

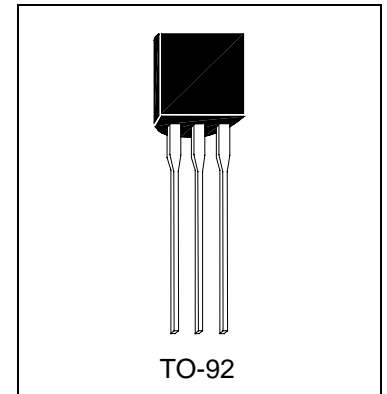


# HSB1109S

PNP EPITAXIAL PLANAR TRANSISTOR

## Description

The HSB1109S is designed for low frequency and high voltage amplifier applications complementary pair with HSD1609S.



## Absolute Maximum Ratings

- Maximum Temperatures  
 Storage Temperature ..... -50 ~ +150 °C  
 Junction Temperature ..... +150 °C Maximum
- Maximum Power Dissipation  
 Total Power Dissipation (Ta=25°C) ..... 900 mW
- Maximum Voltages and Currents (Ta=25°C)  
 VCBO Collector to Base Voltage ..... -160 V  
 VCEO Collector to Emitter Voltage ..... -160 V  
 VEBO Emitter to Base Voltage ..... -5 V  
 IC Collector Current ..... -100 mA

## Characteristics (Ta=25°C)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BVCBO	-160	-	-	V	IC=-10uA, IE=0
BVCEO	-160	-	-	V	IC=-1mA, IB=0
VEBO	-5	-	-	V	IE=-10uA, IC=0
ICBO	-	-	-10	uA	VCB=-140V, IE=0
*VCE(sat)	-	-	-2	V	IC=-30mA, IB=-3mA
VBE(on)	-	-	-1.5	V	VCE=-5V, IC=-10mA
*hFE1	60	-	320		VCE=-5V, IC=-10mA
*hFE2	30	-	-		VCE=-5V, IC=-1mA
fT	-	140	-	MHz	VCE=-5V, IC=-10mA, f=100MHz
Cob	-	5.5	-	pF	VCB=-10V, IE=0, f=1MHz

