

EMM5207ZF

Ku-Band Voltage Controlled Oscillator

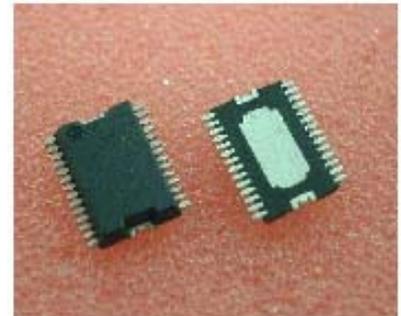
FEATURES

- Dual Ku-BAND outputs(TXOut,RXOut)
- Divide-by-2 RF output(RFOut/2)
- SMT Plastic Mold Package(ZF)

DESCRIPTION

- The EMM5207ZF is a Ku-Band voltage controlled oscillator with dual outputs and divide-by-2 RF output.

Eudyna Devices's stringent Quality Assurance Program assures the highest reliability and consistent performance.



Absolute Maximum Rating

Item	Symbol	Rating	Unit
Drain-Source Voltage (Osc)	Vcc	8	V
Drain-Source Voltage (Tx Amp)	VccTx	8	V
Drain-Source Voltage (Rx Amp)	VccRx	8	V
Tuning Voltage	Vtune	-15 to 0	V
Storage Temperature	Tstg	-55 to +125	deg-C

Recommended Operating Conditions

Item	Symbol	Condition	Unit
Drain-Source Voltage	Vcc,VccTx, VccRx	5	V
Tuning Voltage	Vtune	-12 to -1.5	V
Operating Temperature	Top	-40 to +85	deg-C

