

# VOLTAGE CONTROLLED OSCILLATOR

## TOM9009

100-150 MHz

Available as:  
TOM9009, 4 Pin TO-8 (T4)  
TON9009, 4 Pin Surface Mount (SM3)  
BXO9009, Connectorized Housing (H1)

### Features

- Low Noise Bipolar Transistor
- Broad Tuning Range
- Operating Case Temp. -20 °C to +60 °C
- Environmental Screening Available

### Specifications

CHARACTERISTIC	TYPICAL Ta = +25 °C	MIN/MAX Ta = -20°C to +60 °C
Frequency	100 - 150 MHz	100 - 150 MHz
Output Power (dBm)	+10.0	+7.0 Min.
Power Flatness (dBm)	±0.2	±1.0 Max.
Tuning Voltage Range (V)	2 to 8	1 to 15
Tuning Voltage Sensitivity (MHz/V)	7.0	4.0
Harmonics (dBc)	-12	-8 Max.
Spurious (dBc)	< -80	-80 Max.
Phase Noise @ 100 KHz (dBc/Hz)	-125	-120 Max.
Pushing (MHz/V)	0.2	1.0 Max.
Pulling (MHz); 12 dB RL	3.0	6.0 Max.
Frequency Drift (MHz/°C)	-0.02	-0.05 Max.
Power Vdc	+10	+10
mA	9.5	10.0 Max.

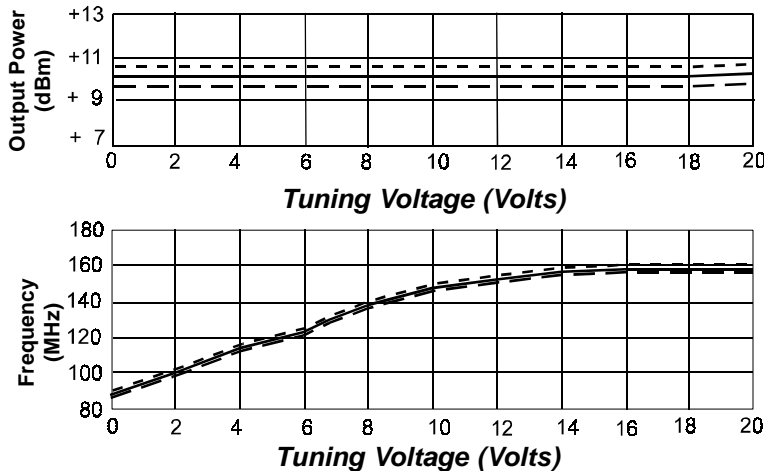
### Maximum Ratings

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 ..... + 20 Volts  
Minimum DC Tuning Voltage ..... 0 Volt

V <sub>t</sub> (V)	f <sub>o</sub> (MHz)	Δf (MHz)	P <sub>o</sub> (dBm)	2H (dBc)	3H (dBc)
0.00	88.2		+10.29	-13.31	-11.87
1.00	94.6	6.4	+10.24	-13.36	-11.64
2.00	99.4	4.8	+10.24	-13.30	-11.58
3.00	104.0	4.6	+10.23	-13.34	-11.63
4.00	109.3	5.3	+10.23	-12.91	-11.66
5.00	115.5	6.2	+10.22	-12.70	-11.97
6.00	122.5	7.0	+10.20	-12.77	-11.98
7.00	129.6	7.1	+10.18	-13.00	-12.12
8.00	135.7	6.1	+10.16	-13.60	-12.32
9.00	140.9	5.2	+10.14	-13.96	-12.35
10.00	145.1	4.2	+10.12	-14.19	-12.47
11.00	148.2	3.1	+10.11	-14.41	-12.69
12.00	150.7	2.5	+10.10	-14.69	-12.83
13.00	152.5	1.8	+10.09	-14.89	-12.77
14.00	153.7	1.2	+10.09	-14.93	-12.76
15.00	154.5	0.8	+10.08	-15.11	-12.70

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

### Typical Performance Data



Legend ——— +25 °C - - - - +85 °C ······ -40 °C



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