

Features

- Frequency: 1.2~1.6GHz
- RMS of Phase Accuracy: 1.4°
- Insertion Loss: -5dB
- Negative Voltage Control: 0/-5V
- Size: 6mm×6mm×1.1mm

Typical Applications

- EW
- Military Radar and Weather Radar
- SATCOM
- Beamforming
- Phase Cancellation

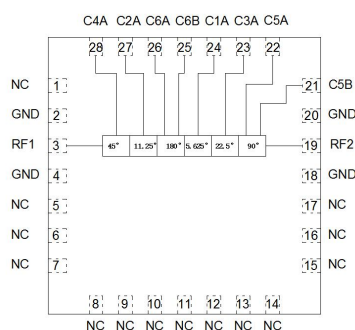
General Description

XT3302Q6 is a 6-bit digital phase shifter which works from 1.2 to 1.6GHz, providing 360 degrees of phase coverage with a LSB of 5.625 degrees.

XT3302Q6 features very low RMS phase error of 1.4degrees and extremely low insertion loss variation of ± 0.5 dB across all phase states. This high accuracy phase shifter is controlled with negative control logic of 0/-5V.

XT3302Q6 is assembled in a 6mm x 6mm QFN package.

Functional Diagram



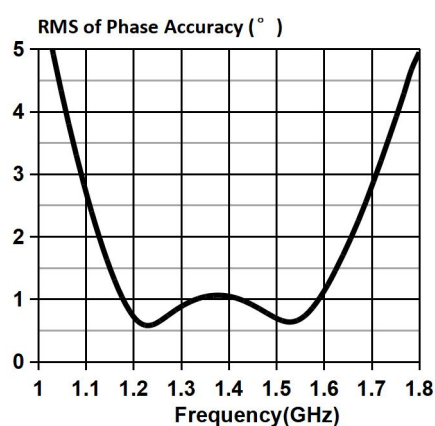
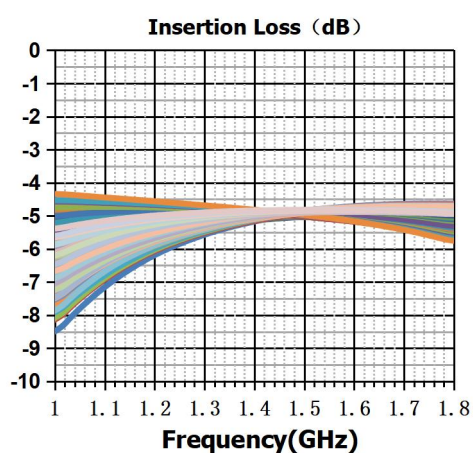
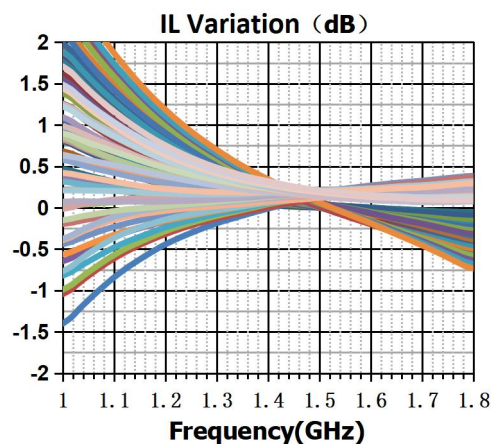
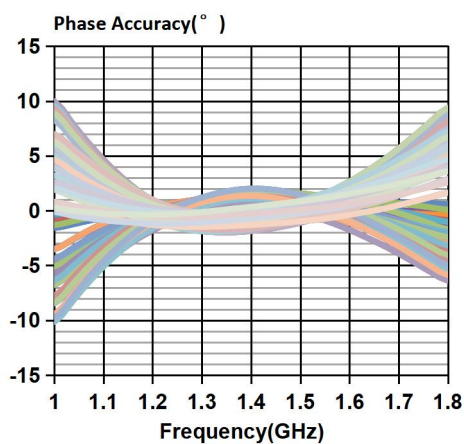
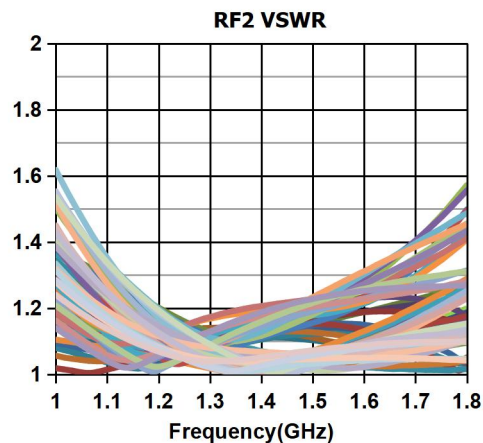
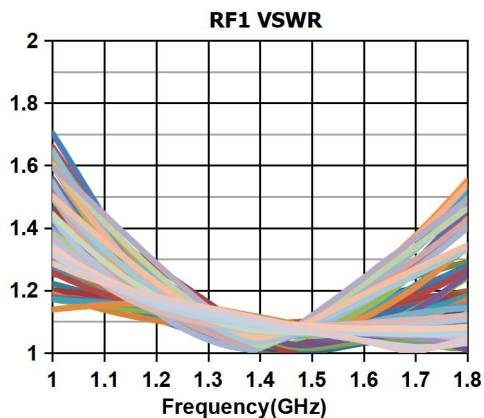
Electrical Performance ($T_A = +25^\circ\text{C}$, Control Voltage=0/-5V, $Z_0 = -50\Omega$)

