DATA SHEET: CKRF7513MM34

12GHz Low Noise FET in Dual mold Plastic PKG

Features :

- Low noise figure and high associated gain
  NF=0.45dB TYP., Ga=13.2dB TYP.
  @VDS=2V, ID=10mA, f=12GHz

Description :

- Low Noise and High Gain
- Original Dual mold Plastic package

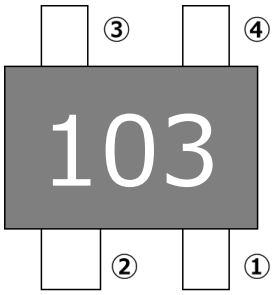
Applications :

- Ku-band LNB(Low Noise Block)

Package :

- Flat-lead 4-pin thin-type super minimold package

PIN Configuration :



PIN No.	PIN Name
1	Source
2	Drain
3	Source
4	Gate

Ordering Information :

Part Number	Order Number	Package	Marking	Supplying Form
CKRF7513MM34-C2-J	CKRF7513MM34-C2-J	Flat-lead 4-pin thin-type super minimold package	103	・Embossed 8 mm wide ・Pin 1 (Source), Pin 2 (Drain) Face the perforation side of the tape ・Qty 15Kpcs/reel

Absolute Maximum Ratings :

(TA=+25℃, unless otherwise specified)

Parameter	Symbol	Rating	Unit
Drain to Source Voltage	VDS	4.0	V
Gate to Source Voltage	VGS	-3.0	V
Drain Current	ID	IDSS	mA
Gate Current	IG	80	μA
Total Power Dissipation	Ptot	125	mW
Channel Temperature	Tch	+150	℃
Storage Temperature	Tstg	-55 to +125	℃
Operation temperature	Top	-55 to +125 *1	℃

***1** : Relationship of Ambient Temperature and Total Power Dissipation, please refer to the Page 3

Recommended Operating Range :

(TA=+25℃, unless otherwise specified)

Parameter	Symbol	MIN.	TYP.	MAX.	Unit
Drain to Source Voltage	VDS	+1	+2	+3	V
Drain Current	ID	5	10	15	mA

Electrical Characteristics :

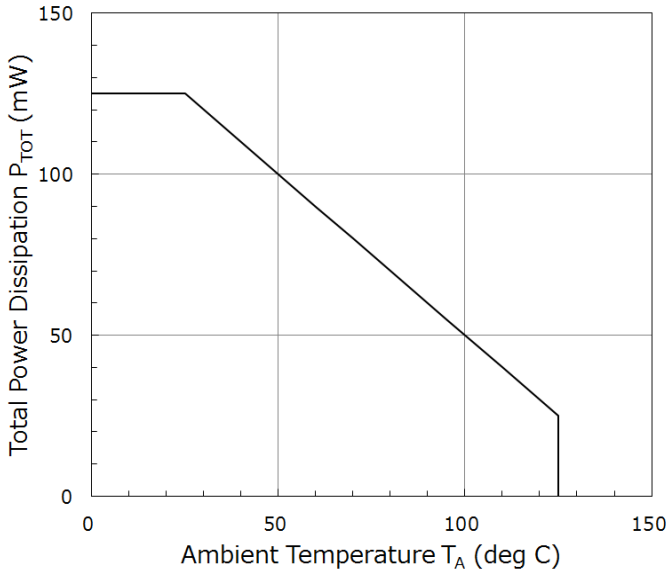
(TA=+25℃, unless otherwise specified)

Parameter	Symbol	Condition	MIN.	TYP.	MAX.	Unit
Gate to Source Leak Current	IGSO	VGS=-3.0V	-	0.4	10	μA
Saturated Drain Current	IDSS	VDS=2V, VGS=0V	27	47.5	68	mA
Gate to Source Cut-off Voltage	VGS(off)	VDS=2V, ID=120μA	-1.10	-0.75	-0.39	V
Transconductance	Gm	VDS=2V, ID=10mA	54	69	-	mS
Noise Figure	NF	VDS=2V, ID=10mA, f=12GHz	-	0.45	0.65	dB
Associated Gain	Ga		11.5	13.2	-	dB

