



Preliminary

Features

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

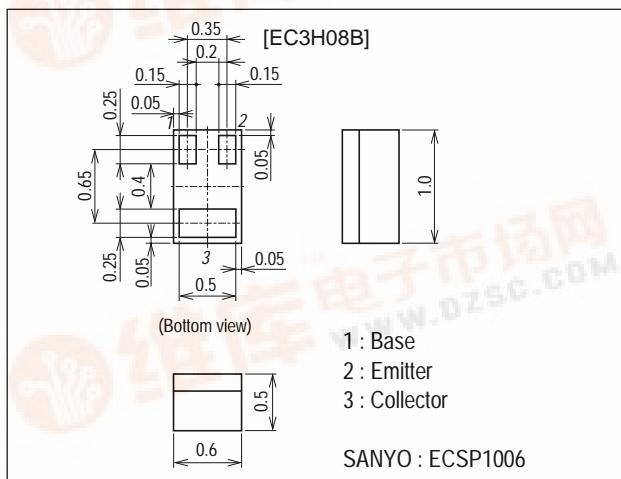
Specifications

Absolute Maximum Ratings at $T_a=25^\circ\text{C}$

Package Dimensions

unit : mm

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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 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	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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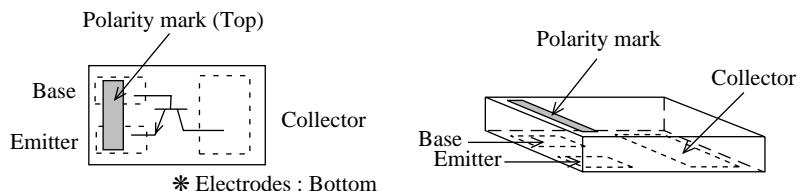
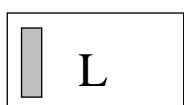
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EC3H08B

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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