

NPN Epitaxial Planar Silicon Transistor

SANYO

EC3H08B

High-Frequency Amp Applications, Osc. Applications

Preliminary

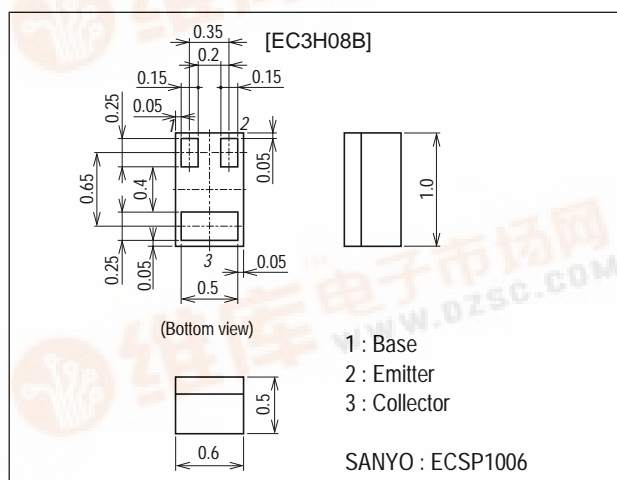
Features

- Low noise : NF=1.6dB typ (f=2GHz).
- High cut-off frequency : f_T =10.0GHz typ (VCE=1V).
: f_T =12.0GHz typ (VCE=3V).
- Low operating voltage.
- High Gain : $|S_{21e}|^2$ =9.5dB typ (f=2GHz)
- Ultraminiature (1006 size) and thin (0.5mm) leadless package.

Package Dimensions

unit : mm

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Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to- Base Voltage	V_{CBO}		9	V
Collector-to-Emitter Voltage	V_{CEO}		4	V
Emitter-to-Base Voltage	V_{EBO}		2	V
Collector Current	I_C		20	mA
Collector Dissipation	P_C		80	mW
Junction Temperature	T_j		150	°C
Storage Temperature	T_{stg}		-55 to +150	°C

Electrical Characteristics at $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CB0}	$V_{CB}=5V, I_E=0$			1.0	μA
Emitter Cutoff Current	I_{EB0}	$V_{EB}=1V, I_C=0$			10	μA
DC Current Gain	h_{FE}	$V_{CE}=1V, I_C=5mA$	100		160	
Gain-Bandwidth Product	$f_T(1)$	$V_{CE}=1V, I_C=3mA$	8.0	10.0		GHz
	$f_T(2)$	$V_{CE}=3V, I_C=7mA$	10.0	12.0		GHz
Output Capacitance	C_{ob}	$V_{CB}=1V, f=1MHz$		0.4	0.55	pF
Reverse Transfer Capacitance	C_{re}	$V_{CB}=1V, f=1MHz$		0.27	0.40	pF
Forward Transfer Gain	$ S_{21e} ^2(1)$	$V_{CE}=1V, I_C=3mA, f=2GHz$	8.0	9.5		dB
	$ S_{21e} ^2(2)$	$V_{CE}=3V, I_C=7mA, f=2GHz$	9.0	10.5		dB
Noise Figure	NF	$V_{CE}=1V, I_C=3mA, f=2GHz$		1.6	2.5	dB

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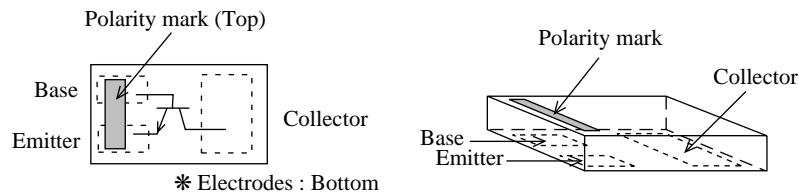


EC3H08B

Marking : L



Electrical connection (TOP VIEW)



This product adopts a high-frequency process. Please be careful when handling it because it is susceptible to static electricity.

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