mmTron
Unleashing the mmWave Frontier

TMC934-D
23.3-27.4 GHz VCO

Product Features

- RF frequency: 23.3 to 27.4 GHz
- Pout: 12 dBm
- Phase Noise: -98 dBc/Hz @100 kHz Typ.
- Package Size: 24-pin, X=4.0 mm, Y=4.0 mm
- DC Power: 5 VDC, IC=220 mA
- Vtune: 2-13V

Application

- Point to Point Radio
- Instrumentation
- SATCOM
- Military Radar, EW

Product Description

The TMC934D is a GaAs/InGaP Heterojunction Bipolar Transistor (HBT) MMIC VCOs. The TMC934D has built-in integrate resonator, negative resistance devices, and varactor diodes. Due to the VCO's monolithic IC structure, the VCO's phase noise performance is excellent over temperature, shock, and process variations. Power output is +12 dBm typical from a +5V supply voltage. The TMC934D voltage-controlled oscillator can be offered as a packaged part as TMC934. The leadless QFN 4x4 mm surface mount package requires no external matching components.

Electrical Performance : **Ta = 25 °C, VCC=+5V, ICC=220mA**

	min	Typ	Max	Units
Frequency	23.3		27.4	GHz
Power Output	10	12	15	dB
SSB Phase Noise @ 100 kHz Offset, Vtune= +5V		-98		dBc/Hz
Tune Voltage	2		13	V
Tune Port Leakage Current (Vtune= 13V)			10	uA

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Tuning Sensitivity



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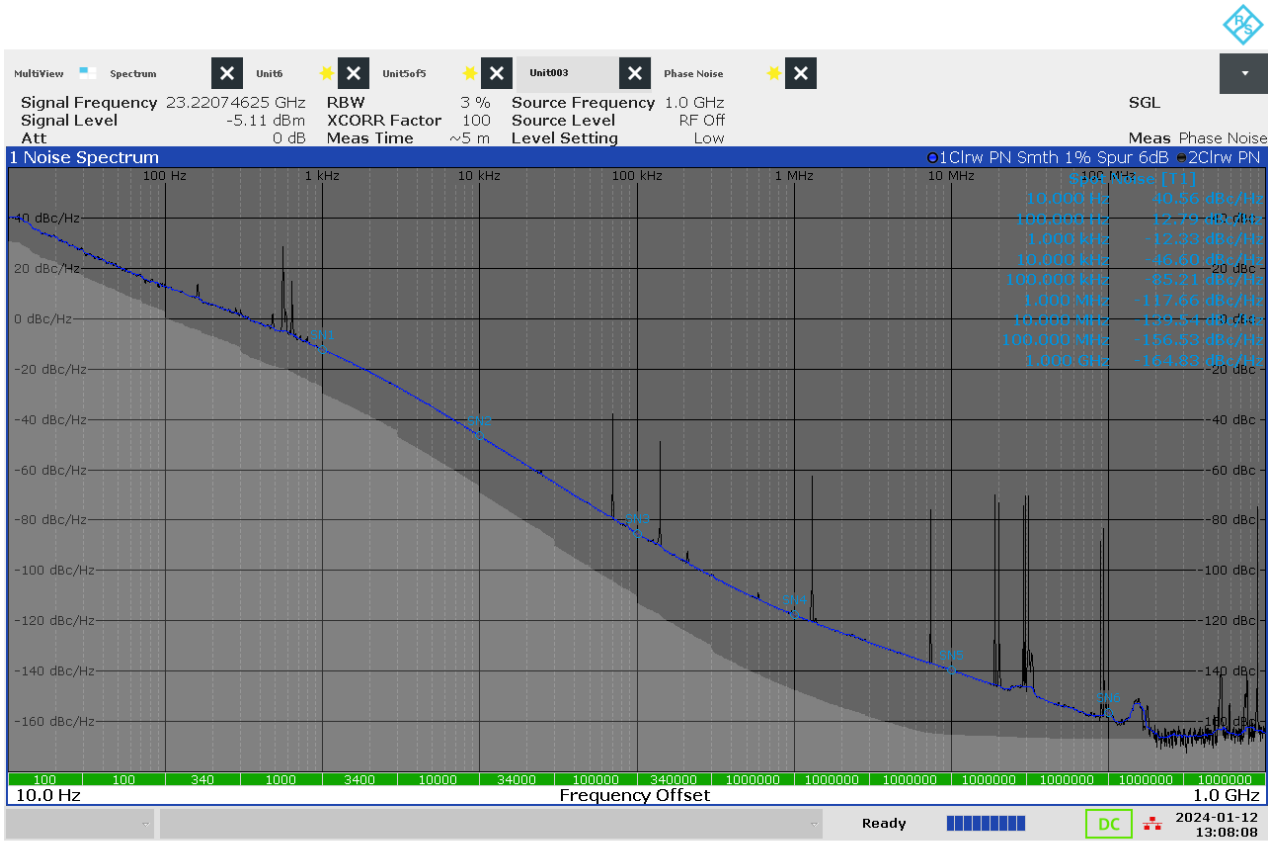
23.2 GHz Phase Noise Measurements



