



PRELIMINARY DATA SHEET

XM0830SM-BL0901

DS0830SM-01A

GaAs 1bit Control High Power SPDT Switch for 0.8~3.0GHz

□ Applications

Cell, PCS, AWS,W-CDMA, TD-SCDMA, WiMAX
and other RF applications.

□ Features

- Positive Voltage Control+1.5Vmin.
- Low Insertion Loss0.25dBtyp. @1.0GHz
- High Isolation29.0dBtyp. @1.0GHz
- Small / Thin Package8 pin Leadless Package (2mm×2mm×0.55mm|max,RoHS Compliant)
- MSL3

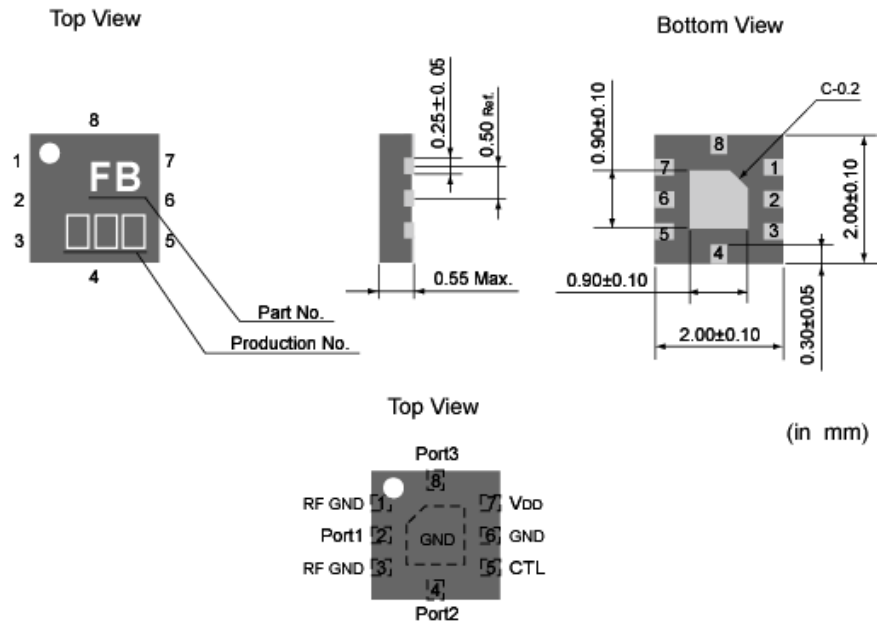
□ Absolute Maximum Ratings

Symbol	Parameter	Conditions	Rating	Unit
VDD	Control Voltage	Ta = 25°C	2.0 to 4.0	V
VCTL(H)	Control Voltage (High)	Ta = 25°C, VCTL ≤ VDD	1.5 to 4.0	V
VCTL(L)	Control Voltage (Low)		-0.2 to 0.2	V
Pin	RF Input Power	Ta = 25°C VCTL(H) = 1.8V, VCTL(L) = 0V	+34.0	dBm
Top	Operating Temperature	-	-40 to 85	°C
Tstg	Storage Temperature	-	-55 to 150	°C

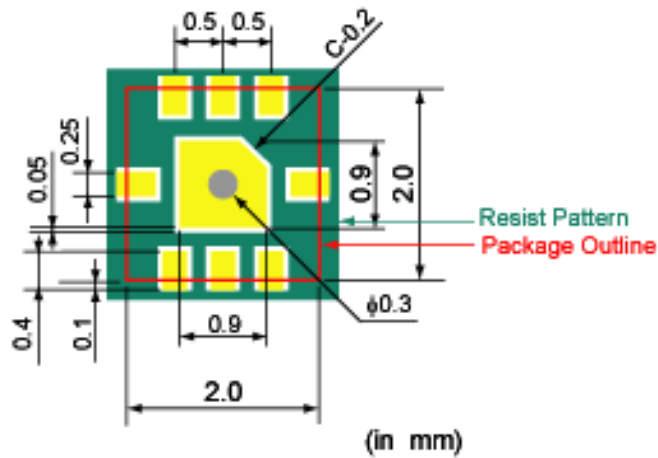
□ **Electrical Specifications (Ta=25°C, VDD=2.6V, VCTL(H)=1.8V, VCTL(L)=0V, C4,5=4pF)**

