



# HMBT3904

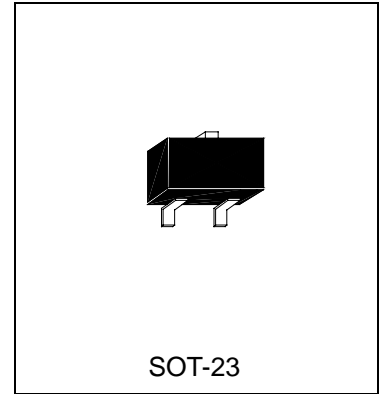
NPN EPITAXIAL PLANAR TRANSISTOR

## Description

The HMBT3904 is designed for general purpose switching amplifier applications.

## Absolute Maximum Ratings

- Maximum Temperatures  
Storage Temperature ..... -65 ~ +150 °C  
Junction Temperature..... +150 °C
- Maximum Power Dissipation  
Total Power Dissipation (Ta=25°C) ..... 225 mW
- Maximum Voltages and Currents (Ta=25°C)  
VCBO Collector to Base Voltage ..... 60 V  
VCEO Collector to Emitter Voltage..... 40 V  
VEBO Emitter to Base Voltage..... 6 V  
IC Collector Current..... 200 mA



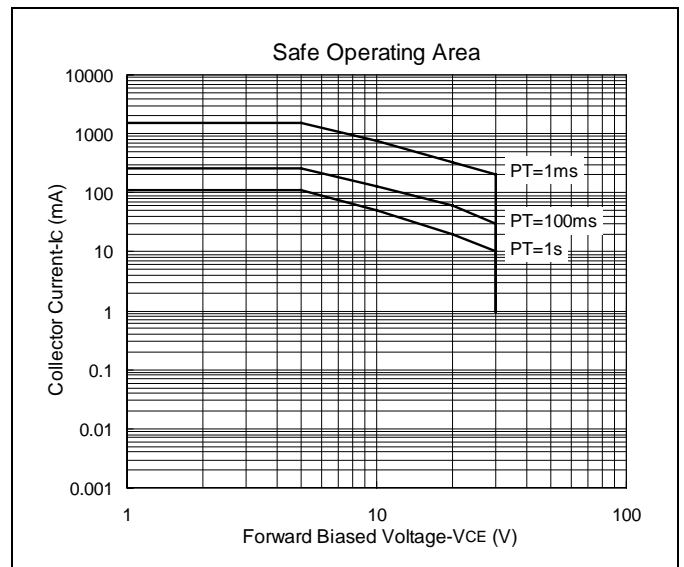
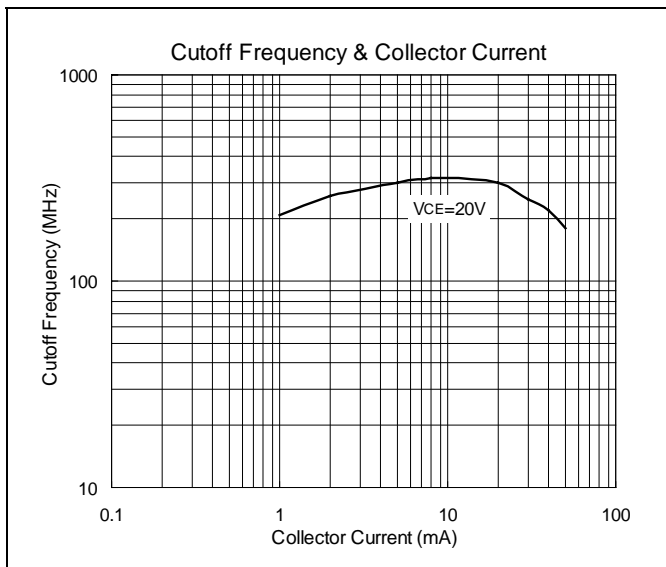
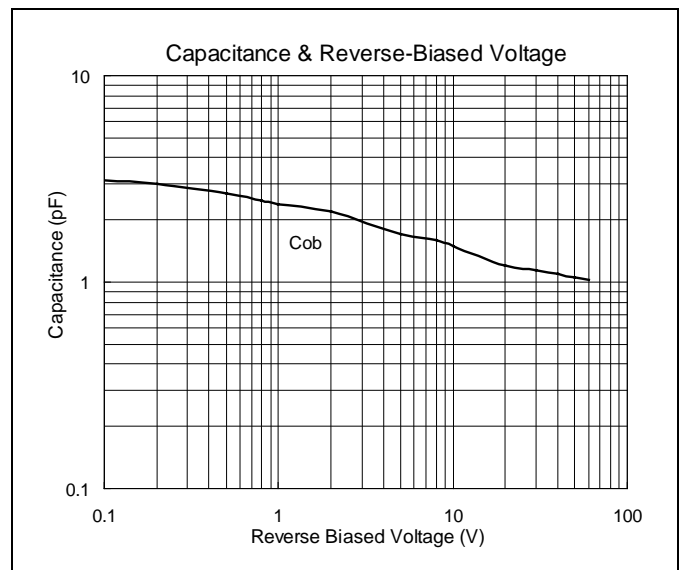
