

## Excellent Integrated System Limited

Stocking Distributor

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[Murata Electronics North America](#)  
[XM0860SR-DL0801](#)

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## PRELIMINARY DATA SHEET

# XM0860SR-DL0801

DS0860SR-01B

### GaAs Very Small Balanced SPDT (DP4T) Switch for 0.8~6.0GHz

#### Applications

Balanced SPDT (DP4T) for General Purpose

#### Features

- Positive Voltage Control ..... +2.8V
- Low Insertion Loss ..... 0.45dB@0.9GHz / 0.48dB@1.9GHz
- High Isolation ..... 30.0dB@0.9GHz / 23.0dB@1.9GHz (Port 1 – Port 2 or Port3)  
 .. 33.0dB@0.9GHz / 26.0dB@1.9GHz (Port 2 – Port 3)
- Small / Thin Package ..... 8 pin Leadless Package (1.5×1.5×0.4mm|max, RoHS Compliant)
- MSL ..... 3

#### Absolute Maximum Ratings

Symbol	Parameter	Conditions	Rating	Unit
VCTL(H)	Control Voltage (High)	Ta = 25°C	1.7 to 4.0	V
VCTL(L)	Control Voltage (Low)	1.7 ≤ VCTL(H) - VCTL(L) ≤ 4.0	-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	-	0.1	1	μA
f0	Operation Frequency	-	0.8	-	3.0	GHz
IL	Insertion Loss	1.0GHz	-	0.6	0.8	dB
		2.0GHz	-	0.6	0.8	dB
ISO	Isolation (Port1 – Port2 or Port3)	1.0GHz	25	29.0	-	dB
		2.0GHz	20	23.0	-	dB

