

SANYO Semiconductors DATA SHEET

An ON Semiconductor Company

NPN Epitaxial Planar Silicon Transistor

EC4H09C — UHF to X Band Low-Noise Amplifier and OSC Applications

Features

• High cut-off frequency : fT=26GHz typ (VCE=3V).

· Low operating voltage.

• High gain : $|S21e|^2 = 16.5dB \text{ typ (f=2GHz)}.$

· Halogen free compliance (UL94 HB).

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to- Base Voltage	VCBO		10	V
Collector-to-Emitter Voltage	VCEO		3.5	V
Emitter-to-Base Voltage	VEBO		2.5	V
Collector Current	IC		40	mA
Collector Dissipation	PC		120	mW
Junction Temperature	Tj		150	ô
Storage Temperature	Tstg		-55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	O III
Collector Cutoff Current	ІСВО	V _{CB} =5V, I _E =0A			1	μΑ
Emitter Cutoff Current	IEBO	VEB=1V, IC=0A			1	μΑ
DC Current Gain	hFE	V _{CE} =1V, I _C =5mA	70		150	
Gain-Bandwidth Product	fT	V _{CE} =3V, I _C =20mA	20	26		GHz
Reverse Transfer Capacitance	Cre	V _{CB} =1V, f=1MHz		0.12		pF

Marking: M Continued on next page.

Notre) Pay attention to handling since it is liable to be affected by static electricity due to the high-frequency process adopted.

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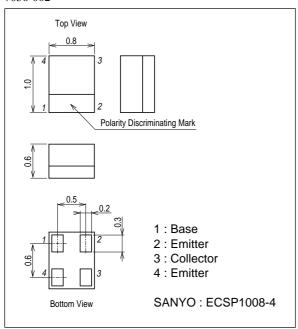
EC4H09C

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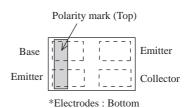
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	O i iii
Forward Transfer Gain	S21e ² 1	VCE=1V, IC=10mA, f=2GHz		15		dB
	S21e 22	V _{CE} =3V, I _C =20mA, f=2GHz	13	16.5		dB
Noise Figure	NF	VCE=1V, IC=5mA, f=2GHz		1.3	1.8	dB

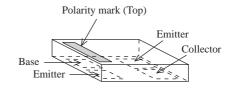
Package Dimensions

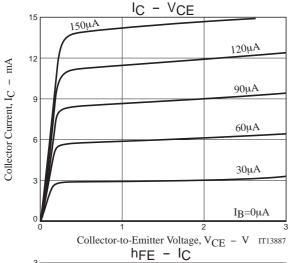
unit : mm (typ) 7036-002

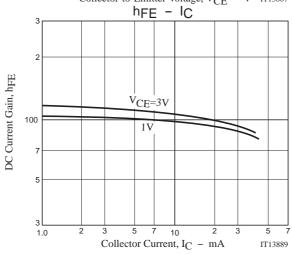


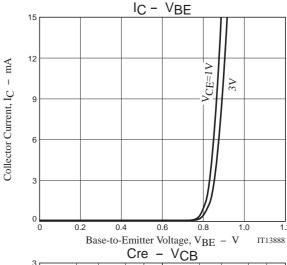
Electrical Connection (Top view)

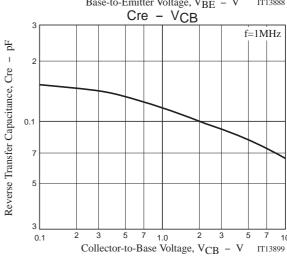




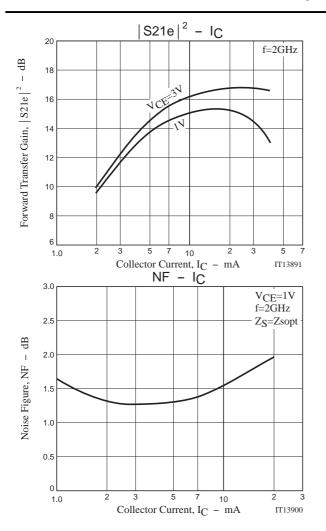


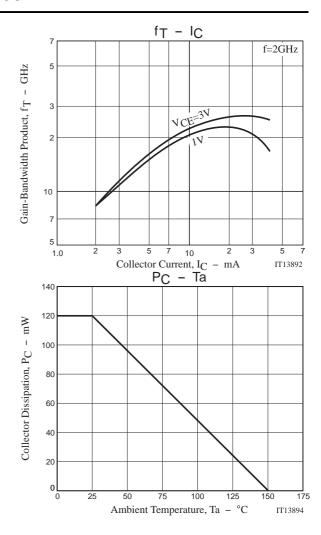






EC4H09C





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