

1. $V_{DD}=2.7V$ / $f=0.5 - 3.0GHz$ APPLICATION

1-1 SUMMARY

This is $V_{DD}=2.7V$ / $f=0.5 - 3.0GHz$ application note of NJG1806K75.

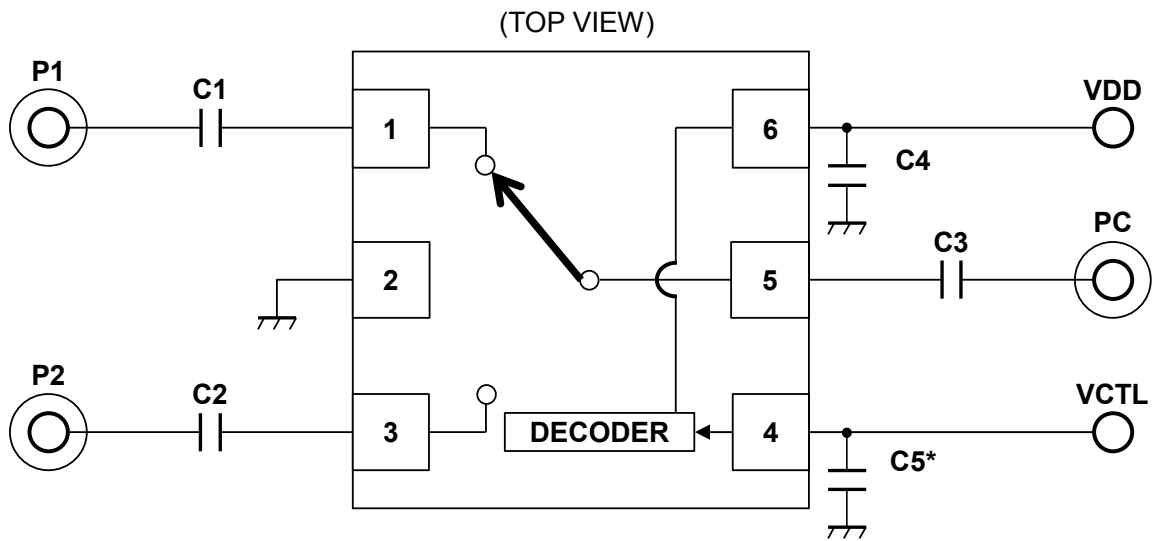
This application note shows the typical electrical characteristics and application circuit.

1-2 MEASURED DATA

General conditions: $V_{DD}=2.7V$, $V_{CTL(H)}=1.8V$, $V_{CTL(L)}=0V$, $T_a=+25^{\circ}C$, $Z_S=Z_I=50\Omega$

PARAMETERS	SYMBOL	CONDITIONS	DATA	UNITS
Operating Current	I_{DD}	No RF input	13.5	μA
Insertion loss1	LOSS1	$f=0.5GHz$	0.29	dB
Insertion loss2	LOSS2	$f=1.0GHz$	0.31	dB
Insertion loss3	LOSS3	$f=2.0GHz$	0.33	dB
Insertion loss4	LOSS4	$f=2.7GHz$	0.34	dB
Isolation1	ISL1	$f=0.5GHz$	34.5	dB
Isolation2	ISL2	$f=1.0GHz$	29.5	dB
Isolation3	ISL3	$f=2.0GHz$	26.8	dB
Isolation4	ISL4	$f=2.7GHz$	26.9	dB
Return loss1	RL1	$f=0.5GHz$	18.9	dB
Return loss2	RL2	$f=1.0GHz$	23.5	dB
Return loss3	RL3	$f=2.0GHz$	26.0	dB
Return loss4	RL4	$f=2.7GHz$	27.7	dB
Input power at 1dB compression point1	P_{-1dB1}	$f=1.0GHz$	29.4	dBm
Input power at 1dB compression point2	P_{-1dB2}	$f=2.0GHz$	30.0	dBm
Switching time	T_{SW}	50% VCTL to 10%/90% RF	272	ns

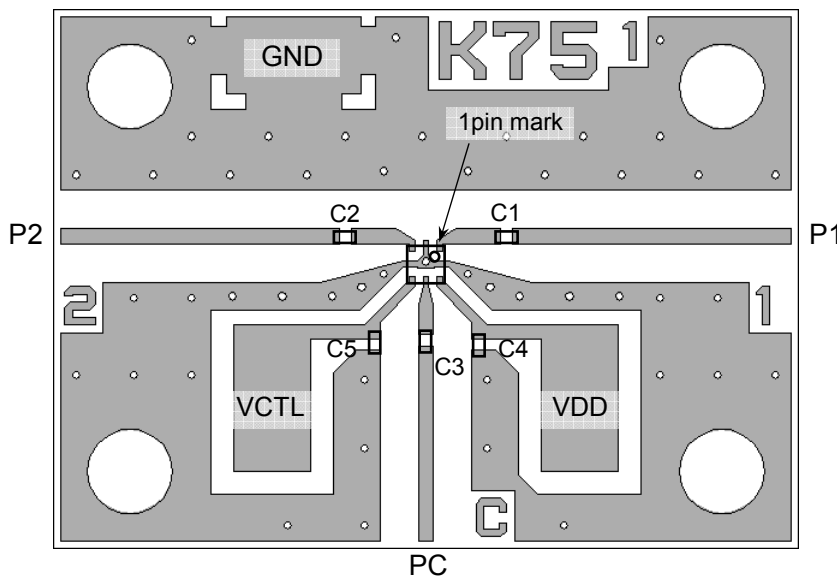
1-3 APPLICATION CIRCUIT



NOTE:

The bypass capacitor, C5 is optional, and is recommended only when the control line is affected under noisy environment.

