

CMOS DP4T Switch for Wireless Communication

Applications

DP4T Switch for Rx portion.

Features

- Small Package10 pin Leadless Package
(1.55mm×1.15mm×0.4mm|max, RoHS Compliant)
- MSL3

Absolute Maximum Ratings

Symbol	Parameter	Conditions	Rating	Unit
Vdd	Supply Voltage	Ta = 25°C	4	V
CTL	Control Voltage	Ta = 25°C	4	V
Pin	RF Input Power	Ta = 25°C VDD = 2.7V CTL(H) = 1.8V, CTL(L) = 0V	20	dBm
Top	Operating Temperature	-	-40 to 85	°C
Tstg	Storage Temperature	-	-55 to 150	°C

DC Electrical Specifications

Symbol	Parameter	Conditions		Min.	Typ.	Max.	Unit
Vdd	Supply Voltage			1.6		3.8	V
Idd	Supply Current	Ta = 25°C, Vdd = 2.7V CTL(H) =1.8V,CTL(L) =0V		-	0.6	2	uA
CTL(H)	Control Voltage (High)	Ta = -40~85°C, VDD = 1.6~3.8V		1.3	1.8	3.8	V
CTL(L)	Control Voltage (Low)	Ta = -40~85°C	1.6V≤Vdd<2.3V	-0.2	0	0.3	V
			2.3V≤Vdd≤3.8V	-0.2	0	0.45	V
Ictl	Control Current	Ta = 25°C, Vdd = 2.7V CTL(H) =1.8V,CTL(L) =0V		-	0.01	0.2	uA

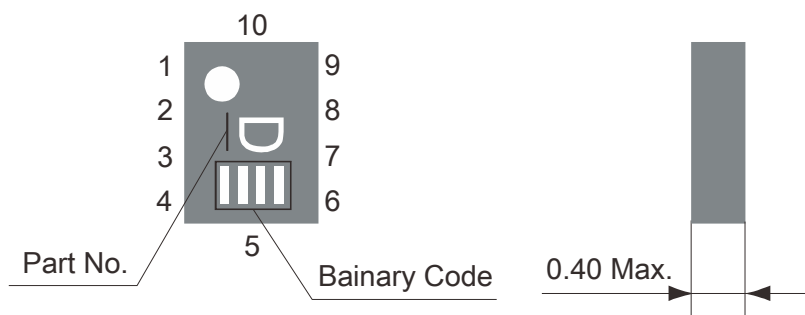
Electrical Specifications

(Ta=25°C, VDD=2.7V, VCTL(H)=1.8V, VCTL(L)=0V, Pin=0dBm)

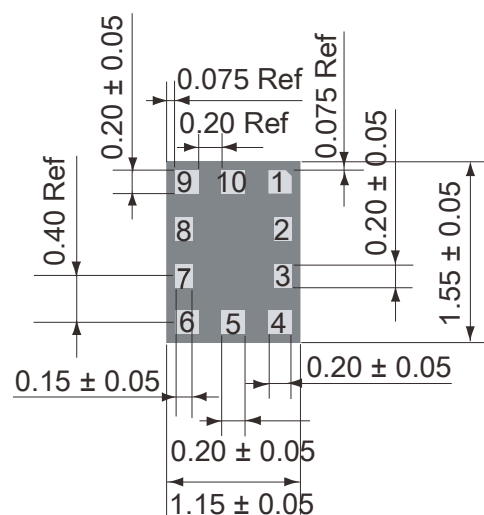
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
IL	Port1± to Port2,3± Pin=0dBm (Differential Mode)	0.1-1GHz		0.23	0.40	dB
		2GHz		0.26	0.50	dB
		2.7GHz		0.28	0.50	dB
ISO	Port1± to Port2,3± Pin=0dBm (Differential Mode)	0.1-1GHz	40	42		dB
		2GHz	34	36		dB
		2.7GHz	31	33		dB

