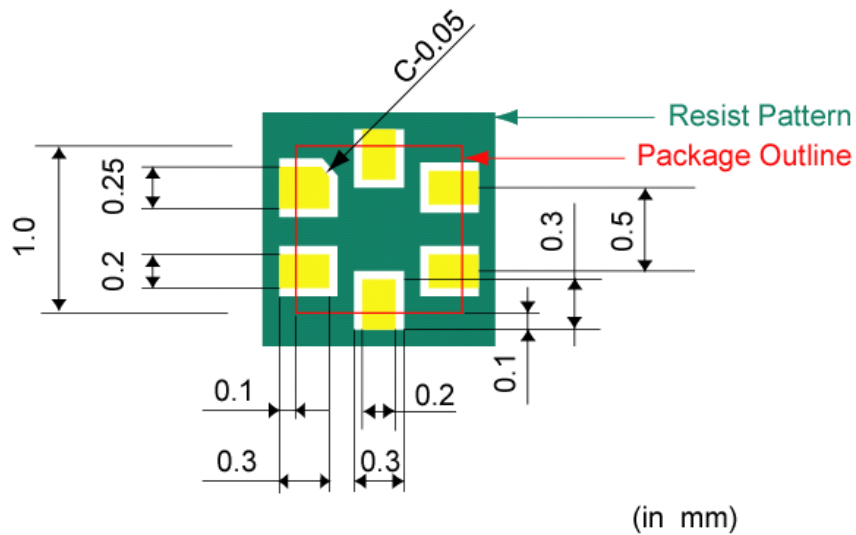
□ **Electrical Specifications (Ta=25°C, VCTL(H)=2.8V, VCTL(L)=0V)**

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
ICTL	Control Current	Either State	-	-	20	μA
f0	Operation Frequency	-	0.8	-	6.0	GHz
IL	Insertion Loss	1.0GHz	-	0.24	0.43	dB
		2.5GHz	-	0.25	0.45	dB
		6.0GHz	-	0.46	0.70	dB
ISO	Isolation (Port1or3 – Port2)	1.0GHz	20.0	24.8	-	dB
		2.5GHz	19.5	23.6	-	dB
		6.0GHz	15.5	19.5	-	dB
Pin 0.1dB	Input Power for 0.1dB Compression	0.9GHz	20.0	23.5	-	dBm

