

General Description

MWX007 is an active broadband Quadrupler designed by GaAs pHEMT process and self-biased. This quadruple frequency multiplier is driven by +0dBm input signal, and can realize +16dBm output signal in the operating frequency band of 32-44GHz. At 40GHz, the fundamental isolation can reach over 55 dBc. The excellent performance of this quadrupler enables it to be widely used in point-to-point communications, VSAT radio communications and test instrumentation applications.

Features

Pout: +16 dBm

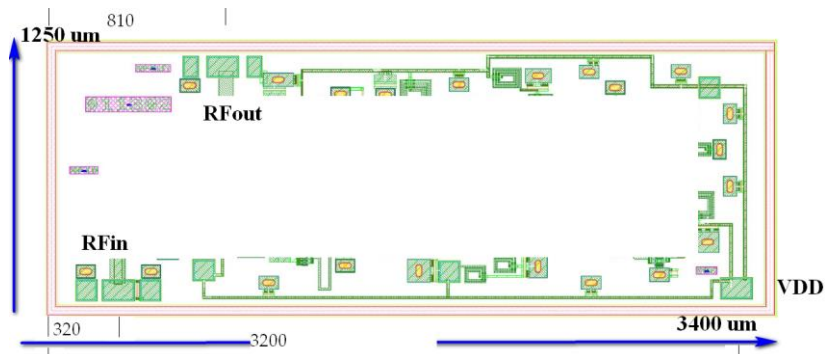
Input Power: 0 to +3 dBm

Fundamental Isolation: > 55 dBc @ 40 GHz

Supply Current: +5 V@180 mA

Chip Size: 1.25 x 3.4 x 0.1 mm

Functional Diagram(Typical bond: 100x150, unit: um)



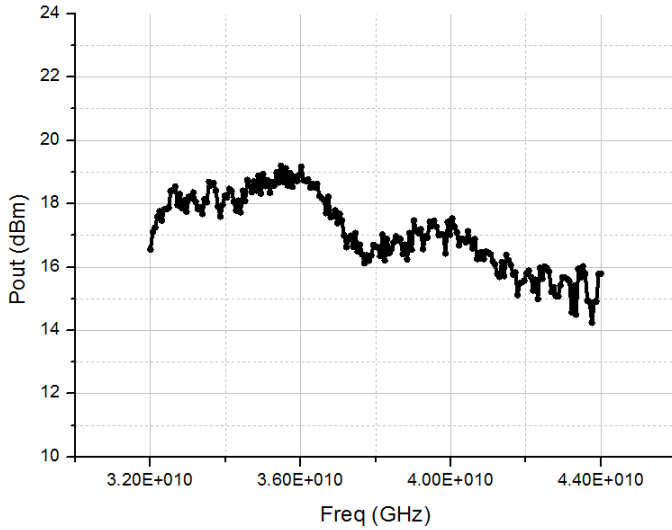
(Die Thickness: 100 um)

Electrical Specification, $T_A = +25^{\circ}\text{C}$, $V_{\text{dd}} = +5\text{V}$, $P_{\text{in}} = 0\text{dBm}$

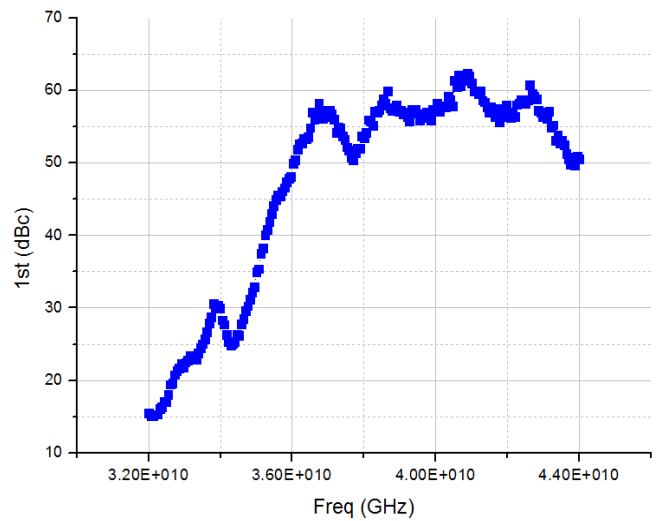
Parameter	Min	Typ	Max	Units
Input Bandwidth	8		11	GHz
Output Bandwidth	32		44	
Output Power	15	17		dBm
Fundamental Wave Suppression	20	60		dBc
2 nd Subharmonic Suppression	30	55		dBc
3 rd Subharmonic Suppression	40	55		dBc
Supply Current (@ V _{dd} = +5V)		180		mA

Test Results

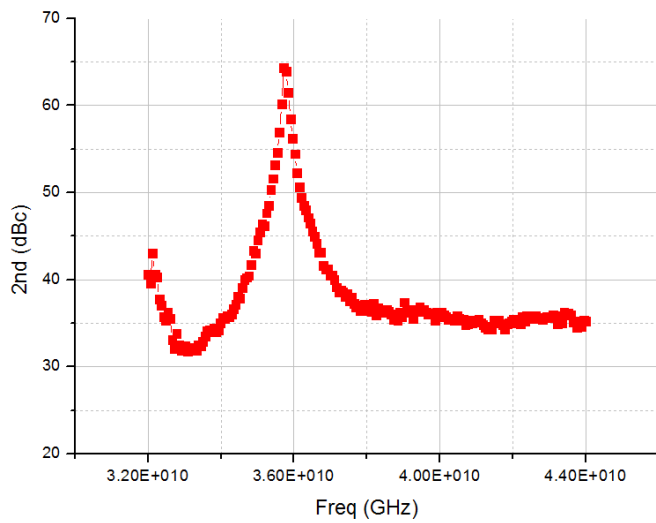
Output Power



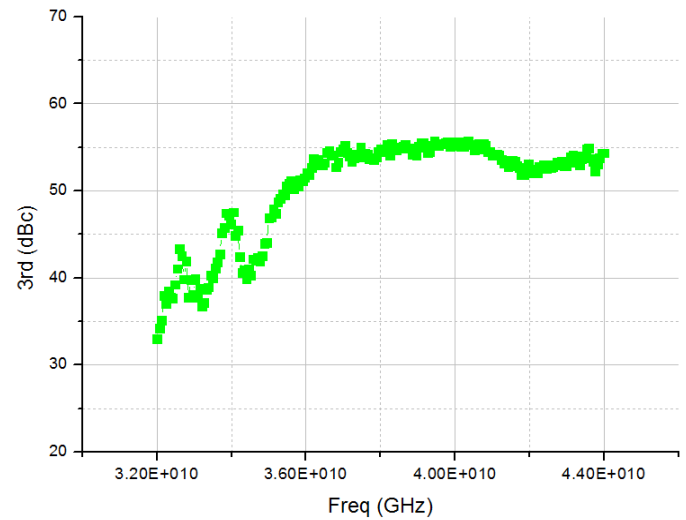
Fundamental Wave Suppression



2nd Subharmonic Suppression



3rd Subharmonic Suppression



Assembly Diagram