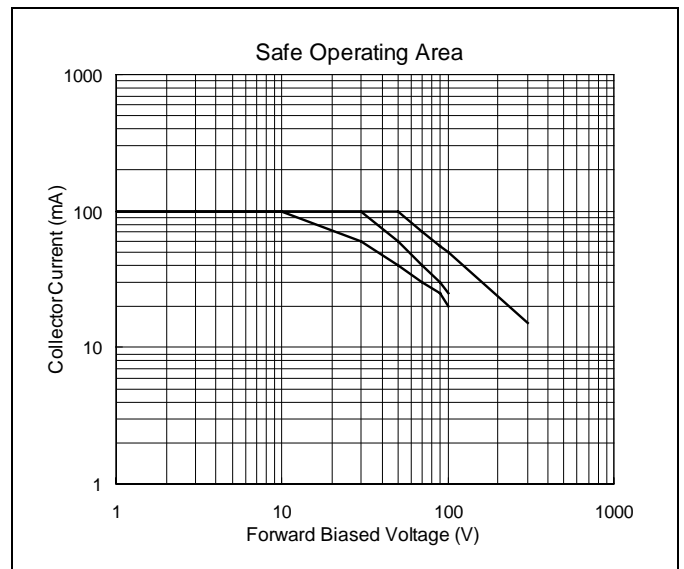
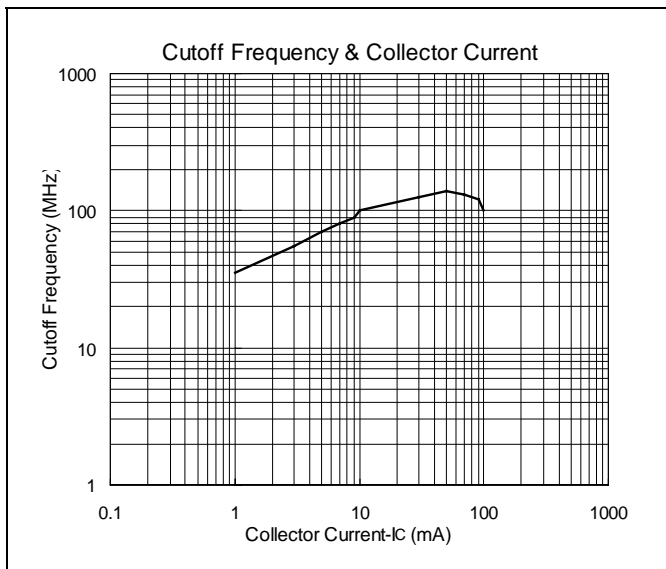
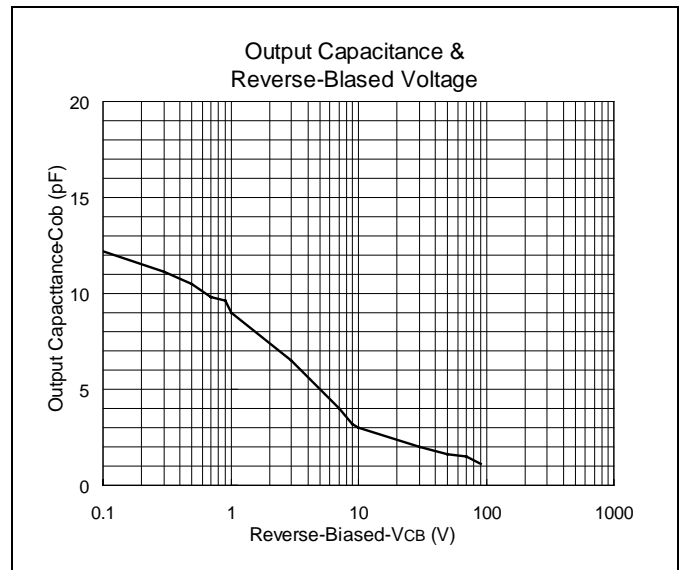
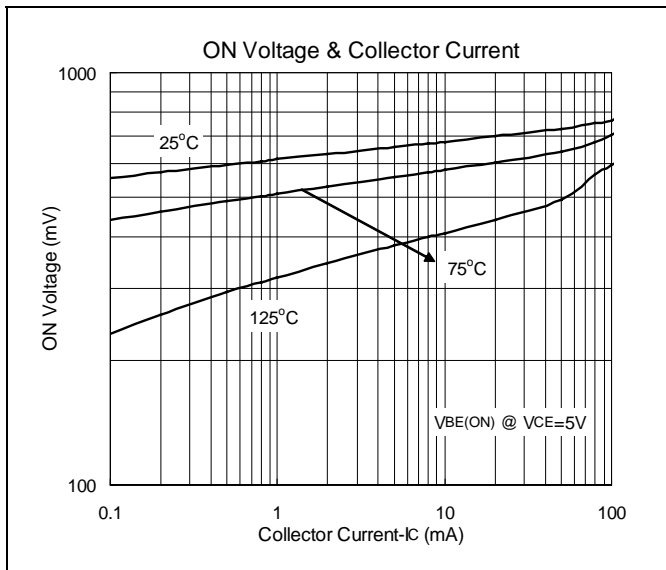