□ **Package Outline and Pin Connections**



□ **Land Pattern**

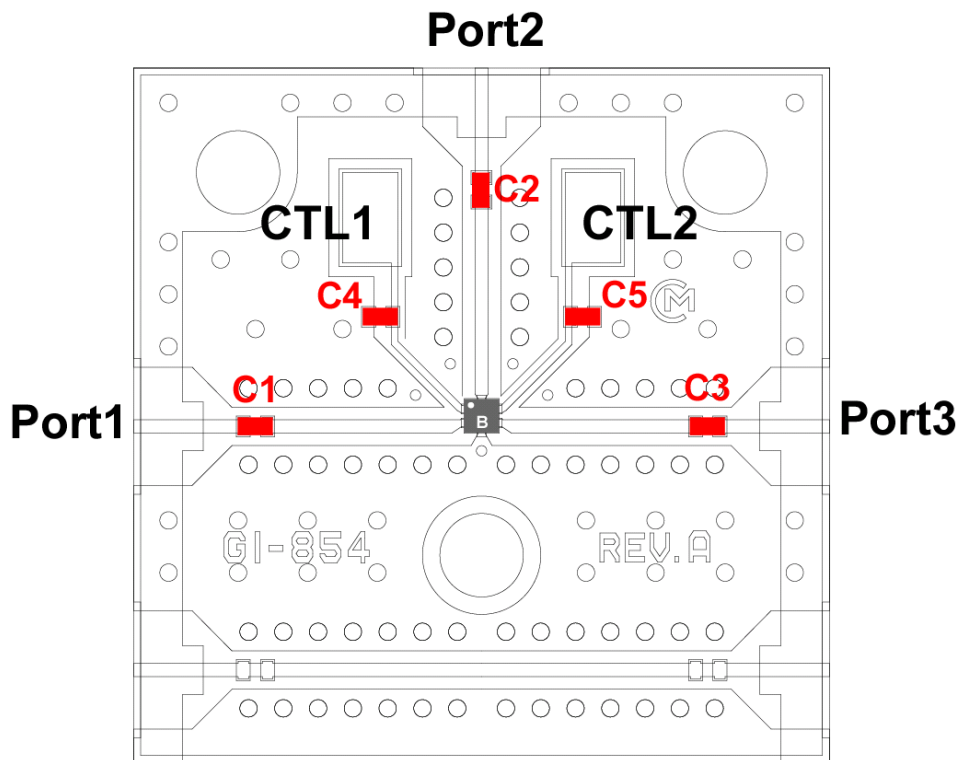


□ Truth Table

Path	CTL1	CTL2
Port1-Port2	H	L
Port2-Port3	L	H

H: 2.8V  
L: 0V

□ Evaluation Board



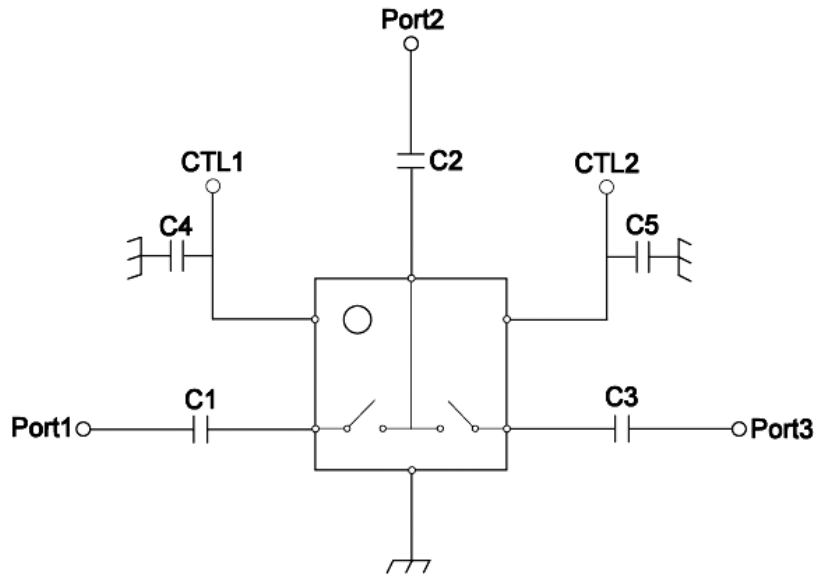
Parts List

Part No.	Products	Value
C1-C3	GRM155(Murata)	330 pF
C4, C5		100 pF

Substrate

FR4,  
 $\epsilon_r = 4.4$   
 Thickness = 0.2mm + 0.6mm(dummy)  
 Metal Thickness:18um  
 Size=20mm x 20mm

□ Evaluation Circuit



\*Note: C1,C2,C3: must be supplied as DC blocking cap.

□ Typical Performance Data (On Evaluation Board, Fixture's loss de-embedded)

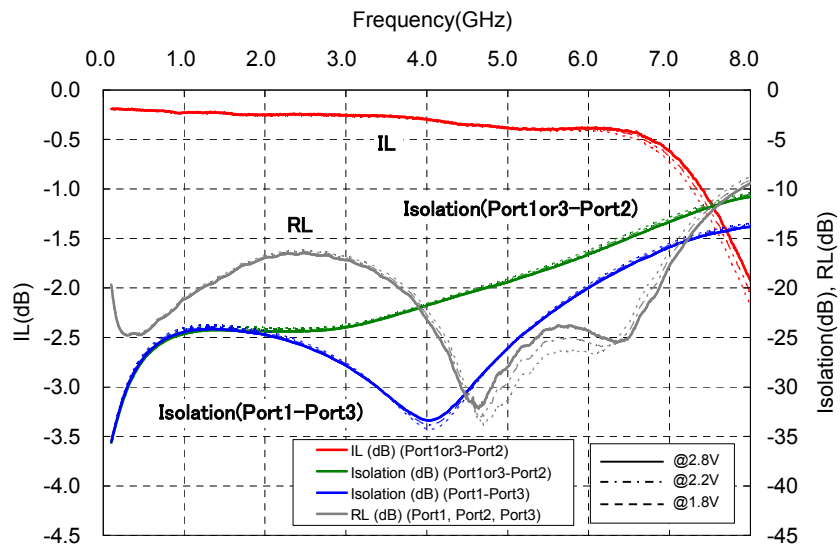


Fig.1 IL, RL and Isolation (VCTL(H)=2.8V)