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I _{DD}	Current Consumption	-	-	80	200	μA
f ₀	Operation Frequency	-	0.8	-	2.5	GHz
IL	Insertion Loss (Port1-Port2,3)	-	-	0.25	0.50	dB
ISO	Isolation (Port1-Port2,3)	1.0~2.0GHz	25.0	29.0	-	dB
P _{in 0.5dB}	Input Power for 0.5dB Compression	2.0GHz	32.0	33.0	-	dBm

□ Package Outline and Pin Connections



□ Land Pattern

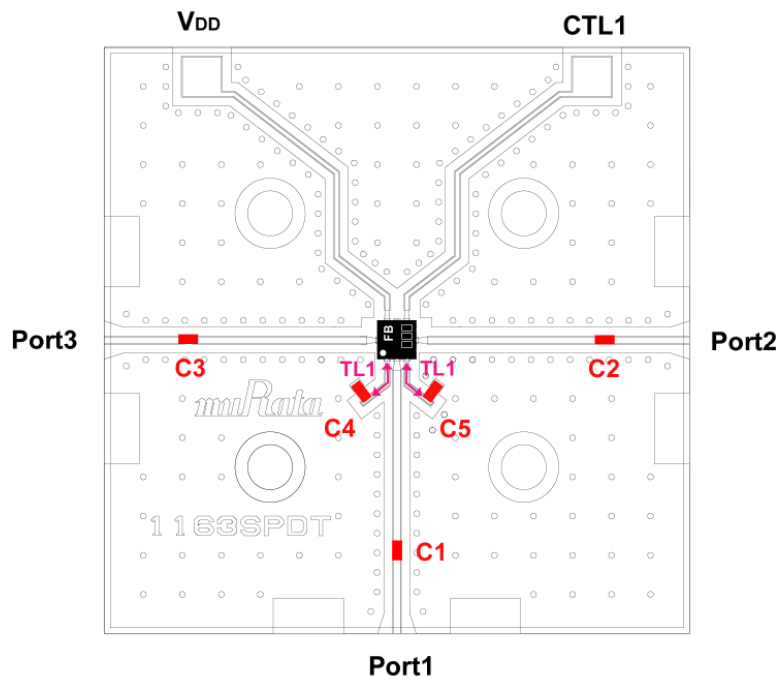


□ **Truth Table**

Path	V _{DD}	CTL
Port1-Port2	H	L
Port1-Port3	H	H

H: 2.0 to 4.0V(V_{DD}), 1.5 to 4.0V(CTL)
L: 0V

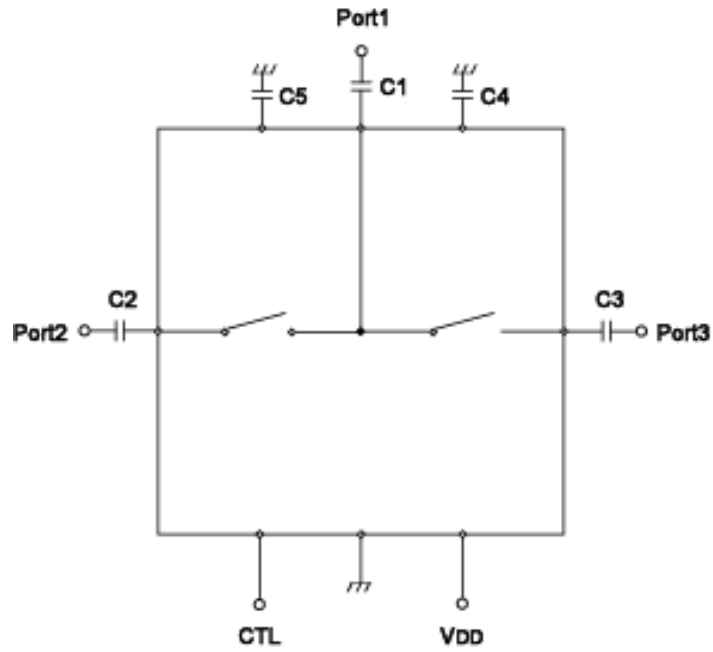
□ **Evaluation Board**



Parts List

Part No.	Products	Value	Substrate
C1-C3	GRM155(Murata)	47 pF	Transmission Line: 50Ω
C4,C5		4pF	Material :FR4 (ε _r = 4.4) Size : 30mm x 30mm Thickness : 0.2mm + Dummy 0.4mm
			TL1
			Width: 0.2mm Length: 2mm

□ Evaluation Circuit



**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.