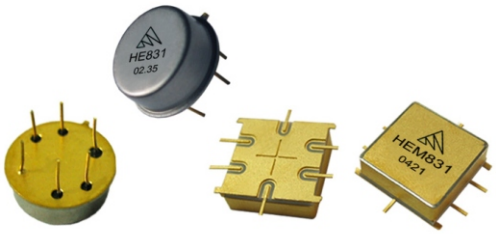
HE831/HEM831
Dual Output Integrated VCO

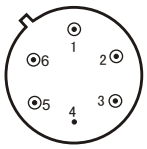


Features
- Built-in buffer amplifier low frequency pulling
- Dual output flexible tuning design
- Perfect tuning linearity thin film hybrid construction
- TO-8E、SMO-8E、SP-1 package
- Operating temperature range：-55℃～+85℃

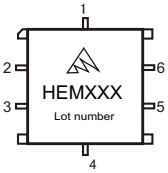
Specifications(T_A=25℃,V_{CC}=+12V)

Parameter	Symbol	Unit	Guaranteed	Typical	Test Condition
Frequency Range	f_L～f_H	MHz	1800～1950	–	V_T:0～15V
Main Output	P_{O1}	dBm	≥13	–	–
Aux Output	P_{o2}	dBm	–	0	V_T=5V
Power Output Variation	△P_O	dB	≤±1.5	±1.0	f_{L-H}:1800～1950MHz
Tuning Voltage	V_T	V	0～15	–	–
Pushing	K_{VC}	MHz/V	–	3.0	V_{CC}=11～13V, V_T=5V
Spurious	R_{fs}	dBc	≤-70	–	f_{L-H}:1800～1950MHz
Harmonics	R_{fn}	dBc	-20	-25	f_{L-H}:1800～1950MHz
SSB Phase Noise	S_Φ	dBc/Hz	–	-95	V_T=5V, f_m=10KHz
Frequency Drift	△f	MHz	–	35	V_T=5V, T_A:-55～+85℃
Current	I_{CC}	mA	–	70	–
Tuning Port Capacitance	C_T	pF	–	90	–

Absolute Ratings
Maximum DC Voltage : +15V
Maximum Tuning Voltage : +30V
Minimum Tuning Voltage : -0.7V
Maximum Storage Temp:＋125℃

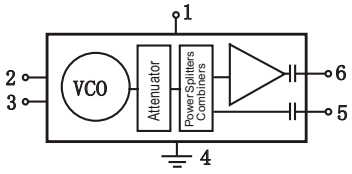


TO-8E



SMO-8E

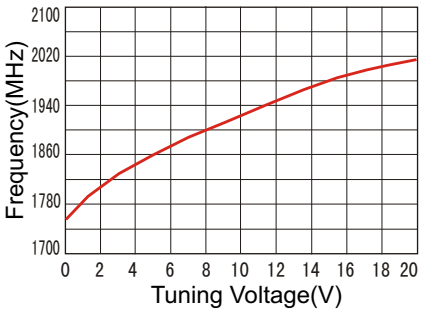
Application Notes
1.This device is only an oscillator; an external buffer amplifier or isolator is required to lower the frequency pulling
2.See assembly section for mounting information
3.ESD observe handling precautions
4.Pin 2 can be used as another tuning port if necessary



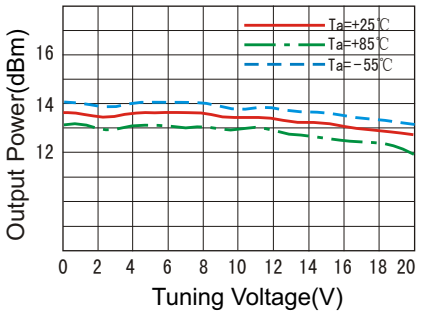
1.Vcc 4.GND
2. GND 5.Po2
3. V_T 6.Po1

Typical Performance

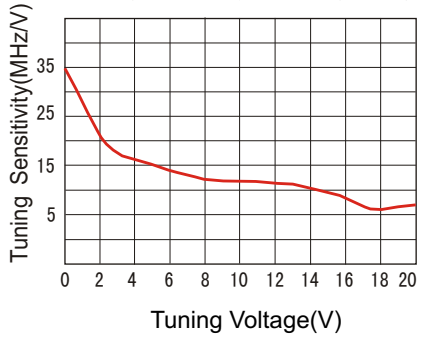
Frequency vs Tuning Voltage



Power Output vs Tuning Voltage



Tuning Sensitivity vs Tuning Voltage



Phase Noise vs Offset Frequency