

EMM5206LP

K Band Oscillator MMIC

FEATURES

- High Output Power : Pout=5dBm @Vdd=4V (typ.)
- Low Power Consumption : Idd=20mA @Vdd=4V (typ.)
- Low Phase Noise : Φ_n =-100dBc/Hz @100KHz offset, fosc=24GHz
- Low Spurious Level : RJ2nd<-40dBc
- High Reliability, High Breakdown Voltage : Vgdo=20V, Igdo=160uA

DESCRIPTION

The ES/EMM5206LP is a negative resistance MMIC designed for K-band doppler sensor application as an oscillator. This product is well suited for radiowave sensor and LMDS applications.



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

ABSOLUTE MAXIMUM RATING

Item	Symbol	Rating	Unit
DC Drain Voltage	Vdd	6	V
Storage Temperature	Tstg	-55 to +125	°C
Operating Case Temperature	Tc	-40 to +85	°C

RECOMMENDED OPERATING CONDITIONS

Item	Symbol	Condition	Unit
DC Drain Voltage	Vdd	4	V
DC Gate Voltage	Vgg	0	V

Recommended operating conditions provide typical electrical characteristics and high reliability.

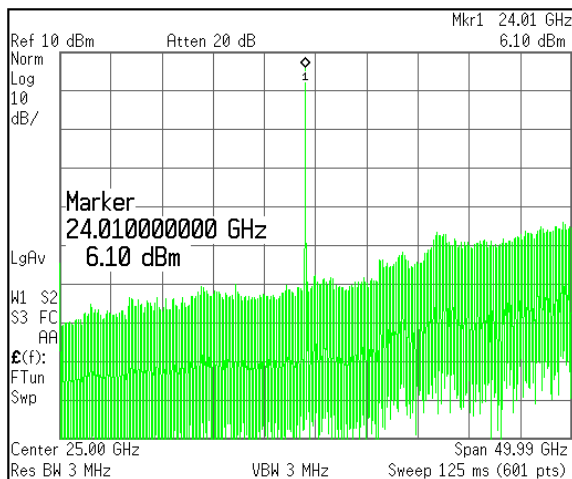
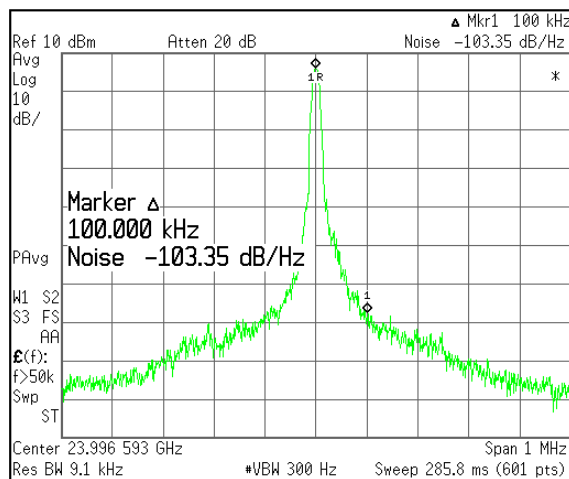
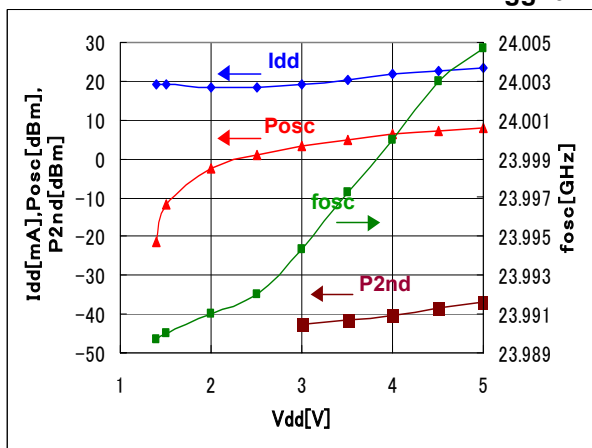
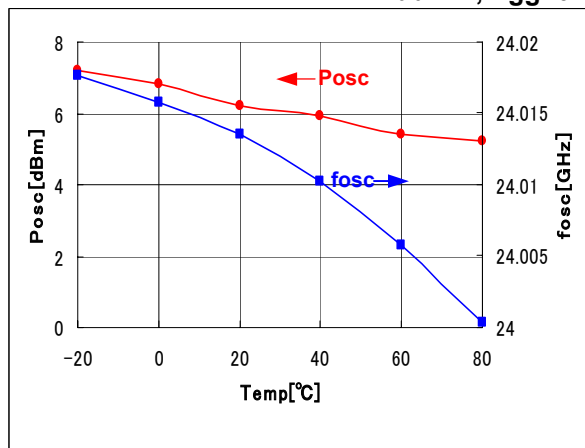
ELECTRICAL CHARACTERISTICS (Case Temperature Tc=25°C)

