Ordering number : 0000000

NPN Epitaxial Planar Silicon Transistor

EC3H08B

High-Frequency Amp Applications, Osc. Applications

Preliminary

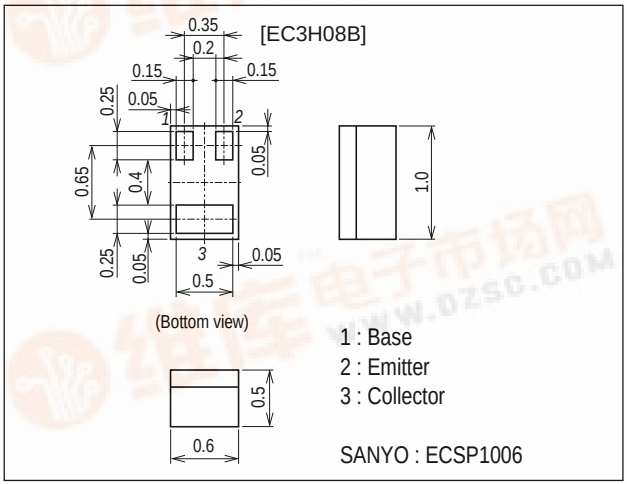
Features

- Low noise : NF=1.6dB typ (f=2GHz).
- High cut-off frequency : f_T=10.0GHz typ (V_{CE}=1V).
  : f_T=12.0GHz typ (V_{CE}=3V).
- Low operating voltage.
- High Gain : $|S21e|^2$=9.5dB typ (f=2GHz)
- Ultraminiature (1006 size) and thin (0.5mm) leadless package.

Package Dimensions

unit : mm

0000



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	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	V_{CB}=5V, I_E=0			1.0	μA
Emitter Cutoff Current	I_{EBO}	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	Cob	V_{CB}=1V, f=1MHz		0.4	0.55	pF
Reverse Transfer Capacitance	Cre	V_{CB}=1V, f=1MHz		0.27	0.40	pF
Forward Transfer Gain	$\|S21e\|^2$(1)	V_{CE}=1V, I_C=3mA, f=2GHz	8.0	9.5		dB
	$\|S21e\|^2$(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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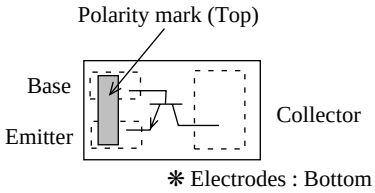
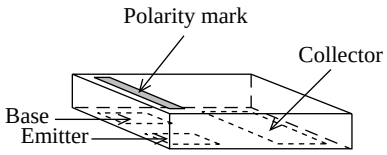
Marking : L

Electrical connection (TOP VIEW)





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