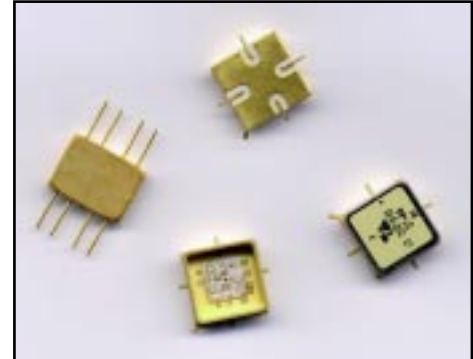


VCO HI-REL SERIES

Features

- Frequency range: from 200 MHz up to 4.5 GHz
- Exceptional phase noise performances
- Proven design
- Construction according MIL STD 883
- Custom design capability



Description

The VH series is fundamental PIN varactor tuned oscillators. The negative resistance is made with a silicon transistor. Frequency oscillation is given by the varactor acting as a variable capacitor allowing frequency tuning range. TEMEX' Hi-Rel voltage controlled oscillators are manufactured with ceramic substrate and thin film technology to guarantee excellent performances and repeatability unit to unit. Discrete components such as transistors, varactors and capacitors are directly bonded on the ceramic while resistors are laser trimmed. Tuning coil is etched by design on the substrate and allows the frequency adjustment by length selection. They are particularly suited for down converter and phase locked loop application.

Packages are optimized for hermeticity and reliability purposes. They are proposed in DIL, Flat Pack or Surface Mount packages.

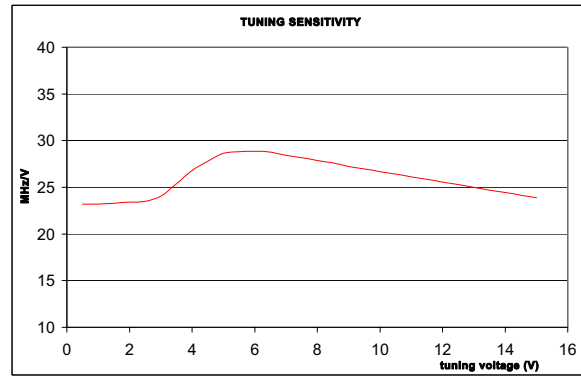
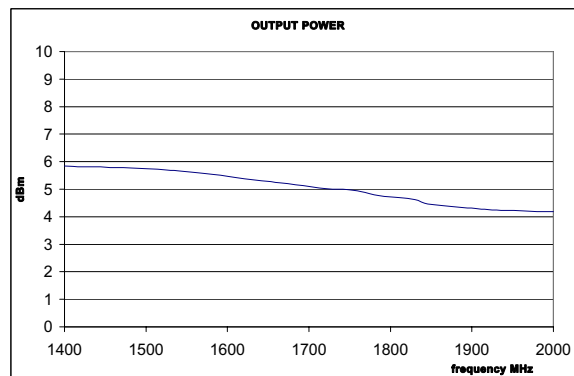
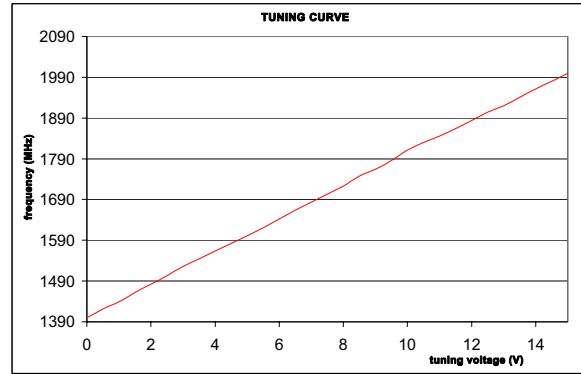
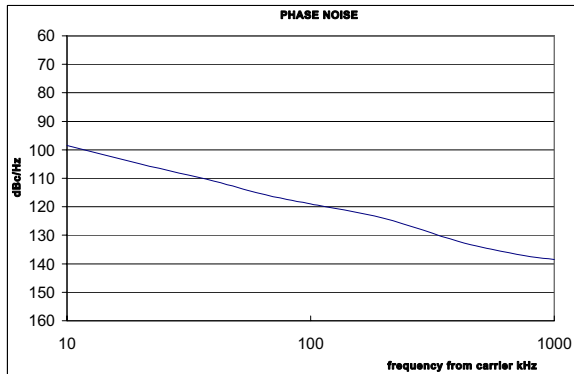
Their rugged construction is particularly recommended for any use in strong military environment. They are manufactured under MIL STD 883 to meet higher reliability performances.