Package Outline and Pin Connections

Top View



Bottom View

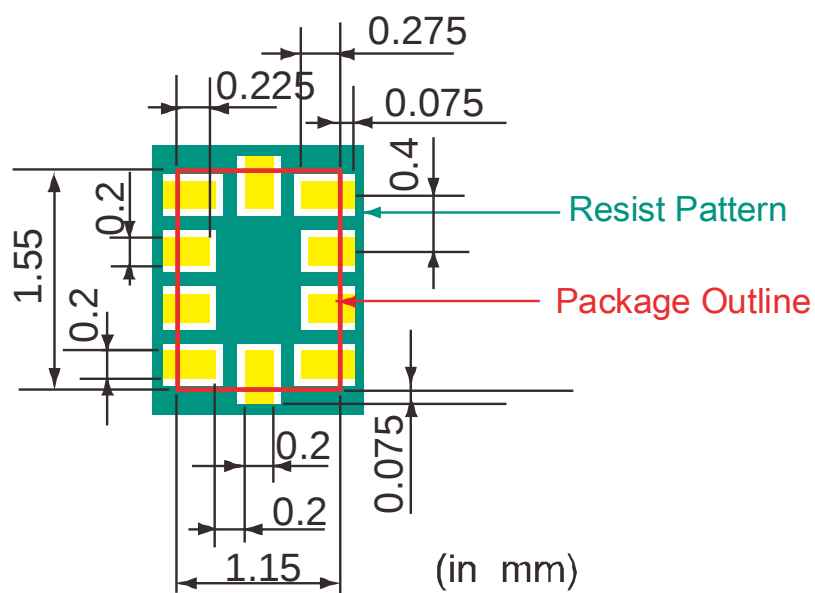


Top View

	Port3-			
Port3+	1	10	9	Vdd
GND	2		8	Port1-
GND	3		7	Port1+
Port2-	4	5	6	CTL
	Port2+			

(in mm)