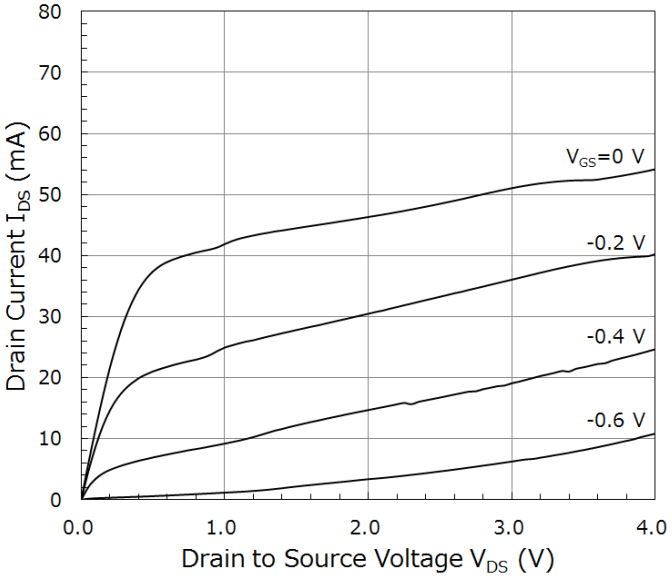
TYPICAL CHARACTERISTICS :

(TA=+25℃, unless otherwise specified)

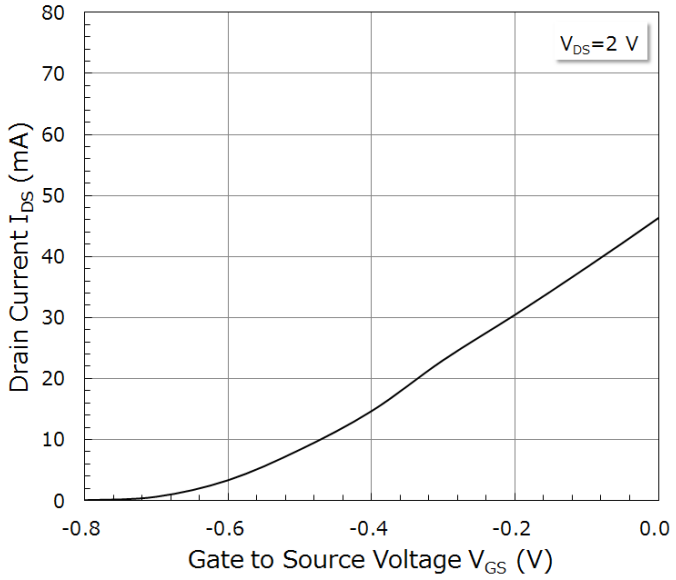
TOTAL POWER DISSIPATION vs. AMBIENT TEMPERATURE



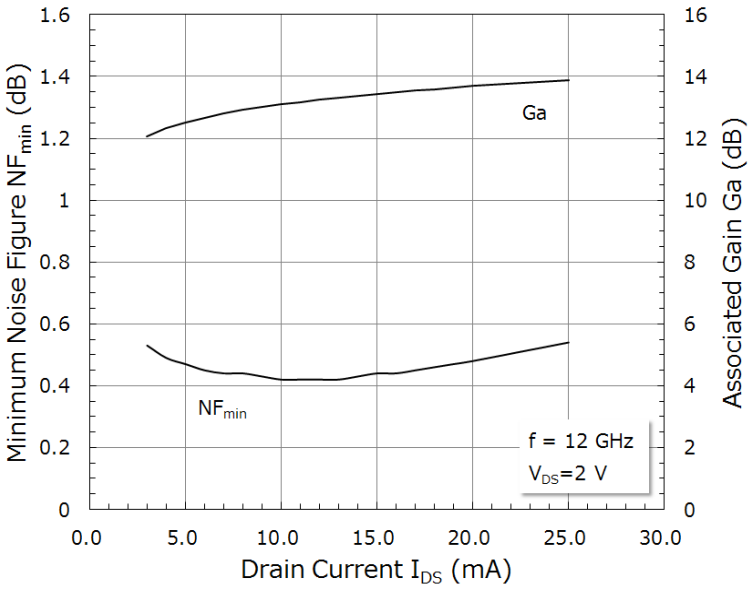
DRAIN CURRENT vs. DRAIN TO SOURCE VOLTAGE



DRAIN CURRENT vs. GATE TO SOURCE VOLTAGE



MINIMUM NOISE FIGURE & ASSOCIATED GAIN vs. DRAIN CURRENT



S-Parameters :

S-parameters/Noise parameters are provided on the CDK Web site.

