

GaAs Very Small 1bit Control SPDT Switch for 0.8~3.0GHz

■ Applications

SPDT for General Purpose

■ Features

- Positive Voltage Control +1.5Vmin.
- Low Insertion Loss 0.25dBtyp. @1.0GHz
- High Isolation 26.0dBtyp. @1.0GHz
- Small / Thin Package 6 pin Leadless Package (1mm×1mm×0.4mm max,RoHS Compliant)
- MSL 3

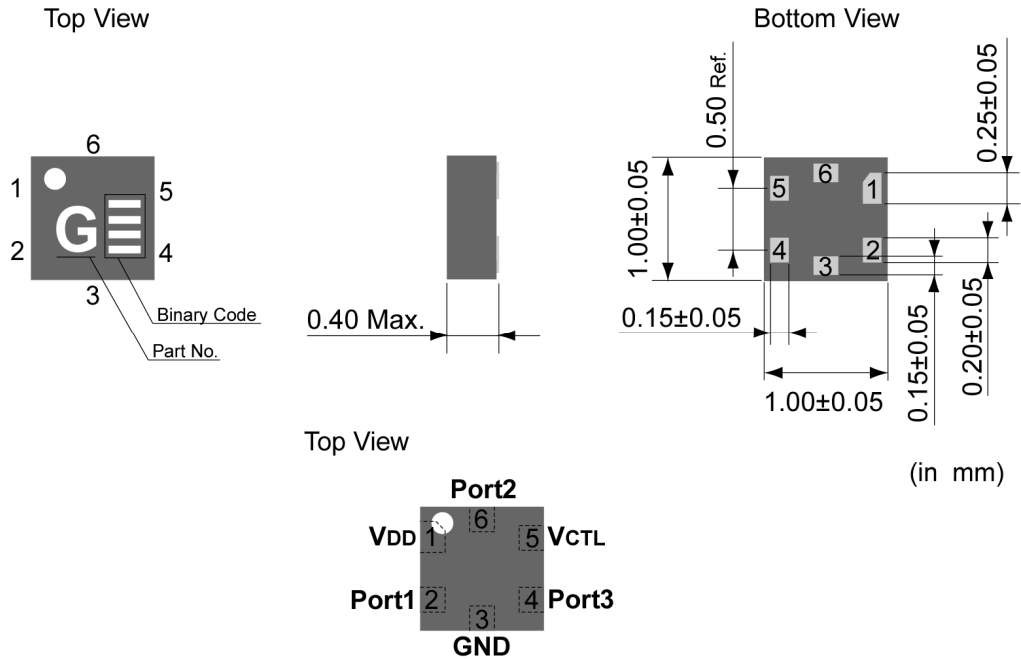
■ Absolute Maximum Ratings

Symbol	Parameter	Conditions	Rating	Unit
V _{DD}	Supply Voltage	T _a = 25°C	2.0 to 4.0	V
V _{CTL(H)}	Control Voltage (High)	T _a = 25°C, V _{CTL} ≤ V _{DD}	1.5 to 4.0	V
V _{CTL(L)}	Control Voltage (Low)		-0.2 to 0.2	V
P _{in}	RF Input Power	T _a = 25°C V _{CTL(H)} = 1.8V, V _{CTL(L)} = 0V	+23dBm	dBm
Top	Operating Temperature	-	-40 to 85	°C
Tstg	Storage Temperature	-	-55 to 150	°C