Parameter	Min.	Typ.	Max.	Units
Frequency	1.2~1.6			GHz
Input VSWR	—	1.3	—	:1
Output VSWR	—	1.3	—	:1
Insertion Loss	—	-5	—	dB
IL Variation	—	0.8	—	dB
Phase Accuracy	-2.2	—	3	°
RMS of Phase Accuracy	—	1.4	—	°

Truth Table (0: 0V, 1: -5V)

Phase	C1A	C2A	C3A	C4A	C5A	C5B	C6A	C6B
REF	0	0	0	0	0	1	0	1
-5.625°	1	0	0	0	0	1	0	1
-11.25°	0	1	0	0	0	1	0	1
-22.5°	0	0	1	0	0	1	0	1
-45°	0	0	0	1	0	1	0	1
-90°	0	0	0	0	1	0	0	1
-180°	0	0	0	0	0	1	1	0
-354.375°	1	1	1	1	1	0	1	0

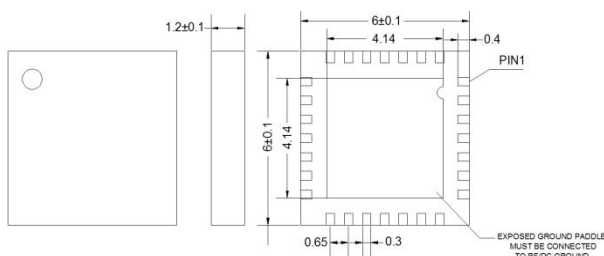
Typical Performance Curve



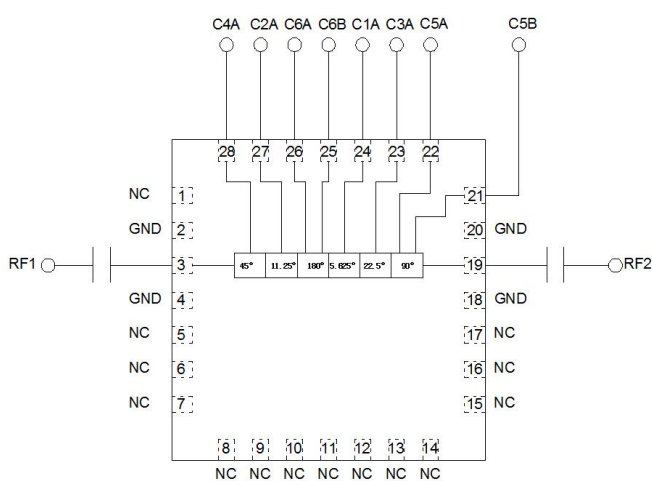
Absolute Maximum Ratings

Maximum Input Power	+18dBm	Operating Temperature	-55°C~+85°C
Negative Voltage Control	0/-5V	Storage Temperature	-65°C~+150°C

Outline Drawing (all dimensions in mm)



Assembly Diagram



Attention:

1. The moisture resistant grade of products is 2A, the storage environment $\leq 30^{\circ}\text{C}/60\%\text{RH}$, The surrounding workshop Life is 4 weeks.
2. After un-packing, It is necessary to bake the parts for 6 hours in 125 ± 5 degree environment before soldering.