[Original Products] → [Low Noise GaAsFET for LNB] → [Device Parameters]

URL http://www.en.cdk.co.jp/products/highfrequency/rf/LNGaAsFET/LNB/index.htm

RF Measuring Layout Pattern :

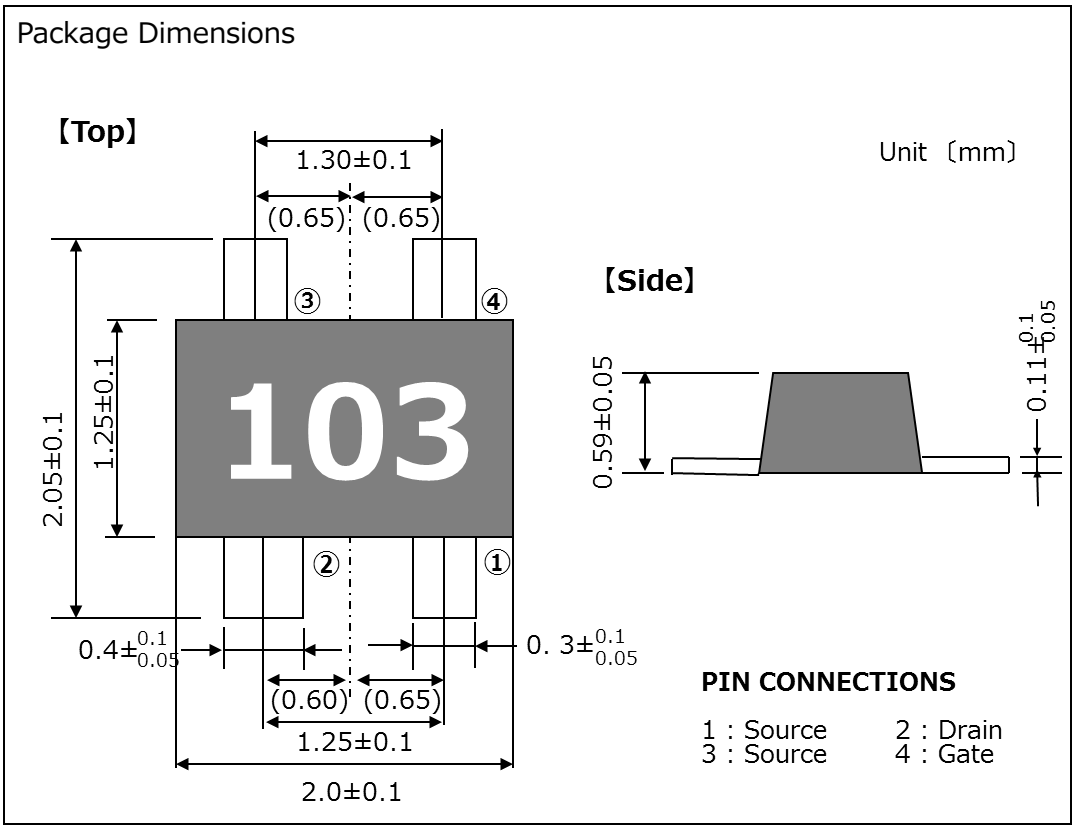
RF Measuring Layout Patterns are provided on the CDK Web site.

[Original Products] → [Low Noise GaAsFET for LNB] → [Design Support] →

[Evaluation Board Information]

URL http://www.en.cdk.co.jp/products/highfrequency/rf/LNGaAsFET/LNB/designsupport/index.html

Package Dimensions :



Recommended Soldering Conditions :

Recommended Soldering Conditions are provided on the CDK Web site.

[Original Products] → [Low Noise GaAsFET for LNB] → [Design Support] → [others]

URL http://www.en.cdk.co.jp/products/highfrequency/rf/LNGaAsFET/LNB/designsupport/index.html

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[Caution in the gallium arsenide (GaAs) product handling]

This product uses gallium arsenide (GaAs) of the toxic substance appointed in laws and ordinances. GaAs vapor and powder are hazardous to human health if inhaled or ingested.

- Do not dispose in fire or break up this product.
- Do not chemically make gas or powder with this product.
- When discard this product, please obey the law of your country.
- Do not lick the product or in any way allow it to enter the mouth.

[CAUTION]

Although this device is designed to be as robust as possible, ESD (Electrostatic Discharge) can damage this device. This device must be protected at all times from ESD. Static charges may easily produce potentials of several kilovolts on the human body or equipment, which can discharge without detection. Industry-standard ESD precautions should be used at all times.

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