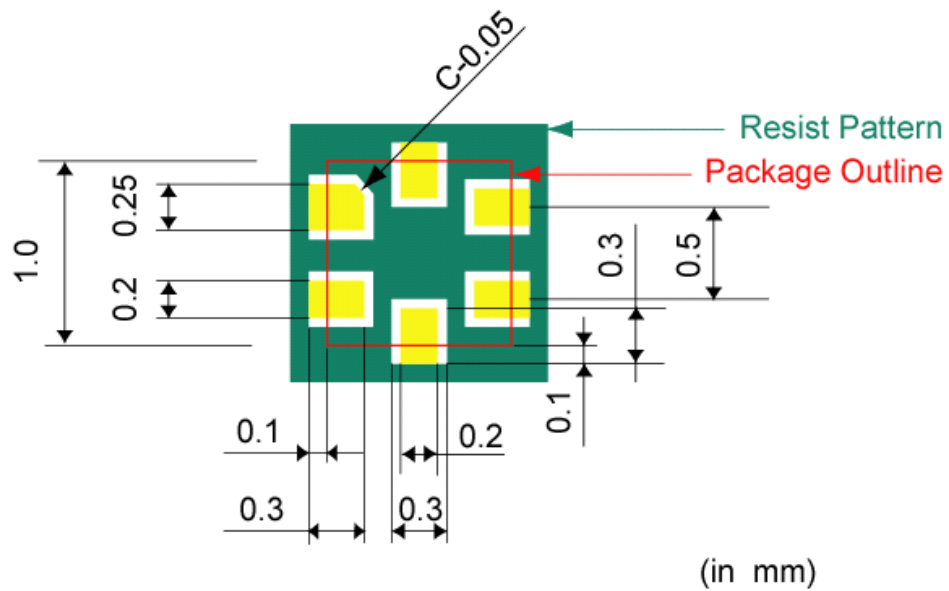
■ Electrical Specifications (T_a=25°C, V_{DD}=2.6V, V_{CTL(H)}=1.8V, V_{CTL(L)}=0V)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I _{DD}	Current Consumption	Either State	-	100	-	μA
f ₀	Operation Frequency	-	0.8	-	3.0	GHz
IL	Insertion Loss	0.8 to 1.0GHz	-	0.25	0.50	dB
		1.0 to 2.0GHz	-	0.30	0.55	dB
		2.0 to 3.0GHz	-	0.38	0.55	dB
ISO	Isolation	0.8 to 1.0GHz	24.5	26.0	-	dB
		1.0 to 2.0GHz	18.5	21.0	-	dB
		2.0 to 3.0 GHz	16.0	18.0	-	dB
P _{in 0.5dB}	Input Power for 0.5dB Compression	1.0GHz	15	20	-	dBm