1-4 PCB DESIGN



PCB: FR-4, t=0.2mm
 Capacitor Size: 0603 (0.6 x 0.3 mm)
 Strip Line Width: 0.4mm
 PCB Size: 19.4 x 14.0mm
 Through Hole Diameter: 0.2mm

■ Loss of PCB, capacitor and connectors

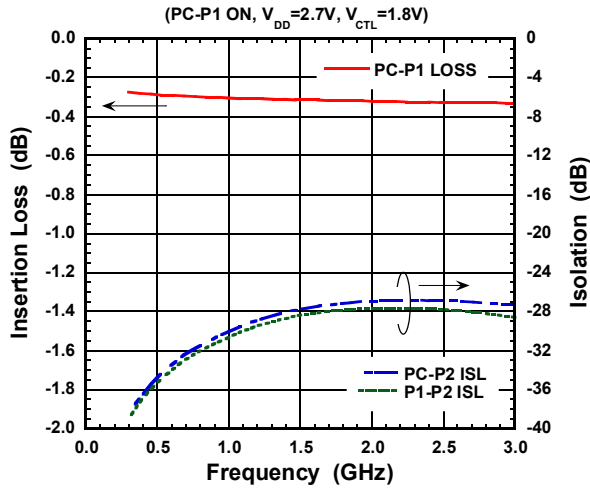
Frequency (GHz)	Loss (dB)
0.5	0.15
1.0	0.17
2.0	0.26
2.7	0.34

PARTS LIST

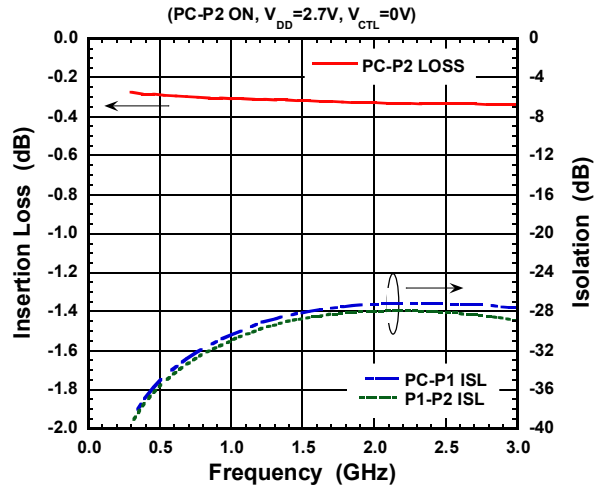
Parts ID	Constants	Comment
C1 to C3	56pF	Murata MFG (GRM03 series)
C4	1000pF	
C5	10pF	

1-5-1 Characteristics

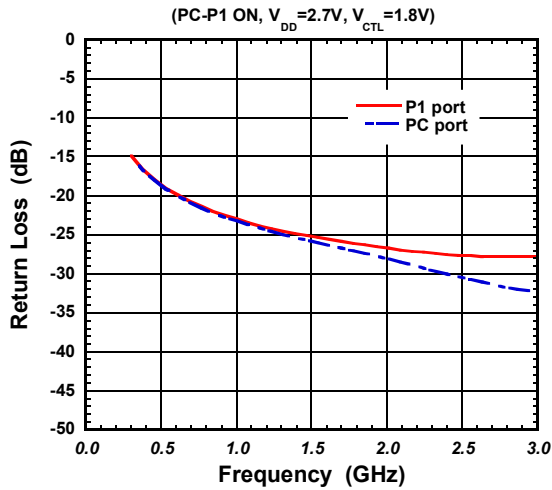
Loss, ISL vs Frequency



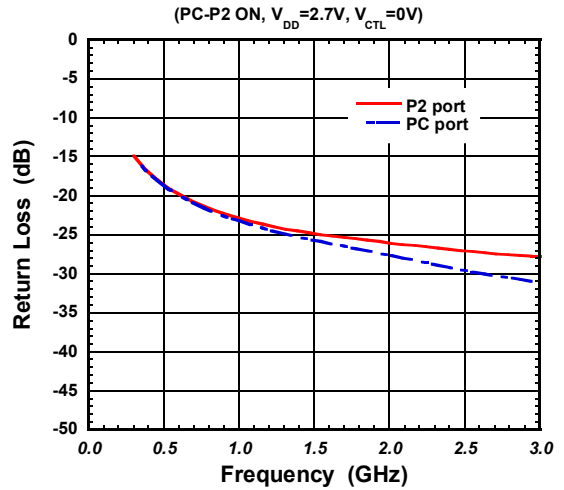
Loss, ISL vs Frequency



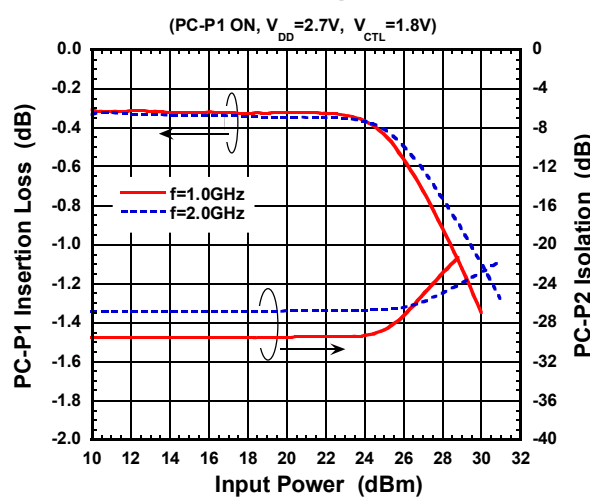
Return Loss vs Frequency



Return Loss vs Frequency



Loss, ISL vs Input Power



Loss, ISL vs Input Power