Electrical Characteristics

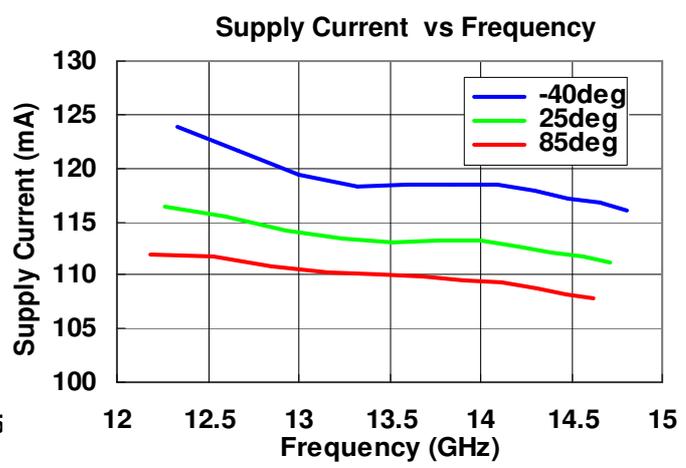
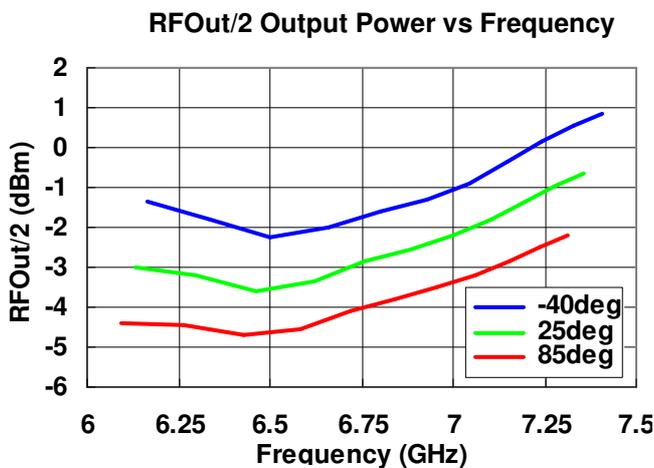
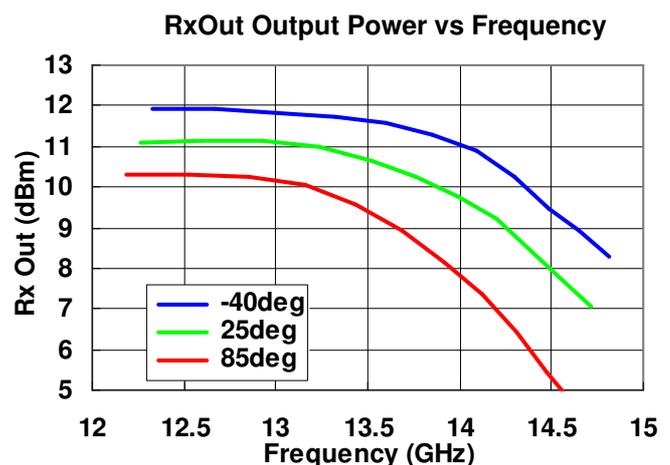
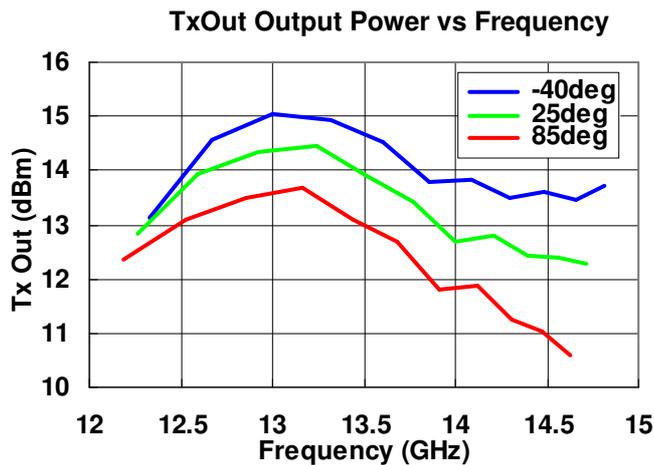
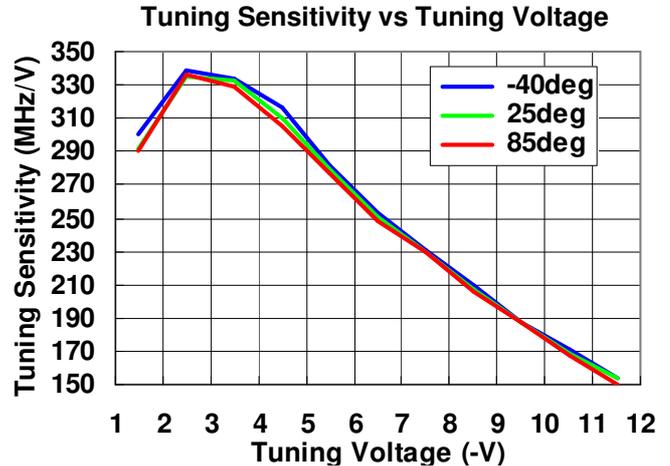
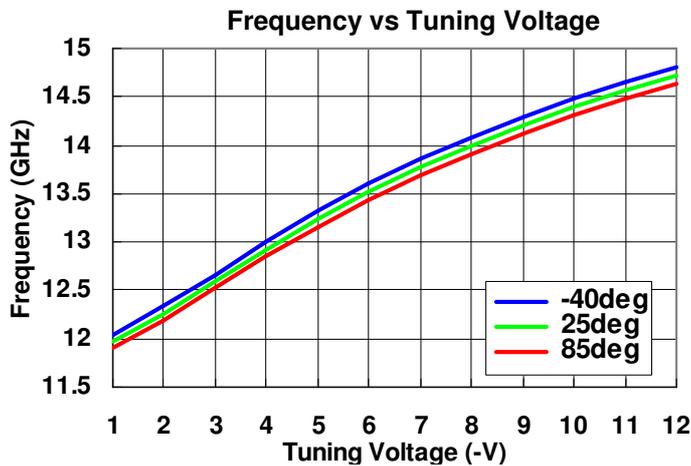
(Ambient Temperature Ta=25deg-C Vcc=VccTx=VccRx=+5V)

Parameter	Min	Typ	Max	Unit
Frequency Range				
	f0(TxOut)	12.72	13.2	GHz
	f0(RxOut)	12.8	13.85	GHz
	0.5f0(RFOut/2)	6.36	6.925	GHz
Output Power				
	TxOut	12.0	18.0	dBm
	RxOut	6.0	12.5	dBm
	RFOut/2	-6.0		dBm
Output Return Loss				
	TxOut	-4.0		dB
	RxOut	-12.0		dB
	RFOut/2	-8.0		dB
Harmonics/Subharmonics				
	@TxOut and RxOut			
	0.5f0	-50		dBc
	1.5f0	-50		dBc
	2.0f0	-30		dBc
	@RFOut/2			
	f0	-20		dBc
	1.5f0	-22		dBc
	2.0f0	-35		dBc
Supply Current (Icc+IccTx+IccRx)			150	mA
Tuning Voltage Range	-12		-1.5	V
Frequency Pulling (Into a 2:1 VSWR load)		0.5		MHz/pp
Frequency Pushing (Vcc = 5V±0.5V)		12.0		MHz/V
Frequency Drift Rate		-1.3		MHz/deg-C
SSB Phase Noise @ 100KHz Offset Frequencies		-95		dBc/Hz