Electrical characteristics @ 25° C

P/N			Frequency range	Tuning voltage	Phase noise @ 10kHz	Phase noise @ 100kHz	2nd harmonic	RF output power	Power supply	Pushing	Pulling	Input capacitance
<u>SMM2</u> case	<u>BMH161</u> case	<u>DIL16</u> case	MHz min. - max.	V min. - max.	dBc/Hz max.	dBc/Hz max.	dBc max.	dBm typ.	V/mA typ.	MHz/V max.	MHz max.	pF
VHF225	VHH225	VHG225	225 - 400	1 - 5	-105	-125	-10	1	5 @ 10	±2.0	3.0 @ 2:1	100
VHF424	VHH424	VHG424	424 - 428	0 - 5	-105	-125	-15	0	5 @ 20	±0.8	1.5 @ 2:1	100
VHF960	VHH960	VHG960	960 - 1215	1 - 5	-90	-110	-10	6	5 @ 25	±2.0	20.0 @ 2:1	100
VHF1030	VHH1030	VHG1030	1030 - 1090	1 - 4	-105	-125	-10	0	7.5 @ 25	±0.4	1.5 @ 2:1	47
VHF1200	VHH1200	VHG1200	1200 - 1500	0 - 5	-90	-110	-10	5	9 @ 25	±2.0	20.0 @ 2:1	100
VHF1400	VHH1400	VHG1400	1400 - 2000	1 - 15	-95	-115	-10	5	5 @ 30	±2.0	20.0 @ 2:1	47
VHF2700	VHH2700	VHG2700	2700 - 3100	1 - 15	-95	-115	-15	0	6 @ 28	±1.5	15.0 @ 2:1	10
VHF3700	VHH3700	VHG3700	3700 - 4200	1 - 15	-90	-110	-15	0	5 @ 18	±4.0	40.0 @ 2:1	20
VHF4200	VHH4200	VHG4200	4200 - 4500	1 - 15	-85	-105	-10	-2	5 @ 18	±4.0	40.0 @ 2:1	20

VCO Hi-Rel series

Typical performances @ 3GHz



Maximum ratings

- Operating temperature: - 40° C to + 100° C
- Storage temperature: - 55° C to + 125° C

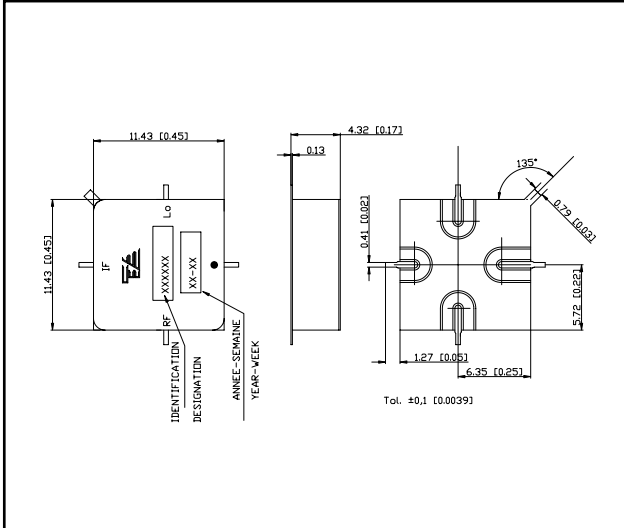
Applicable Environmental Tests

All these products are in accordance with MIL-STD-883 class B specification:

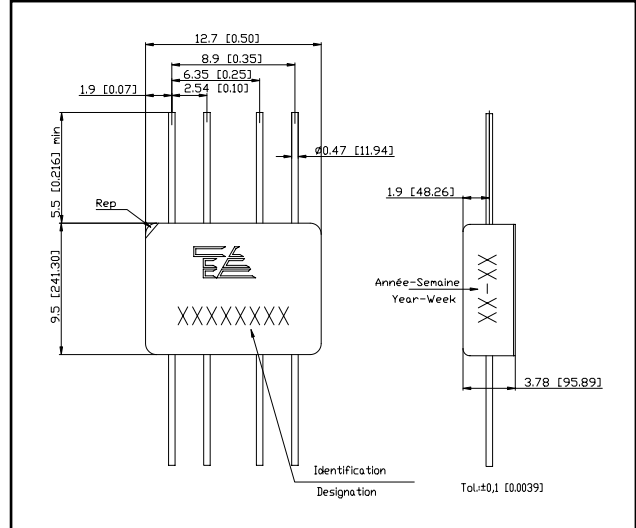
Test	Norm	Method	Conditions
Salt spray	MIL-STD 883	Method 1009	48 hours
Temperature cycling	MIL-STD 883	Method 1010	-55° C +125° C 100 cycles
Stabilization bake	MIL-STD 883	Method 1008	+125° C 24 hours
Sinusoidal vibration	MIL-STD 883	Method 2007	20Hz – 2000Hz 20g
Random vibration	MIL-STD 883	Method 2026	20Hz – 2000Hz 0.5g/Hz
Mechanical Shocks	MIL-STD 883	Method 2002	100g – 6ms sin 5 shocks – 6 directions
Barometric pressure	MIL-STD 883	Method 1001	1/1000 bar
Constant acceleration	MIL-STD 883	Method 2001	10 000g 1mn
Damp heat	MIL-STD 202	Method 103B	56 days

CASE DRAWINGS

VHF SERIES
SMM2 case



VHH SERIES
BMH161 case



VHG SERIES
DIL16 case