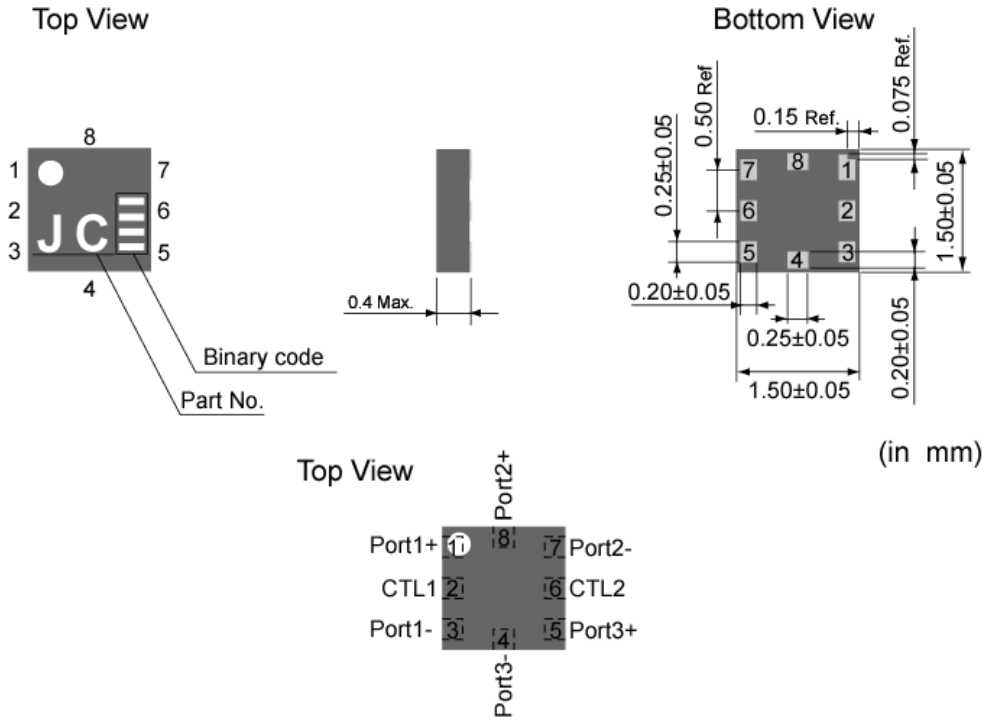


**PRELIMINARY DATA SHEET**

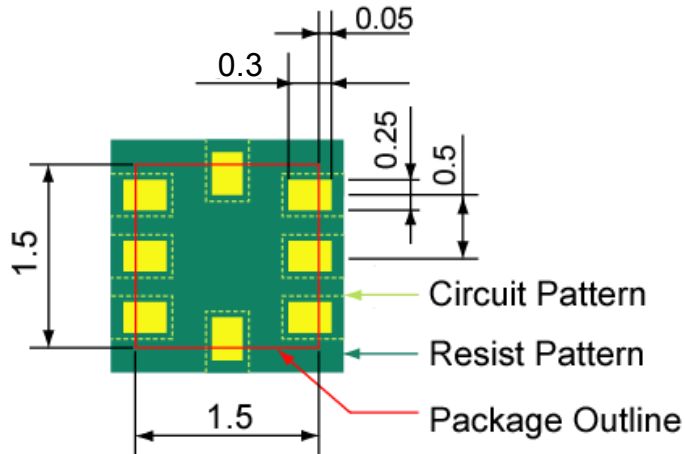
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□ **Package Outline and Pin Connections**



□ **Land Pattern**





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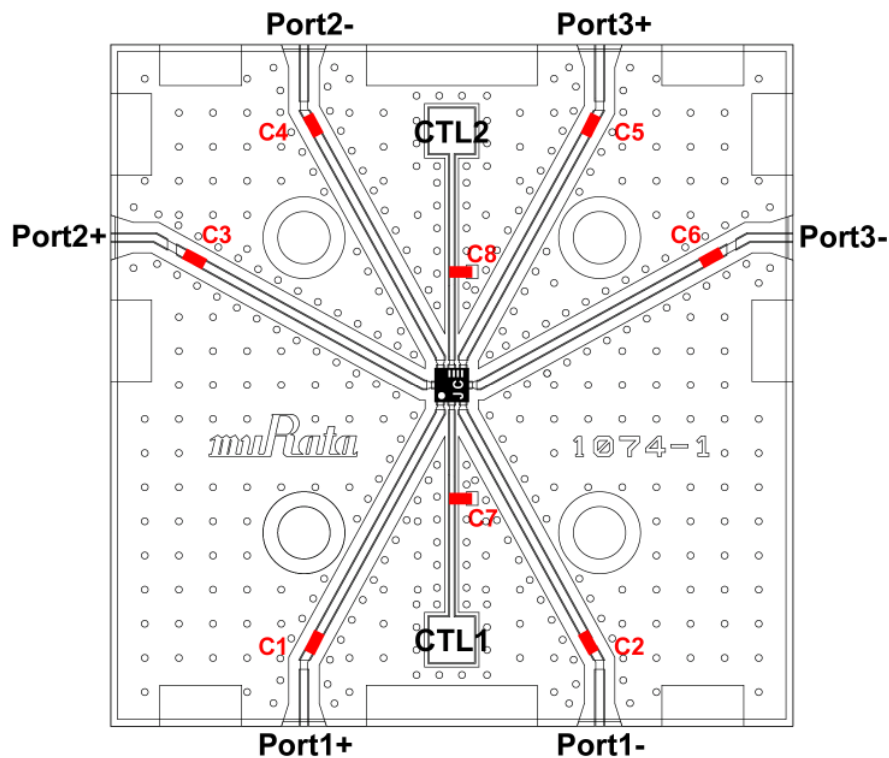
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□ Truth Table

Path	CTL1	CTL2
Port1+/- – Port3+/-	H	L
Port1+/- – Port2+/-	L	H

H: 2.8V  
L: 0V

□ Evaluation Board



**Parts List**

Part No.	Products	Value
C1-C6	GRM155(Murata)	47 pF
C7, C8		100 pF

**Substrate**

FR4,  
ε<sub>r</sub> =4.4  
Thickness = 0.2mm + 0.6mm(dummy)  
Metal Thickness:18um  
Size=30mm x 30mm

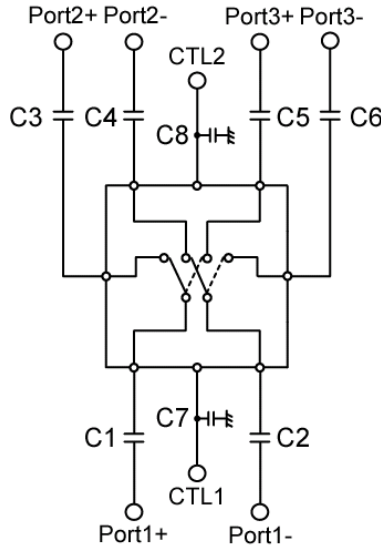


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□ **Evaluation Circuit**



\*Note: C1,C2,C3,C4,C5,C6: must be supplied as DC blocking cap.