ESD	Class 0	~249V
Based on JEDEC JESD22-A114C		
MSL		3
Based on IPC/JEDEC J-STD-020C		

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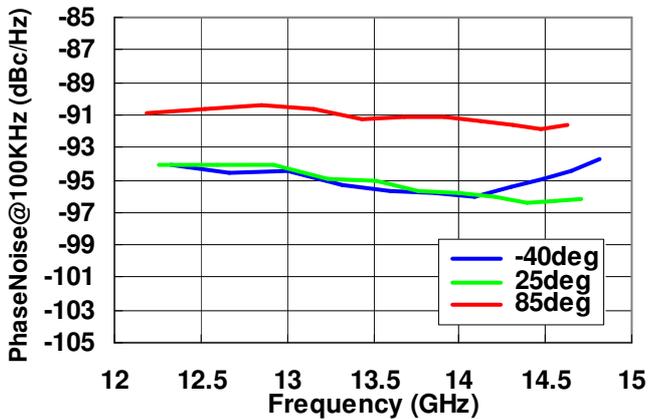
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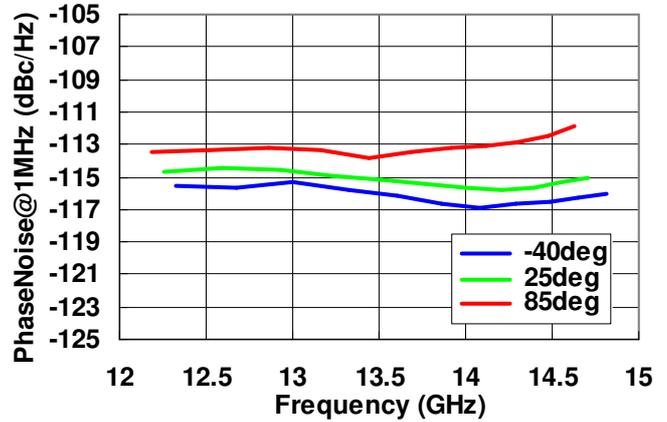
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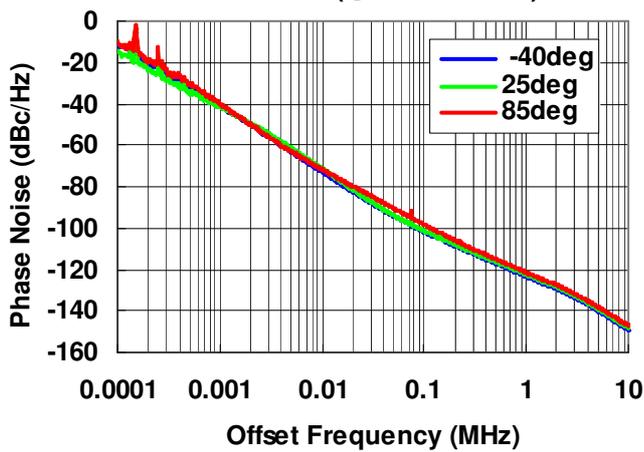
PhaseNoise@100KHz Offset vs Frequency



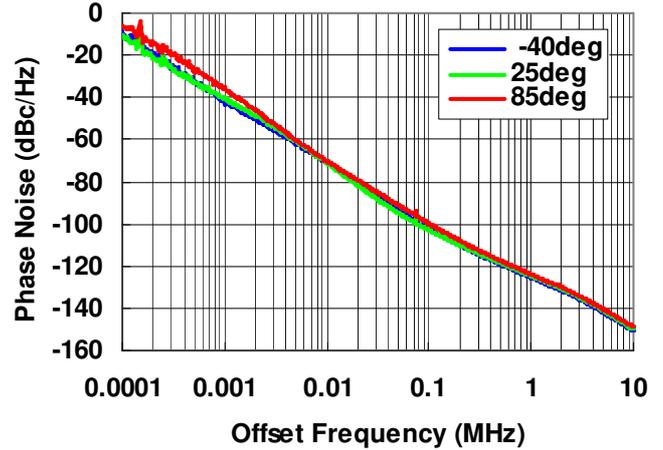
PhaseNoise@1MHz Offset vs Frequency



PhaseNoise vs Offset Frequency
f=6.36GHz (@RFout/2 Port)