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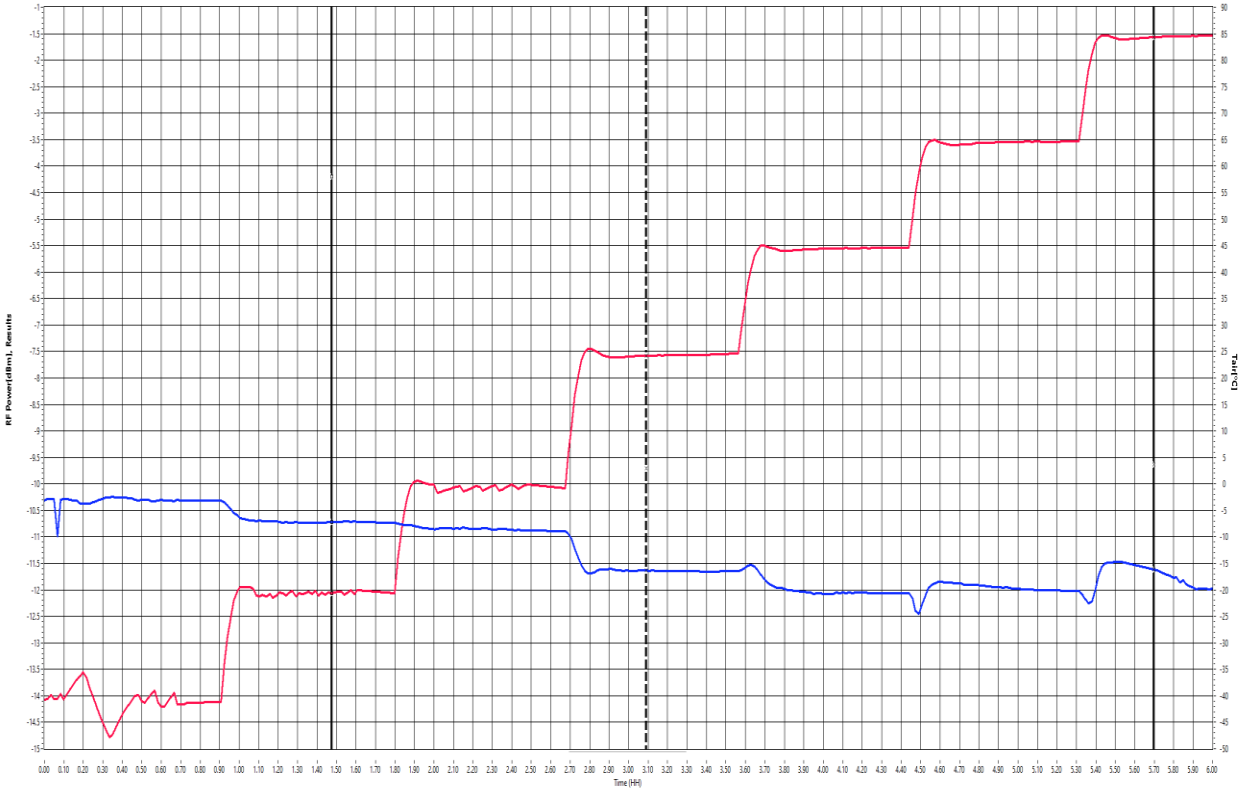
Output Power vs Temperature Run



2dB over -40C to 85C



Electrostatic Discharge Caution

This integrated circuit can be damaged by ESD. mmTron Inc. recommends that all integrated circuits be handled with appropriate precautions. Failure to observe proper handling and installation procedures can cause damage. ESD damage can range from subtle performance degradation to complete device failure. Precision integrated circuits may be more susceptible to damage because very small parametric changes could cause the device not to meet its published specifications. III-V MMICs are ESD-sensitive. Preventative ESD measures must be employed in all aspects of storage, handling, and assembly. MMIC ESD precautions, handling considerations, and die-attach and bonding methods are critical factors in successful III-V MMIC performance and reliability.



RoHS Compliant

This part is RoHS compliant, meeting the requirements of the EU Restriction of Hazardous Substances Directive 2002/95/EC, commonly known as RoHS. Six substances are regulated: lead, mercury, cadmium, chromium VI (hexavalent chromium), polybrominated biphenyls (PBB), and polybrominated biphenyl ethers (PBDE). RoHS compliance requires that any residual concentration of these substances is below the Directive's maximum concentration values (MCV): cadmium 100ppm by weight and all others 1000ppm by weight.

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