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

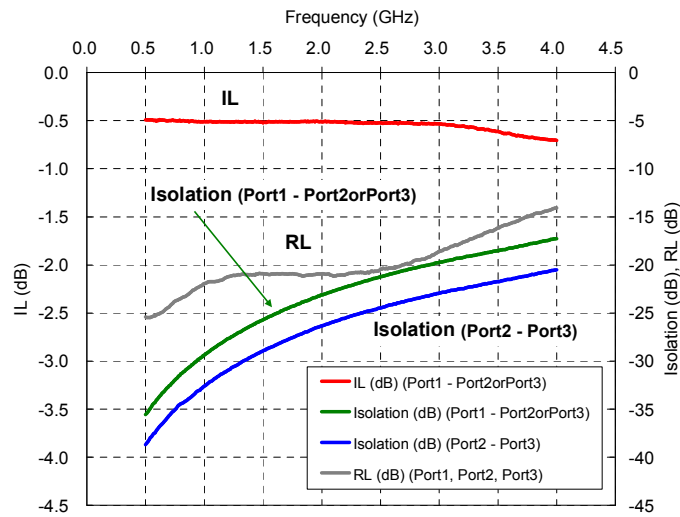


Fig.1 IL, RL and Isolation (VCTL(H)=2.8V)



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

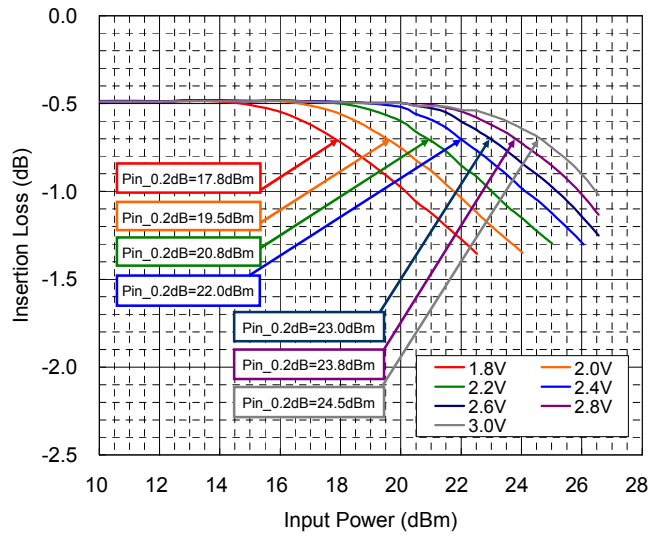


Fig.2 Power Characteristics (f=1.9GHz)

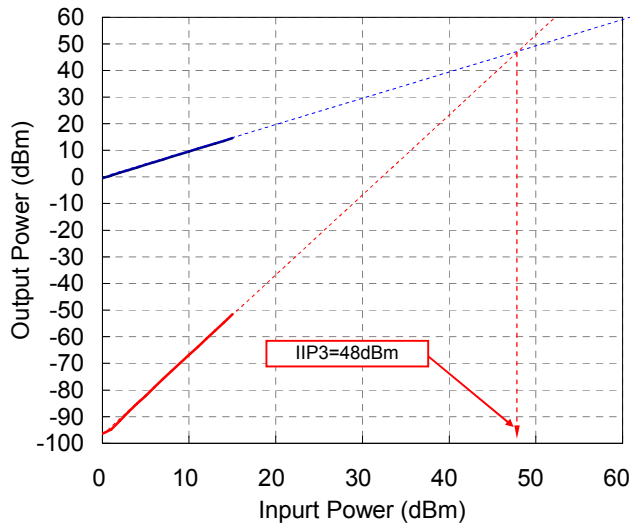


Fig.3 Input IIP3 (f=1.9GHz, V<sub>CTL</sub>=2.8V)



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### 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.