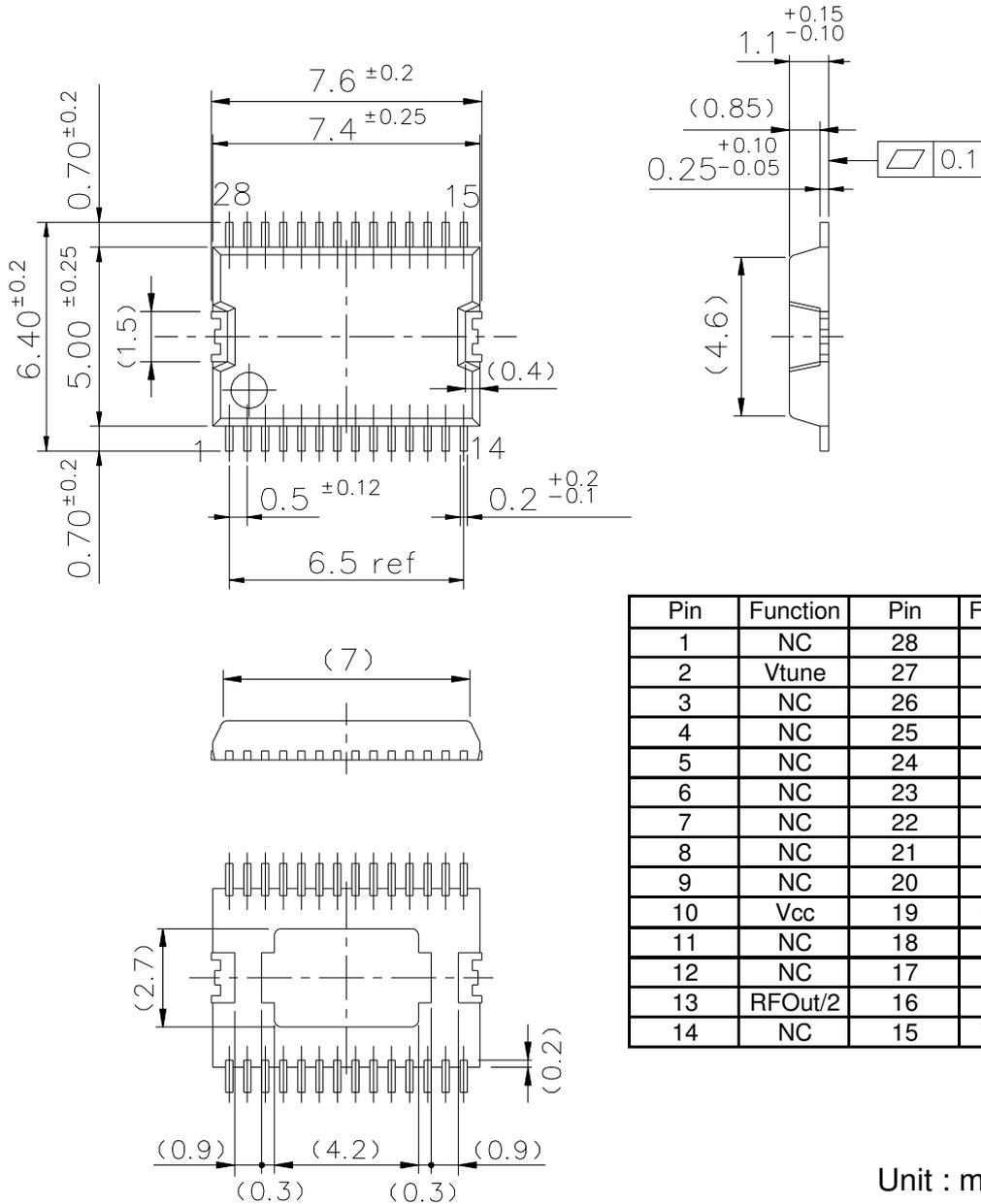
PhaseNoise vs Offset Frequency
f=6.925GHz (@RFout/2 Port)