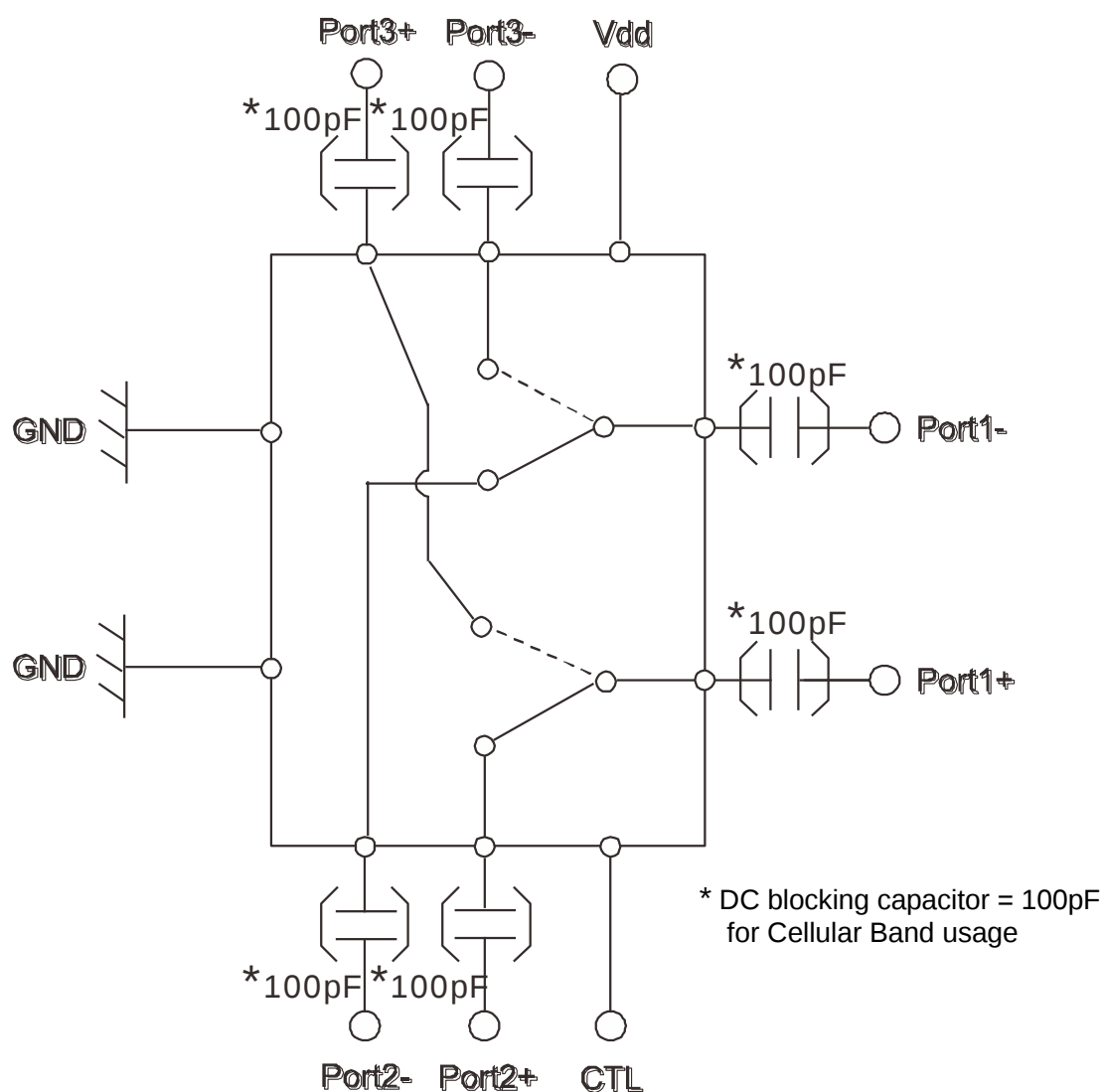
Land Pattern



Truth Table

Mode	Vdd	CTL
Port1-Port3	H	H
Port1-Port2	H	L

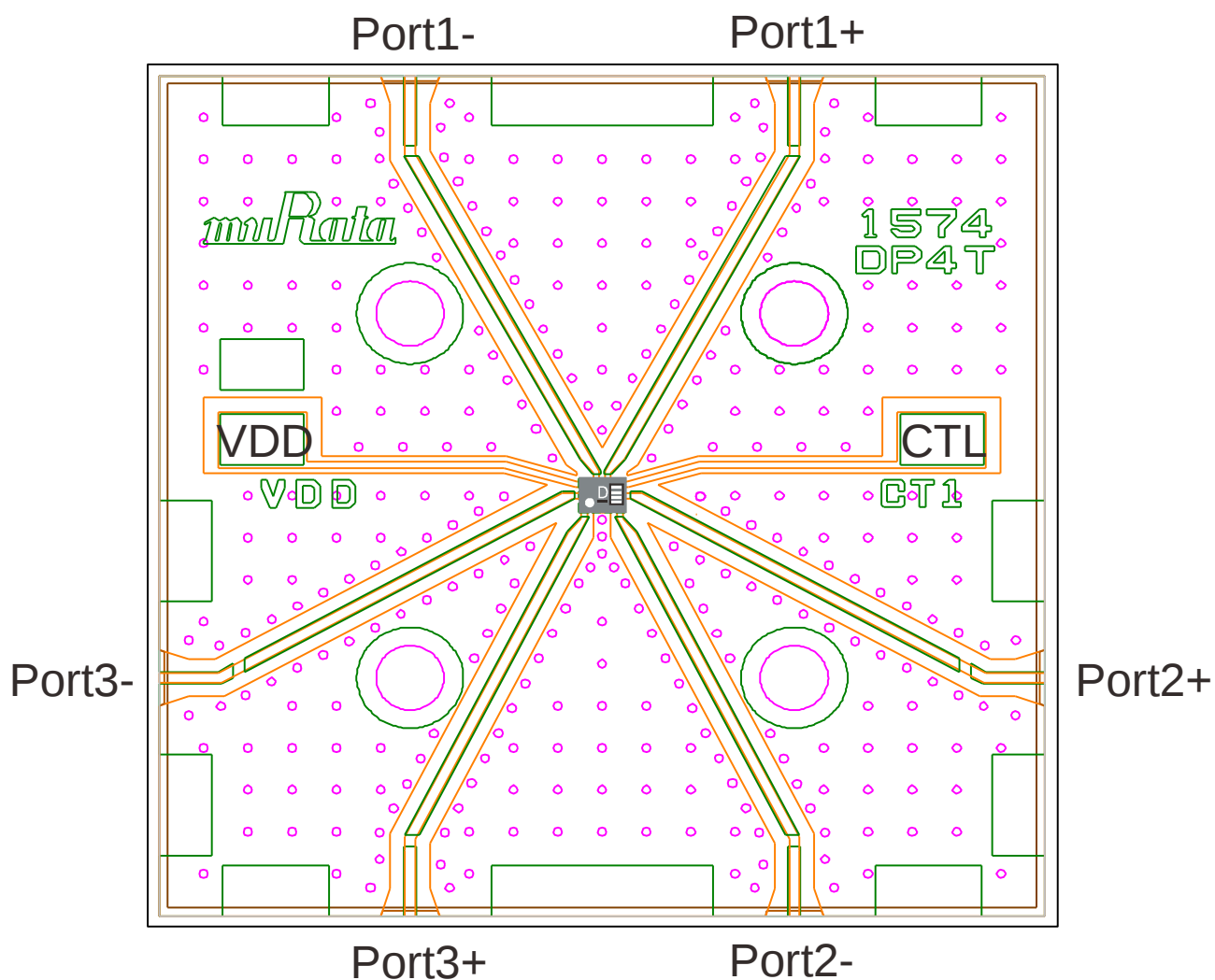
Evaluation Circuit



These additional parts below are NOT required.

1. DC blocking capacitors on RF ports can be removed if DC Voltage from external = 0V.
2. DC bypass capacitors on Vdd & control lines are not required.

Evaluation Board



Substrate

Material : FR4 ($\epsilon_r=4.4$)

Size : 30mm × 30mm

Thickness : 0.2mm + Dummy 0.4mm



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