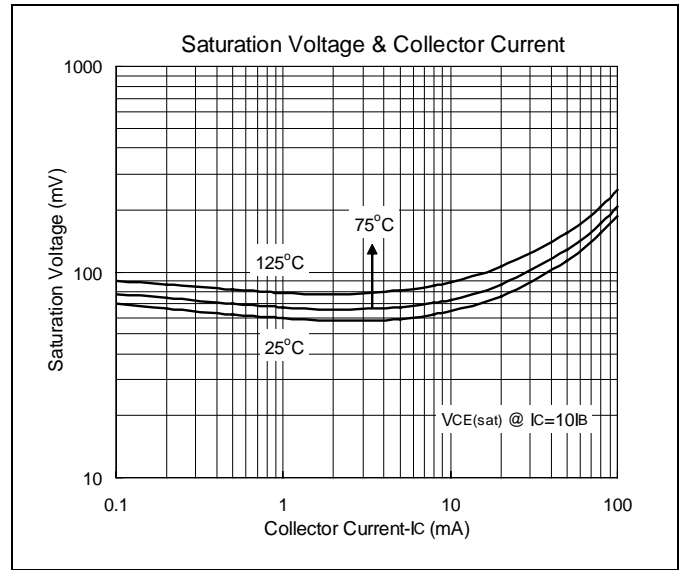
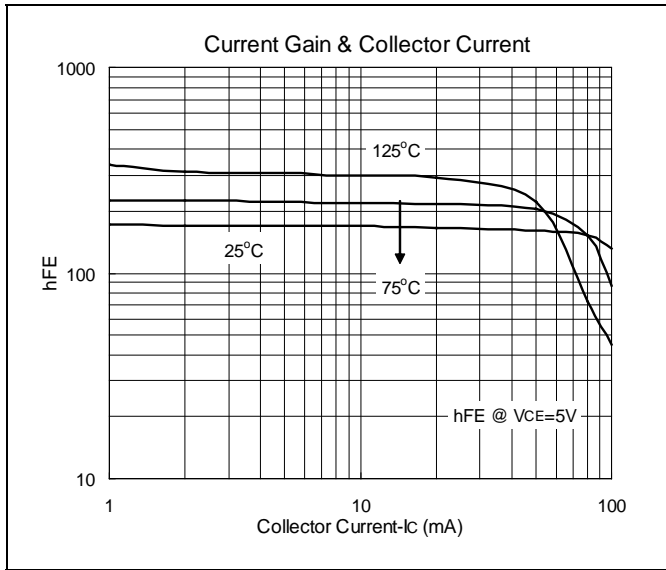
\*Pulse Test : Pulse Width ≤380us, Duty Cycle≤2%

