

# XM0860SH-DL0612TMP Ver. 1.00

## 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)

### ■ Absolute Maximum Ratings

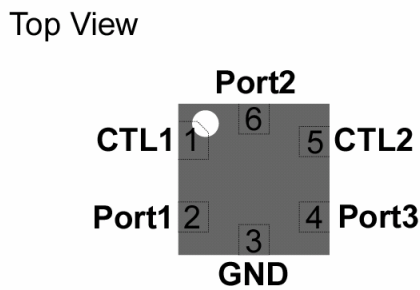
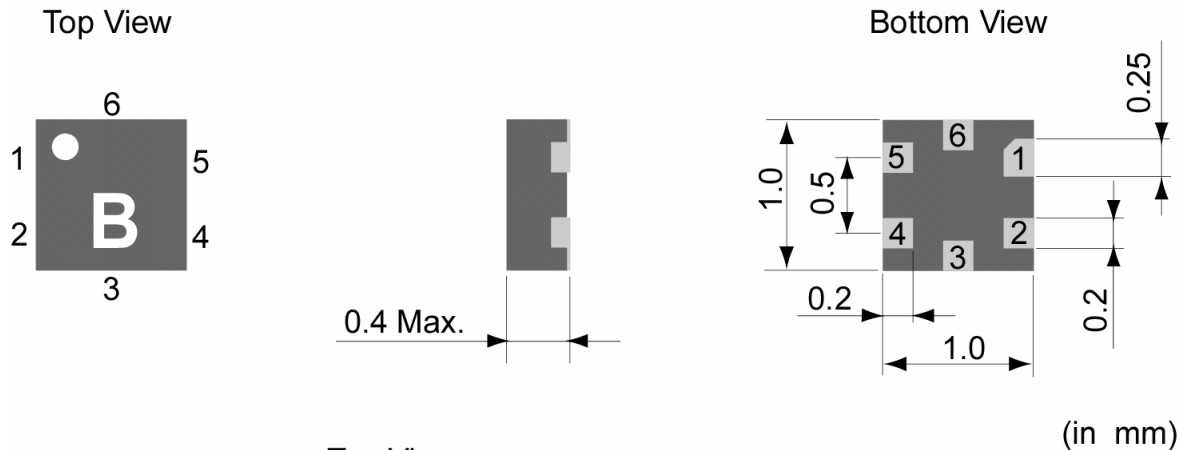
Symbol	Parameter	Conditions	Rating	Unit
VCTL(H)	Control Voltage (High)	Ta = 25°C 2.6≤VCTL(H)-VCTL(L)≤4.0	2.6 to 4.0	V
VCTL(L)	Control Voltage (Low)		-0.2 to 0.2	V
Pin	RF Input Power	Ta = 25°C	26	dBm
Top	Operating Temperature	-	-40 to 85	°C
Tstg	Storage Temperature	-	-55 to 150	°C

