

MT3S37FS

VCO OSCILLETOR STAGE
UHF LOW NOISE AMPLIFIER APPLICATION

FEATURES

- Low Noise Figure :NF=1.2dB (@f=2GHz)
- High Gain:|S21e|^2=12.0dB (@f=2GHz)

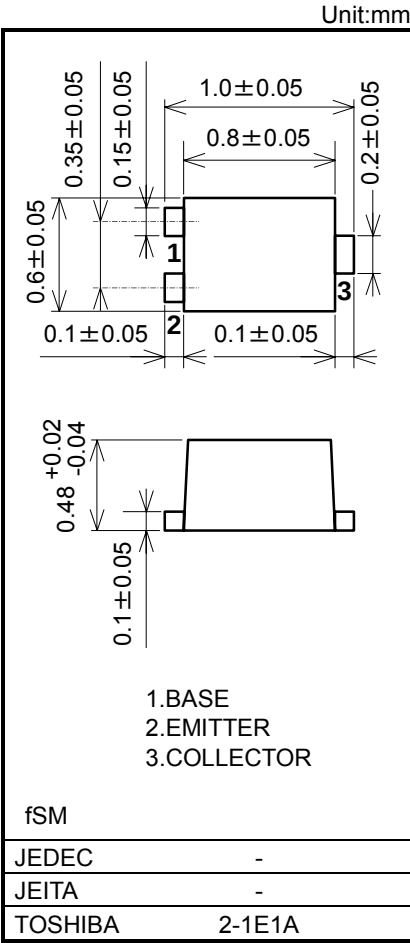
Marking



Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Collector-Base voltage	V _{CBO}	8	V
Collector-Emitter voltage	V _{CEO}	4.5	V
Emitter-Base voltage	V _{EBO}	1.5	V
Collector-Current	I _C	50	mA
Base-Current	I _B	25	mA
Collector Power dissipation	P _C (Note)	100	mW
Junction temperature	T _j	150	°C
Storage temperature Range	T _{stg}	-55~150	°C

Note: Device mounted on a glass-epoxy PCB(0.88 cm² × 0.7 mm (t))



Weight: 0.0006 g

Microwave Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Transition Frequency	f_T	$V_{CE}=3V, I_C=20mA, f=2GHz$	15	19	-	GHz
Insertion Gain	$ S_{21e} ^2(1)$	$V_{CE}=3V, I_C=20mA, f=1GHz$	15	17	-	dB
	$ S_{21e} ^2(2)$	$V_{CE}=3V, I_C=20mA, f=2GHz$	10	12	-	dB
Noise Figure	NF(1)	$V_{CE}=3V, I_C=3mA, f=1GHz$	-	0.9	-	dB
	NF(2)	$V_{CE}=3V, I_C=3mA, f=2GHz$	-	1.2	1.8	dB