Package Outline and Pin Connections



Land Pattern

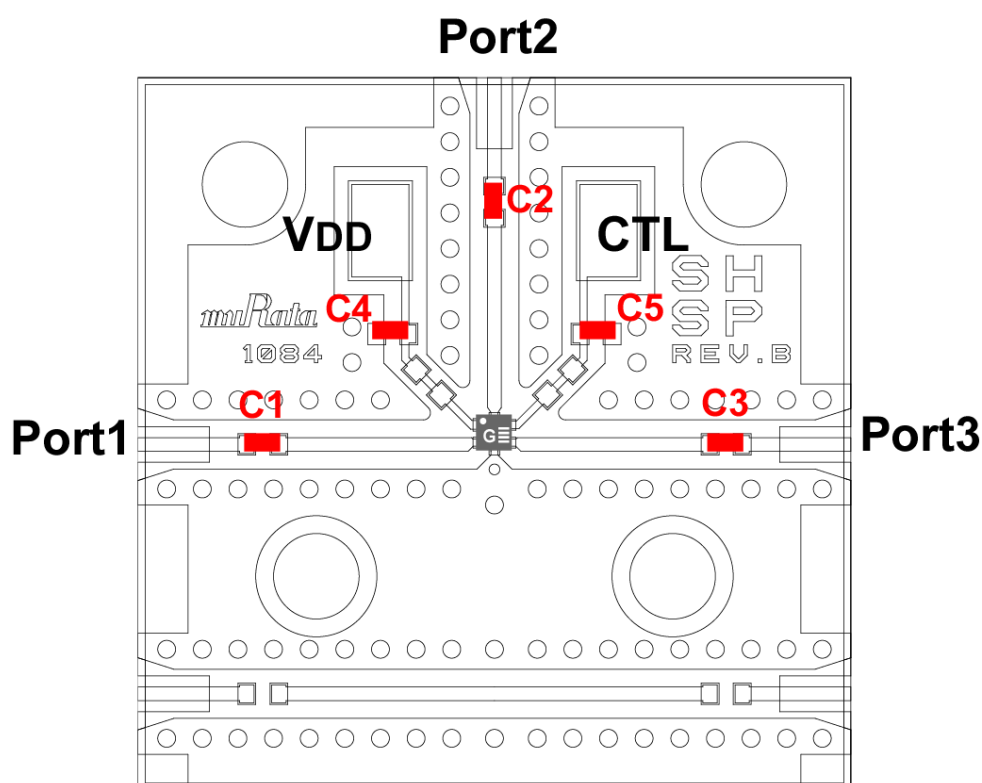


■ Truth Table

Path	VDD	CTL
Port2-Port1	H	H
Port2-Port3	H	L

H: 2.0 to 4.0V(VDD)、1.5 to VDDV(CTL)
L: 0V

■ Evaluation Board



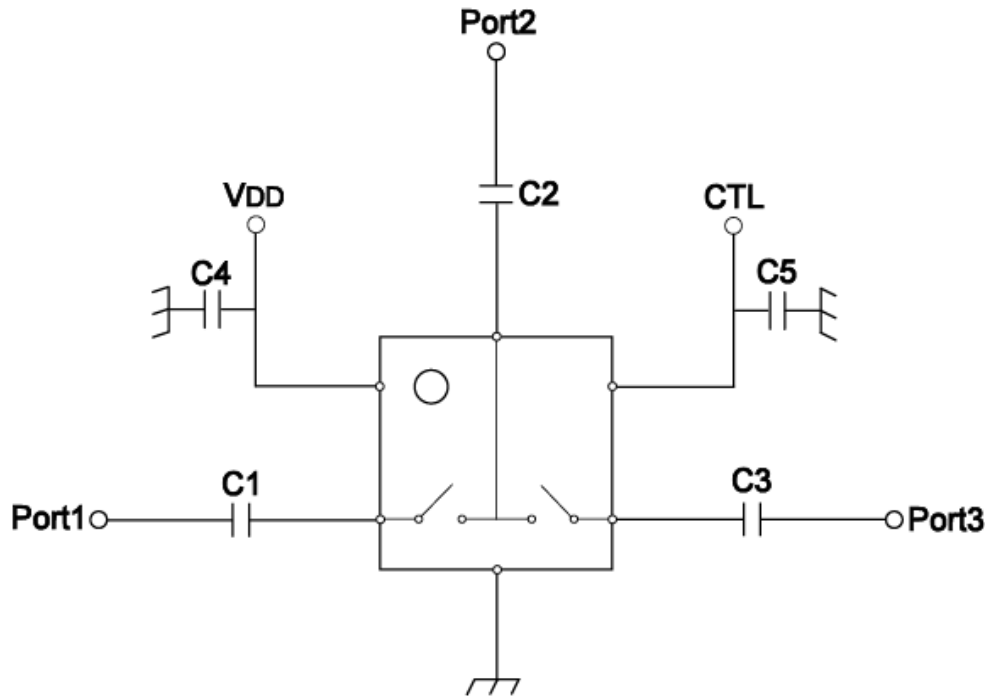
Parts List

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

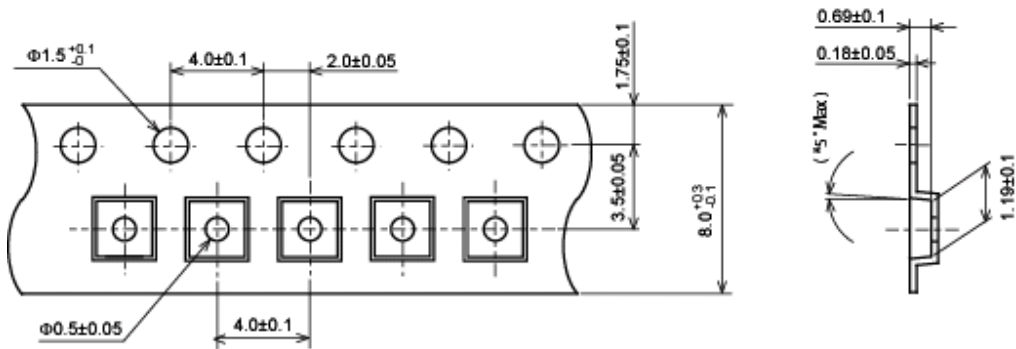
■ Evaluation Circuit



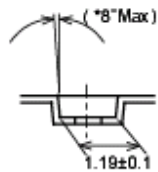
*Note: C1,C2,C3: must be supplied as DC blocking cap.