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

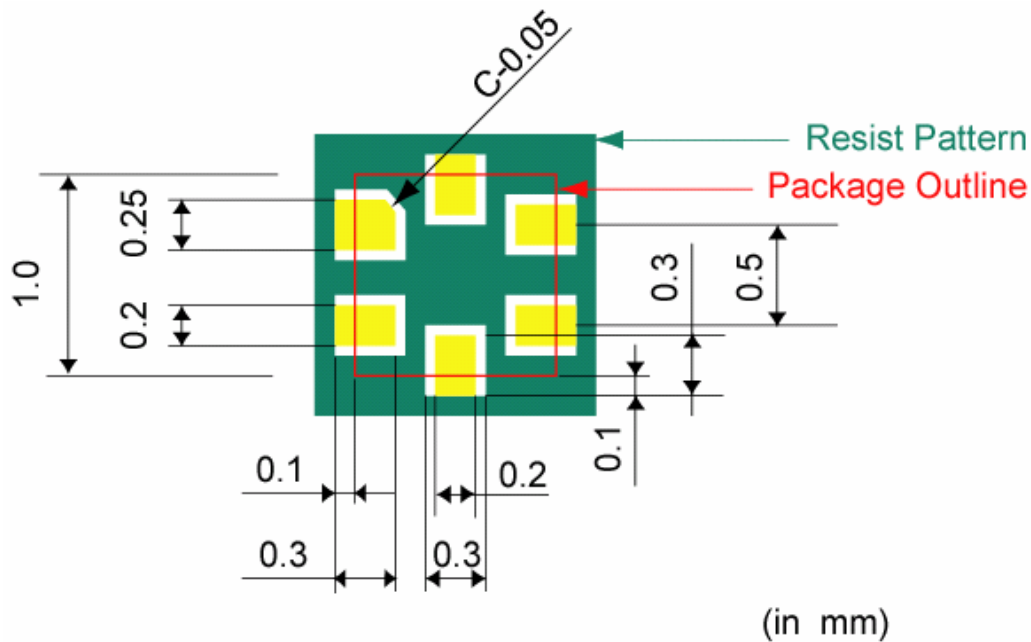
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
ICTL	Control Current	Either State	-	10	-	μA
f <sub>0</sub>	Operation Frequency	-	0.8	-	6.0	GHz
IL	Insertion Loss	0.9GHz	-	0.23	-	dB
		2.4GHz	-	0.25	-	dB
		5.8GHz	-	0.40	-	dB
ISO	Isolation (Port1or3 – Port2)	0.9GHz	-	24.5	-	dB
		2.4GHz	-	24.0	-	dB
		5.8GHz	-	16.6	-	dB
P <sub>in</sub> 0.1dB	Input Power for 0.1dB Compression	0.9GHz	-	22.5	-	dBm
P <sub>in</sub> 0.5dB	Input Power for 0.5dB Compression		-	25.0	-	dBm

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## ■ Package Outline and Pin Connections