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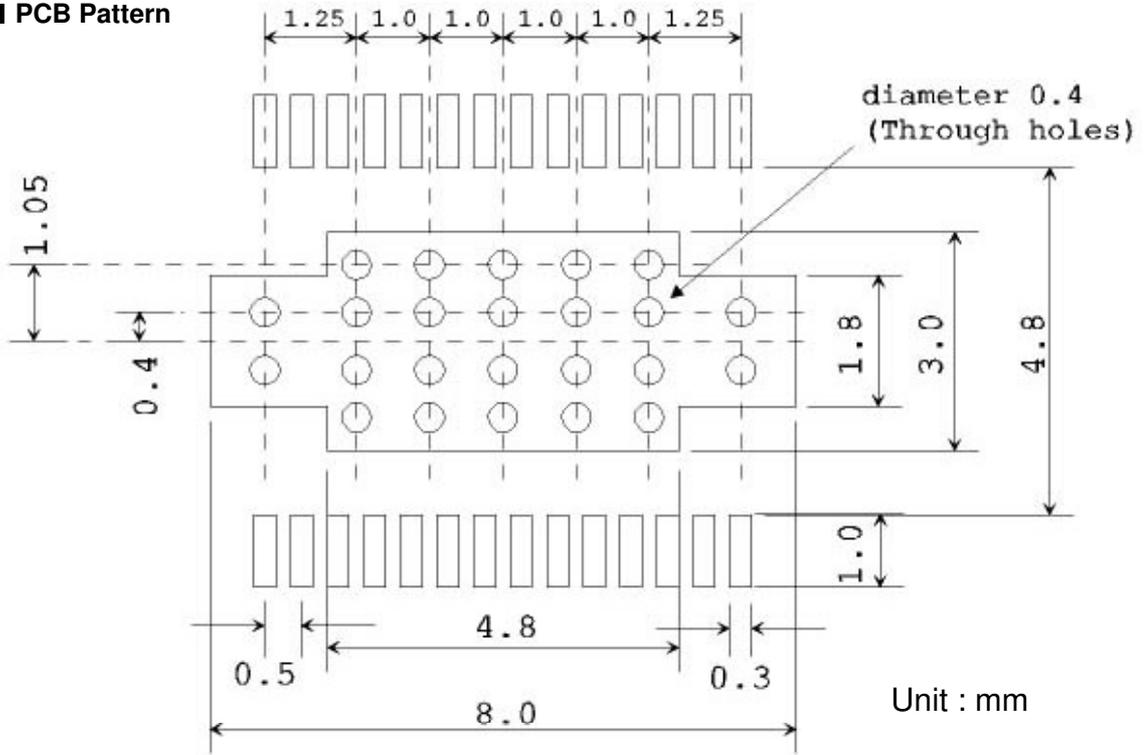
Package Outline and Pin Assignment



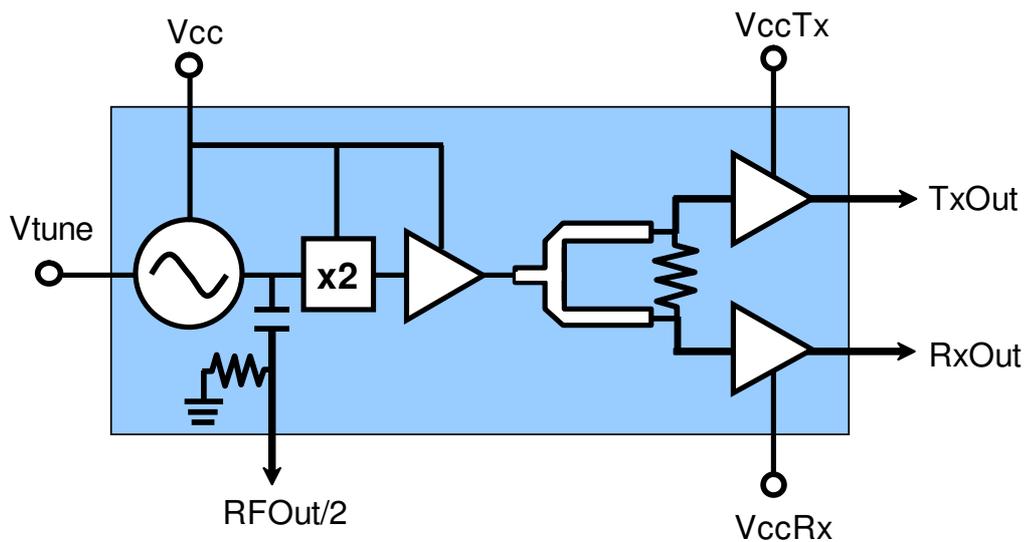
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■ PCB Pattern



■ Block Diagram



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