Item	Symbol	Test Conditions	Limits			Unit
			Min.	Typ.	Max.	
Oscillation frequency	fosc	Vdd=+4.0V typ. Vgg=0V(GND) fosc=24.0GHz	15	-	24.5	GHz
Output Power	Pout		-	5	-	dBm
Phase Noise at 100KHz offset	Φ_n		-	-100	-	dBc
Drain Current	Idd		-	20	-	mA
2nd Harmonic Rejection	RJ2nd		-	-40	-	dBc
Pushing	Δf_v		-	5.7	-	MHz/V
Temperature Sencitivity	Δf_t		-	0.2	-	MHz/°C

ESD	Class 1	200 ~ 499V
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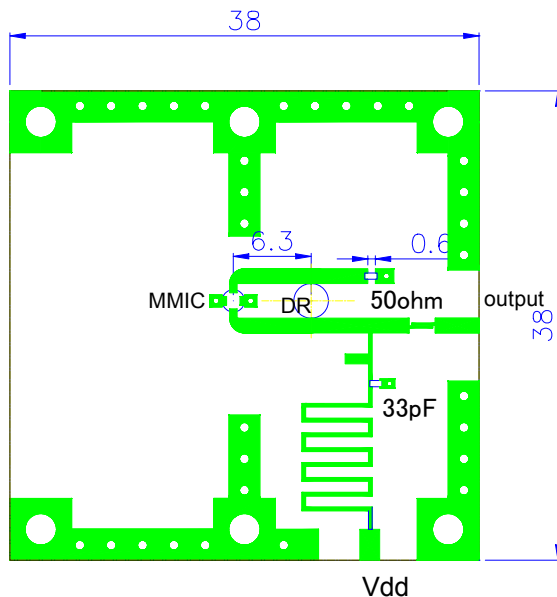
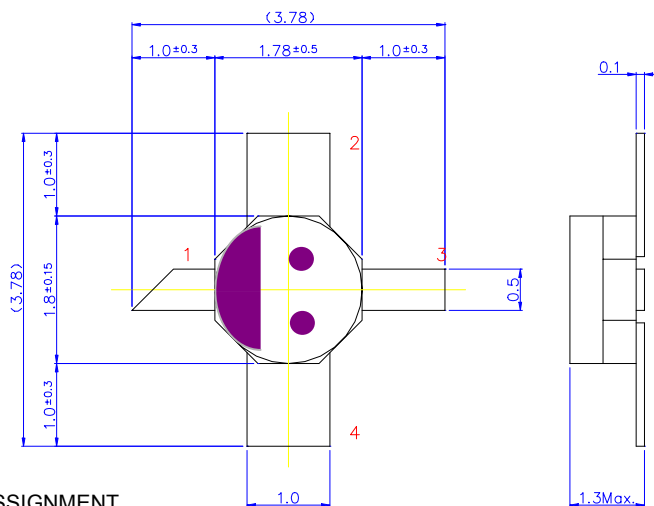
Note : Based on EIAJ ED-4701 C-111A(C=100pF, R=1.5k Ω)

CASE STYLE	LP
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EMM5206LP**K Band Oscillator MMIC****Oscillation Spectrum****Vdd=4V, Vgg=0V, Idd=21mA****Phase Noise****fosc=24GHz, offset=100KHz****Idd, Posc, P2nd, fosc vs. Vdd****Vgg=0V****Posc, fosc vs. Temperature****Vdd=4V, Vgg=0V**

EMM5206LP**K Band Oscillator MMIC**

■ Board Layout (Substrate : RO4003C, $\epsilon_r=3.38$, $t=0.5\text{mm}$
 DR : DRD02600115R00Z00T)

**■ Package Outline****PIN ASSIGNMENT**

- 1: VGG
- 2: GND
- 3: VDD
- 4: GND

Unit: mm

EMM5206LP

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Eudyna Devices USA Inc.

2355 Zanker Rd.
San Jose, CA 95131-1138, U.S.A.
TEL: (408) 232-9500
FAX: (408) 428-9111
www.us.eudyna.com

Eudyna Devices Europe Ltd.

Network House
Norreys Drive
Maidenhead, Berkshire SL6 4FJ
United Kingdom
TEL: +44 (0) 1628 504800
FAX: +44 (0) 1628 504888

Eudyna Devices Asia Pte. Ltd.

Hong Kong Branch
Rm.1101, Ocean Centre, 5 Canton Road
Tsim Sha Tsui, Kowloon, Hong Kong
TEL: +852-2377-0227
FAX: +852-2377-3921

Eudyna Devices Inc.

Sales Division
1, Kanai-cho, Sakae-ku
Yokohama, 244-0845, Japan
TEL +81-45-853-8156
FAX +81-45-853-8170

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- Observe government laws and company regulations when discarding this product. This product must be discarded in accordance with methods specified by applicable hazardous waste procedures.

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