## ■ Land Pattern



**Preliminary****murata****XM0860SH-DL0612TMP** Ver. 1.00

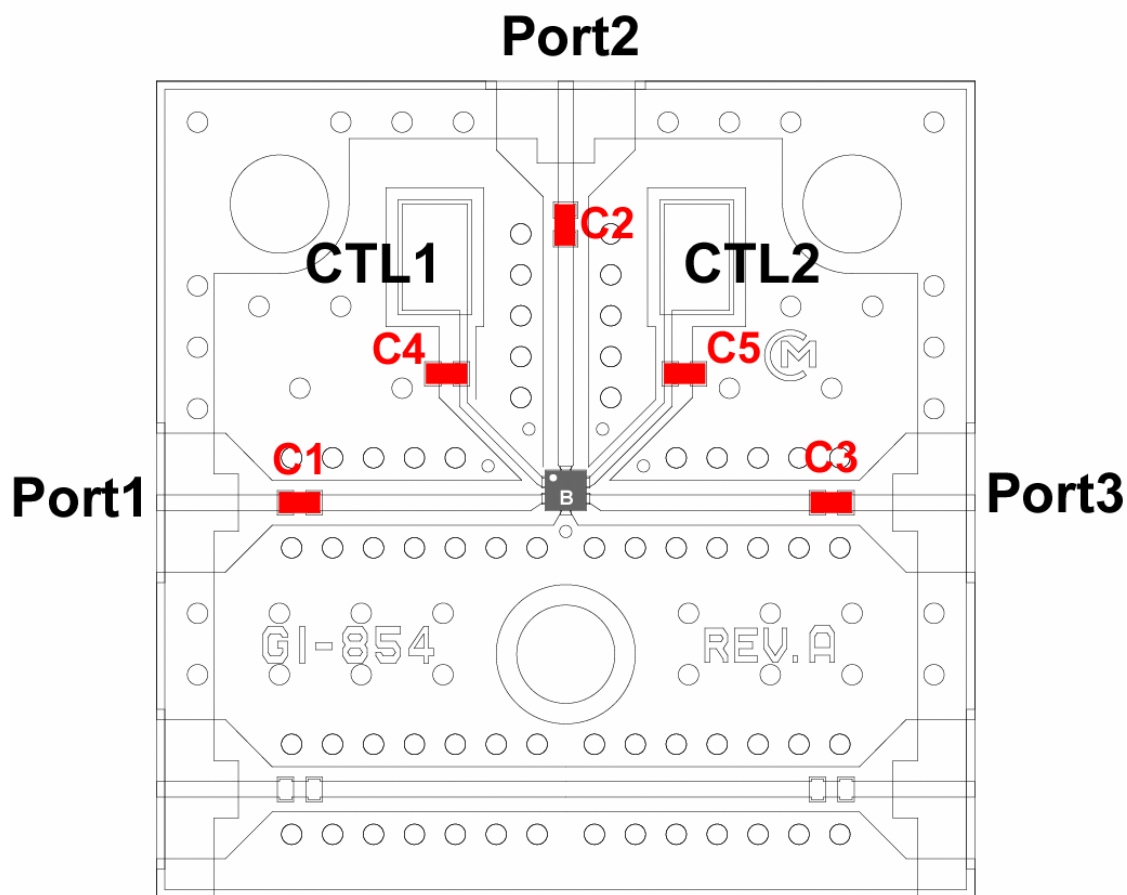
## ■ Truth Table

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

H: 2.8V

L: 0V

## ■ Evaluation Board



## Parts List

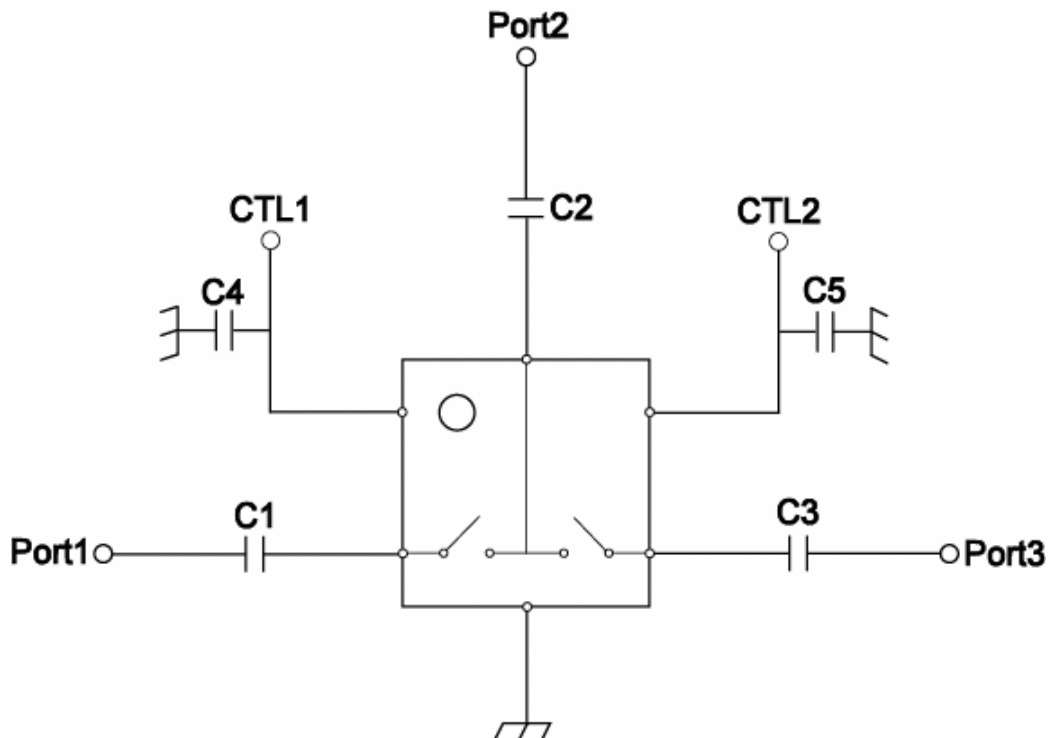
Part No.	Products	Value
C1-C3	GRM155(Murata)	330 pF
C4, C5		100 pF