■ Taping Specification

Tape Dimensions



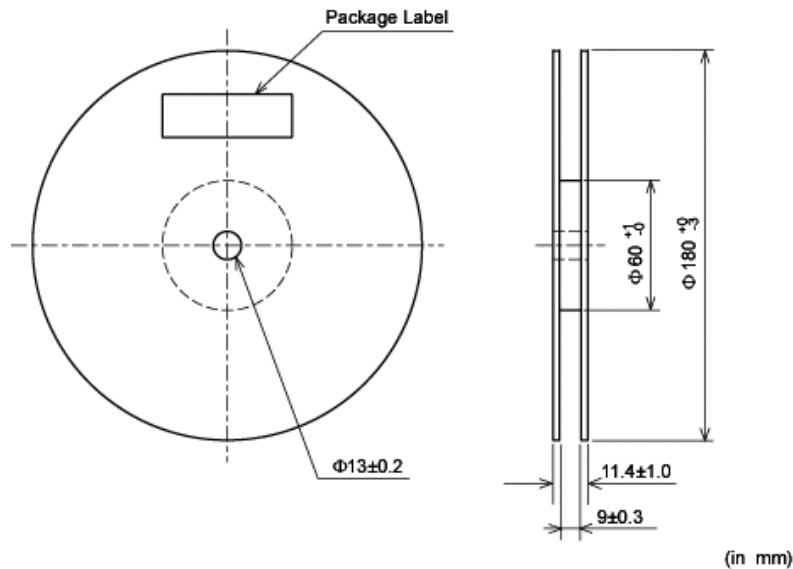
(in mm)



Note

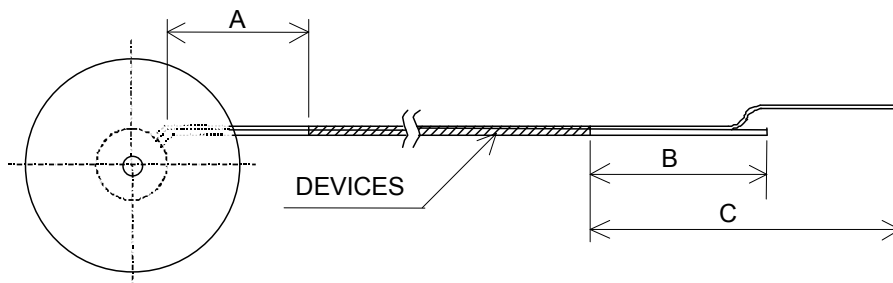
- 1) 10 sprocket hole pitch cumulative tolerance 40 ± 0.2 .
- *Reference Value

Reel Dimensions



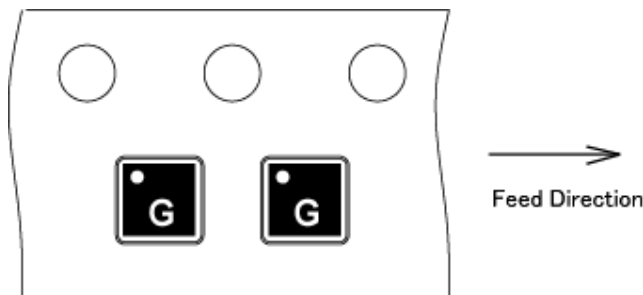
(in mm)

Leader and Trailer Dimensions



Symbol	Items	Ratings (mm)
A	Trailer	160 ~
B	Leader with empty cavities	100 ~
C	Leader	400 ~

Device Dimensions



Packing Unit
5000pcs / reel



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.