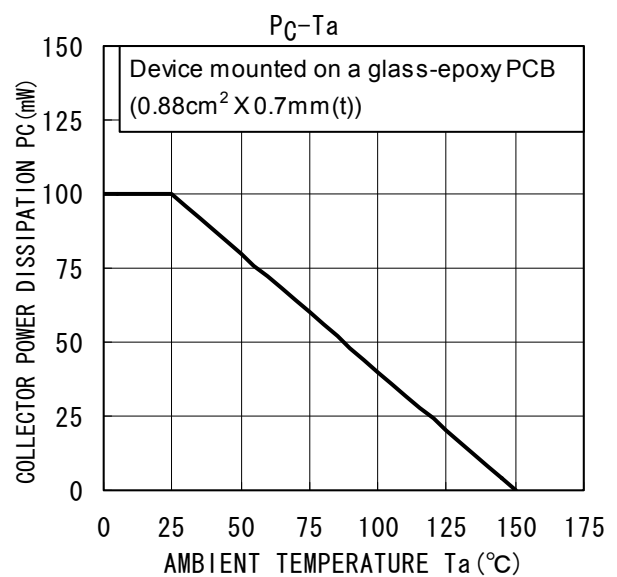
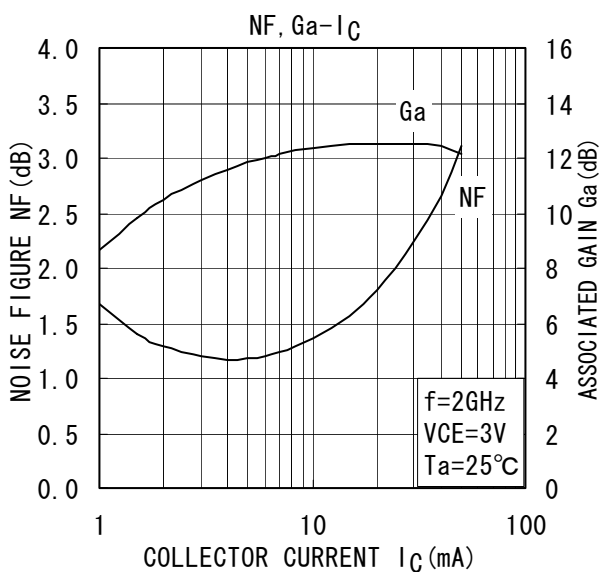
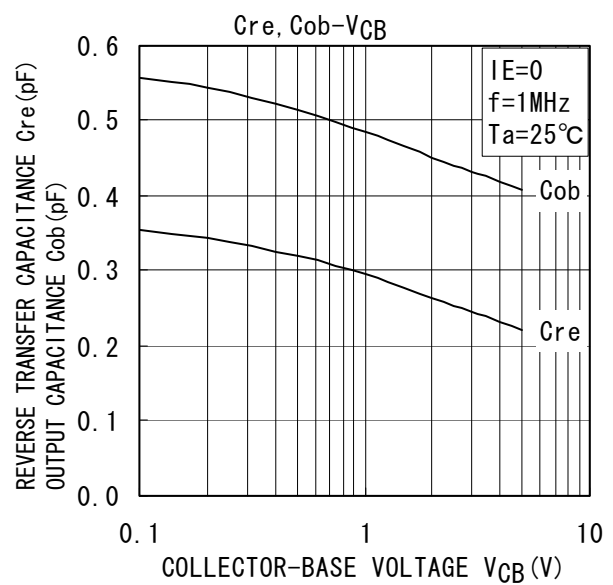
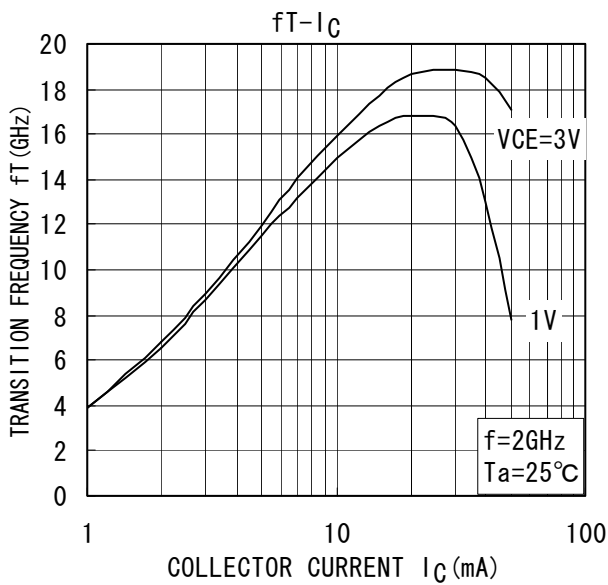
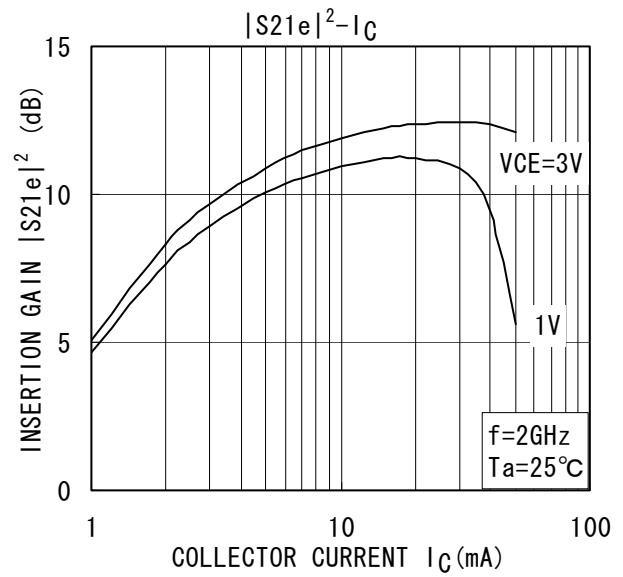
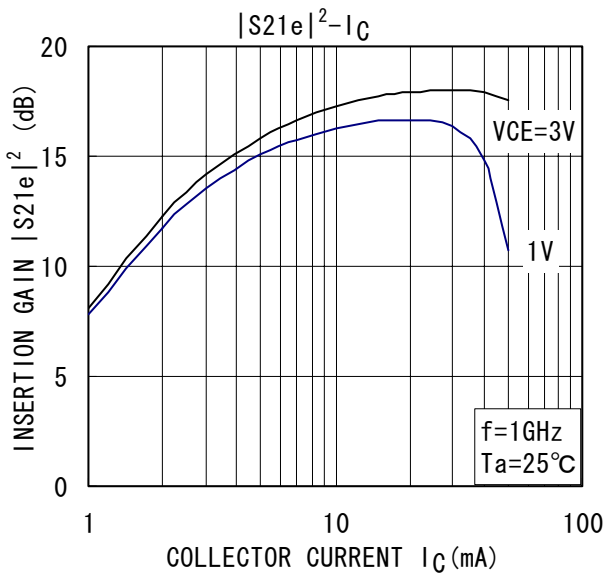
Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector Cut-off Current	I_{CBO}	$V_{CB}=8V, I_E=0$	-	-	1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB}=1V, I_C=0$	-	-	1	μA
DC Current Gain	h_{FE}	$V_{CE}=3V, I_C=20mA$	70	-	140	-
Output Capacitance	C_{ob}	$V_{CB}=1V, I_E=0, f=1MHz$	-	0.49	0.75	pF
Reverse Transistor Capacitance	C_{re}	$V_{CB}=1V, I_E=0, f=1MHz$ (Note 1)	-	0.30	0.55	pF

Note 1: C_{re} is measured by 3 terminal method with capacitance bridge.

Caution: This device is sensitive to electrostatic discharge.

Please make enough tool and equipment earthed when you handle.



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