## Substrate

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

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## ■ Evaluation Circuit



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

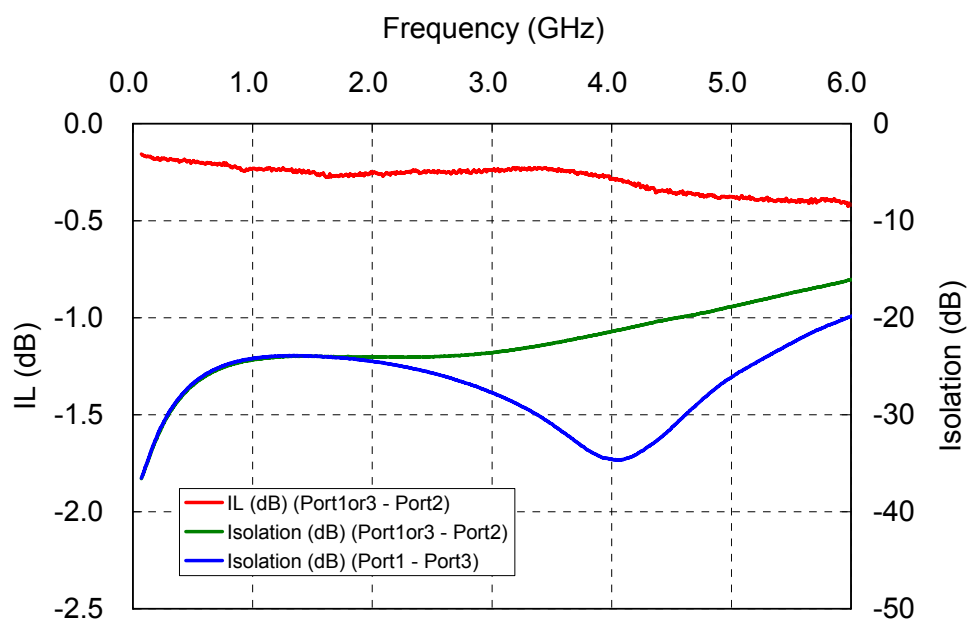


Fig.1 Insertion Loss and Isolation vs. Frequency (VCTL(H)=2.8V)

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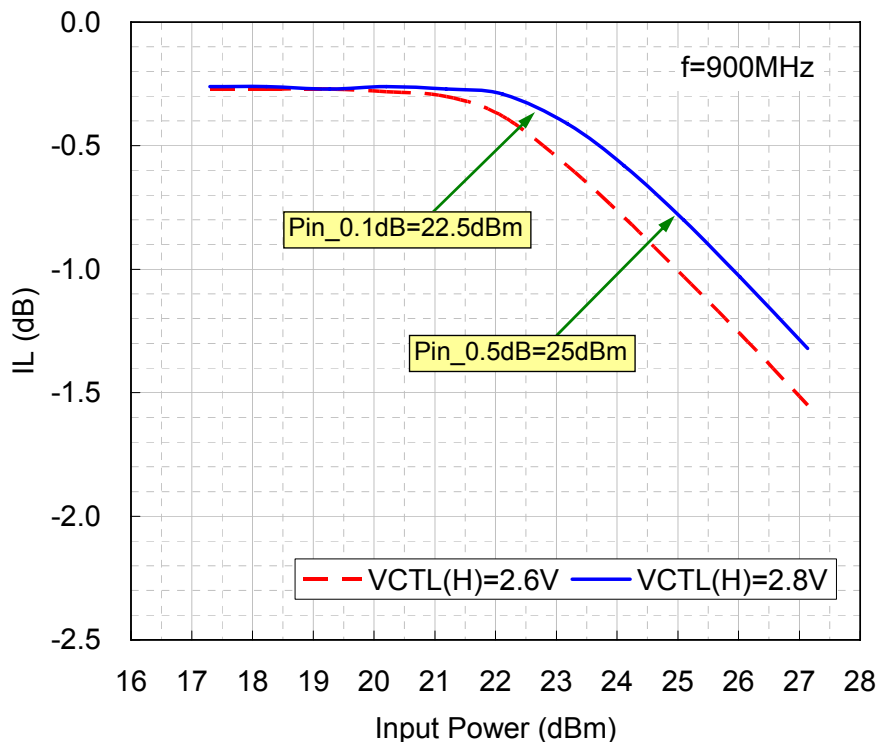


Fig.2 Power Characteristics



### CAUTION -Limitation of Applications-

Please contact us before using our products for the applications listed below which require especially high reliability for the prevention of defects which might directly cause damage to the third party's life, body or property.

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



Messrs. QCT

## Proof: RoHS compliance Product

Issued Date: Nov.1<sup>st</sup>.2006


Products Description: SPDT  
Murata Part Number: XM0860SH-DL0612TMP

Dear Sirs,

Thank you for using Murata microwave products.  
We would like to notice that XM0860SH-DL0612TMP has always been RoHS compliant.

If you have any questions, please feel free to contact us.

Sincerely,

Signature : 

Name: Yuichi Tannan

Product Management, Microwave Group  
Company: Murata Electronics North America, Inc.