

# Voltage Controlled Oscillator

## Low Noise Bipolar Transistor

# Model TOM9330

## 1700 to 2700 MHz

### Features

- Low Noise Bipolar Transistor
- Operating Case Temp. 0 °C to + 70 °C
- Environmental Screening available

### Specifications

CHARACTERISTIC	TYPICAL Ta = 25 °C	MIN/MAX Ta = 0 °C to +70 °C
Frequency	1700 - 2700 MHz	1700 - 2700 MHz
Output Power (dBm)	+12	+10.0 Min.
Power Flatness (dBm)	±1.5	±1.5 Max.
Tuning Voltage Range (V)	3 to 17	0 to 20
Tuning Voltage	80	30 Min.
Sensitivity (MHz/V)	80	30 Min.
Harmonics (dBc)	- 20	- 14 Max.
Spurious (dBc)	<-80	- 80 Max.
Phase Noise @ 100 KHz (dBc/hz)	- 101	- 95 Max.
Pushing (MHz/V)	5.0	10.0 Max.
Pulling (MHz); 22 dB RL	30	45 Max.
Frequency Drift (MHz/°C)	—	0.5 Max.
Power	Vdc mA	+15 19 +15 20.0

NOTE: Care should always be taken to effectively ground the case of each unit.

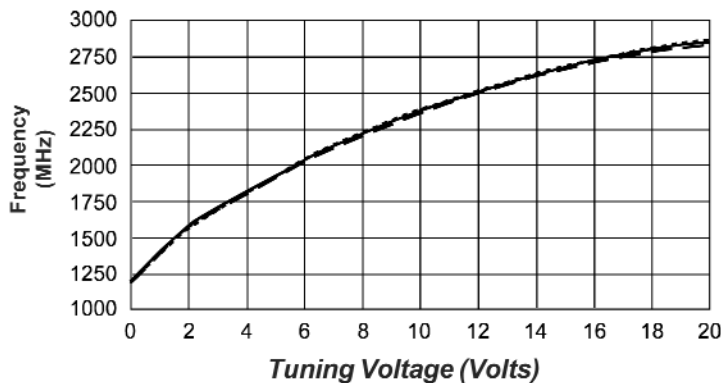
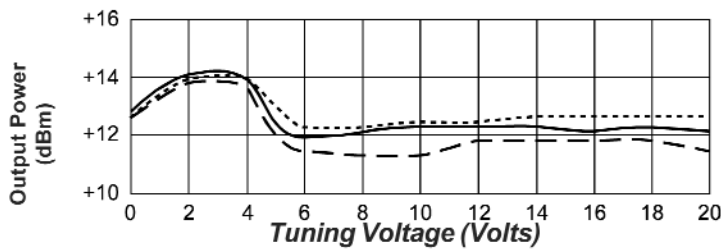
### Maximum Ratings

Ambient Operating Temperature ..... -55°C to + 100 °C  
 Storage Temperature ..... -62°C to + 125 °C  
 Case Temperature ..... + 125 °C  
 DC Voltage ..... + 20 Volts  
 Maximum DC Tuning Voltage ..... + 22 Volts  
 Minimum DC Tuning Voltage ..... 0 Volts

### Packaging Options (see Appendix)

TOM9330, 4 Pin TO-8 (T4)  
 TON9330, 4 Pin Surface Mount (SM3)  
 BXO9330, Connectorized Housing (H1)

### Typical Performance Data



Legend ——— + 25 °C - - - - +70 °C - - - - - 0 °C

V <sub>t</sub> (V)	f <sub>o</sub> (MHz)	Δ f (MHz)	P <sub>o</sub> (dBm)	2H (dBc)	3H (dBc)
0.00	1198.0		+12.8	-18.3	-11.8
1.00	1409.7	211.7	+13.9	-22.2	-16.3
2.00	1582.6	172.9	+14.1	-21.8	-19.5
3.00	1713.3	130.7	+13.9	-17.5	-21.8
4.00	1817.4	104.2	+13.9	-17.0	-25.0
5.00	1931.3	113.8	+12.9	21.2	-33.2
6.00	2041.8	110.5	+11.9	-37.8	-27.0
7.00	2135.4	93.7	+12.1	-30.7	-26.8
8.00	2220.7	85.3	+12.1	-27.0	-24.2
9.00	2301.5	80.8	+12.1	-25.7	-25.1
10.00	2378.3	76.8	+12.3	-25.3	-25.5
11.00	2449.2	70.8	+12.4	25.8	-26.5
12.00	2515.4	66.3	+12.3	26.2	-27.4
13.00	2576.9	61.5	+12.3	26.7	-29.3
14.00	2633.4	56.5	+12.3	27.2	-32.2
15.00	2684.7	51.3	+12.4	27.8	-32.0
16.00	2730.6	45.9	+12.1	28.3	-31.6
17.00	2770.4	39.8	+12.3	29.3	-32.0
18.00	2803.8	33.3	+12.3	29.5	-31.7
19.00	2829.9	26.2	+12.1	29.7	-33.1
20.00	2849.4	19.5	+12.1	30.2	-33.2

VCOS