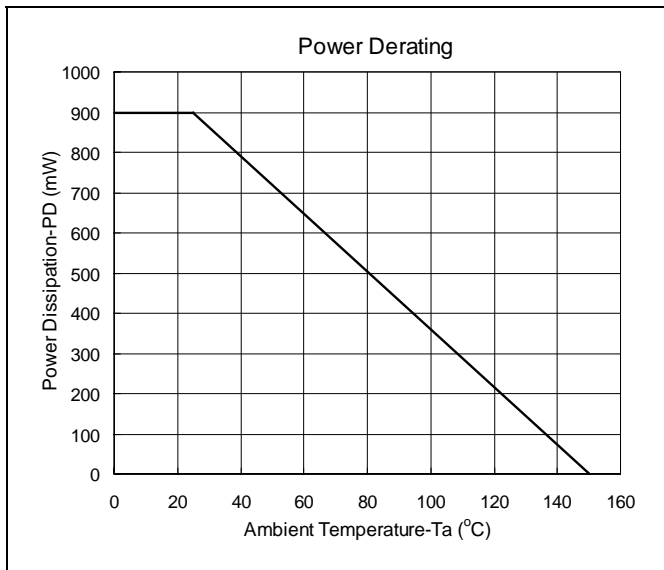
## Classification Of hFE1

Rank	B	C	D
Range	60-120	100-200	160-320



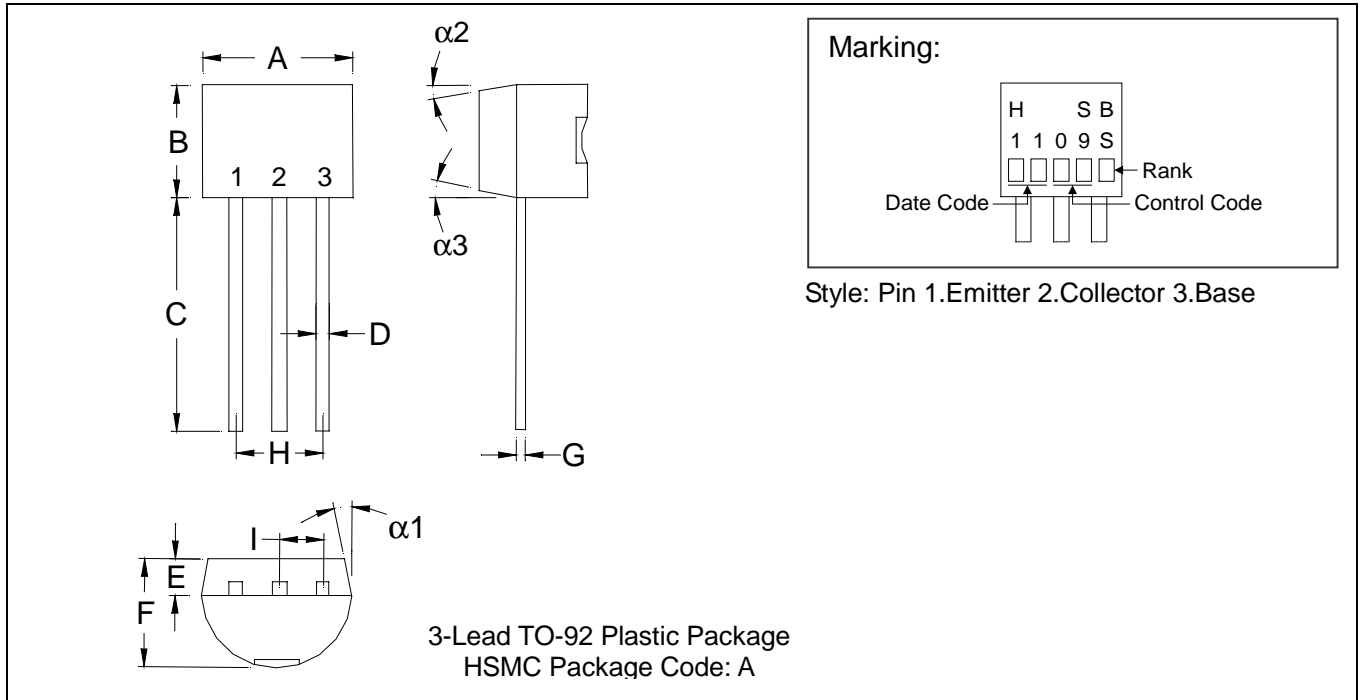
### Characteristics Curve







### TO-92 Dimension



\*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.1704	0.1902	4.33	4.83	G	0.0142	0.0220	0.36	0.56
B	0.1704	0.1902	4.33	4.83	H	-	*0.1000	-	*2.54
C	0.5000	-	12.70	-	I	-	*0.0500	-	*1.27
D	0.0142	0.0220	0.36	0.56	$\alpha 1$	-	*5°	-	*5°
E	-	*0.0500	-	*1.27	$\alpha 2$	-	*2°	-	*2°
F	0.1323	0.1480	3.36	3.76	$\alpha 3$	-	*2°	-	*2°

- Notes:**
- 1.Dimension and tolerance based on our Spec. dated Apr. 25,1996.
  - 2.Controlling dimension: millimeters.
  - 3.Maximum lead thickness includes lead finish thickness, and minimum lead thickness is the minimum thickness of base material.
  - 4.If there is any question with packing specification or packing method, please contact your local HSMC sales office.

**Material:**

- Lead: 42 Alloy; solder plating
- Mold Compound: Epoxy resin family, flammability solid burning class: UL94V-0

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