□ Typical Performance Data (On Evaluation Board, Fixture's loss de-embedded)

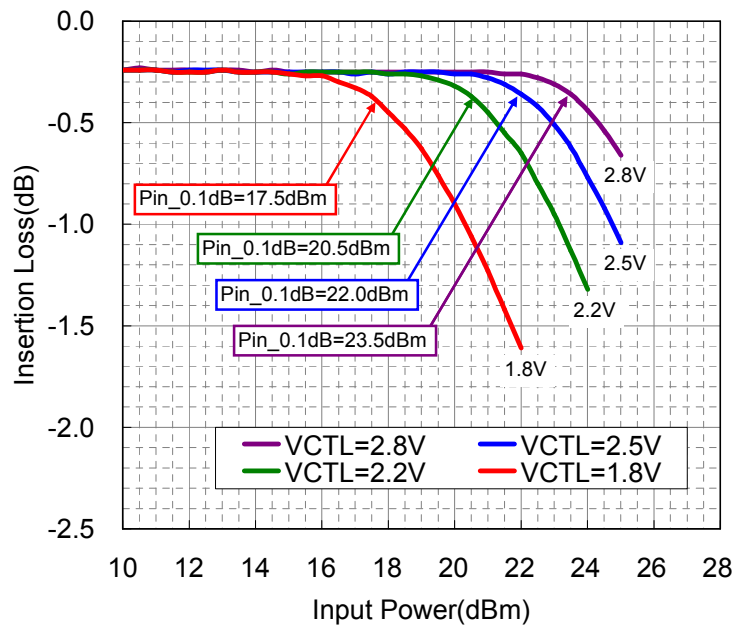


Fig.2 Power Characteristics (f=0.9GHz)

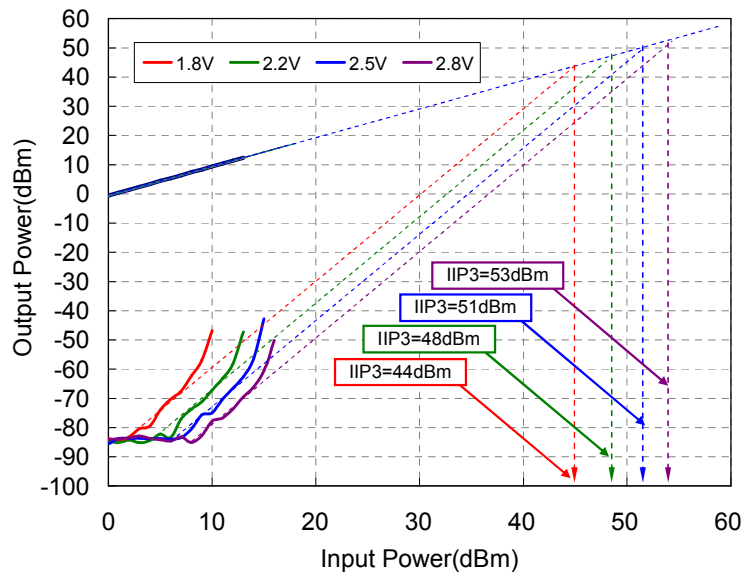


Fig.3 Input IIP3 (f=0.9GHz)

**CAUTION -Limitation of Applications-**

The product is designed and manufactured for consumer application only and is not available for any application listed below which requires especially high reliability for the prevention of such defect as may directly cause damage to the third party's life, body or property.

- Aircraft equipment.
- Aerospace equipment.
- Undersea equipment.
- Medical equipment.
- Transportation equipment (vehicles, trains, ships, etc.).
- Traffic signal equipment.
- Disaster prevention / crime prevention equipment.
- Application of similar complexity and/ or reliability requirements to the applications listed in the above.

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Murata:](#)

[XM0860SH-DL0601](#) [XM0860SH-DL0612](#) [XM0860SH-DL0661](#)