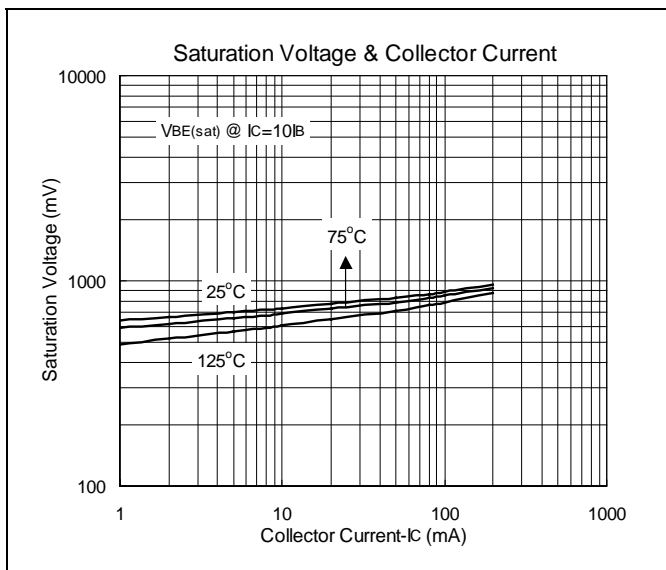
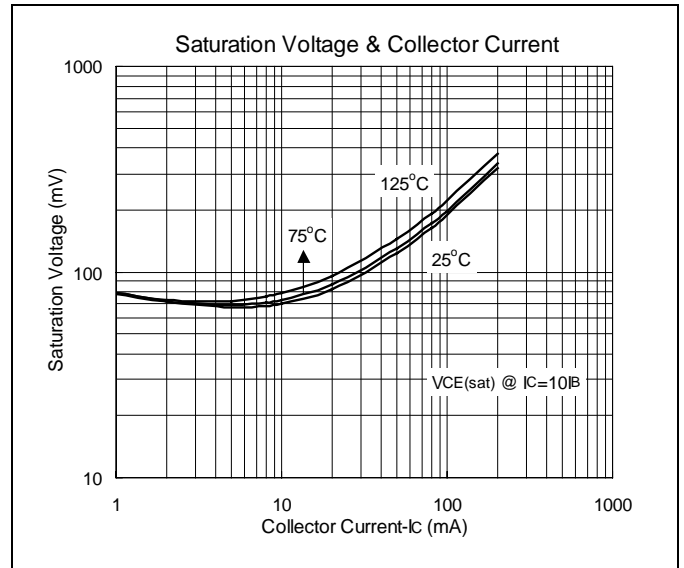
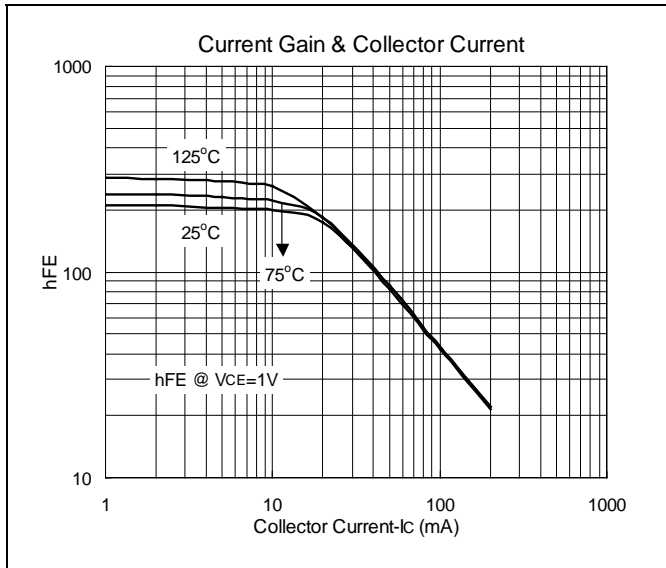
## Characteristics (Ta=25°C)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BVCBO	60	-	-	V	IC=10uA
BVCEO	40	-	-	V	IC=1mA
BVEBO	6	-	-	V	IC=10uA
ICEX	-	-	50	nA	VCE=30V, VBE=-3V
*VCE(sat)1	-	-	200	mV	IC=10mA, IB=1mA
*VCE(sat)2	-	-	300	mV	IC=50mA, IB=5mA
*VBE(sat)1	650	-	850	mV	IC=10mA, IB=1mA
*VBE(sat)2	-	-	950	mV	IC=50mA, IB=5mA
*hFE1	40	-	-		VCE=1V, IC=0.1mA
*hFE2	70	-	-		VCE=1V, IC=1mA
*hFE3	100	-	300		VCE=1V, IC=10mA
*hFE4	60	-	-		VCE=1V, IC=50mA
*hFE5	30	-	-		VCE=1V, IC=100mA
fT	300	-	-	MHz	VCE=20V, IC=10mA, f=100MHz
Cob	-	-	4	pF	VCB=5V, f=1MHz

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

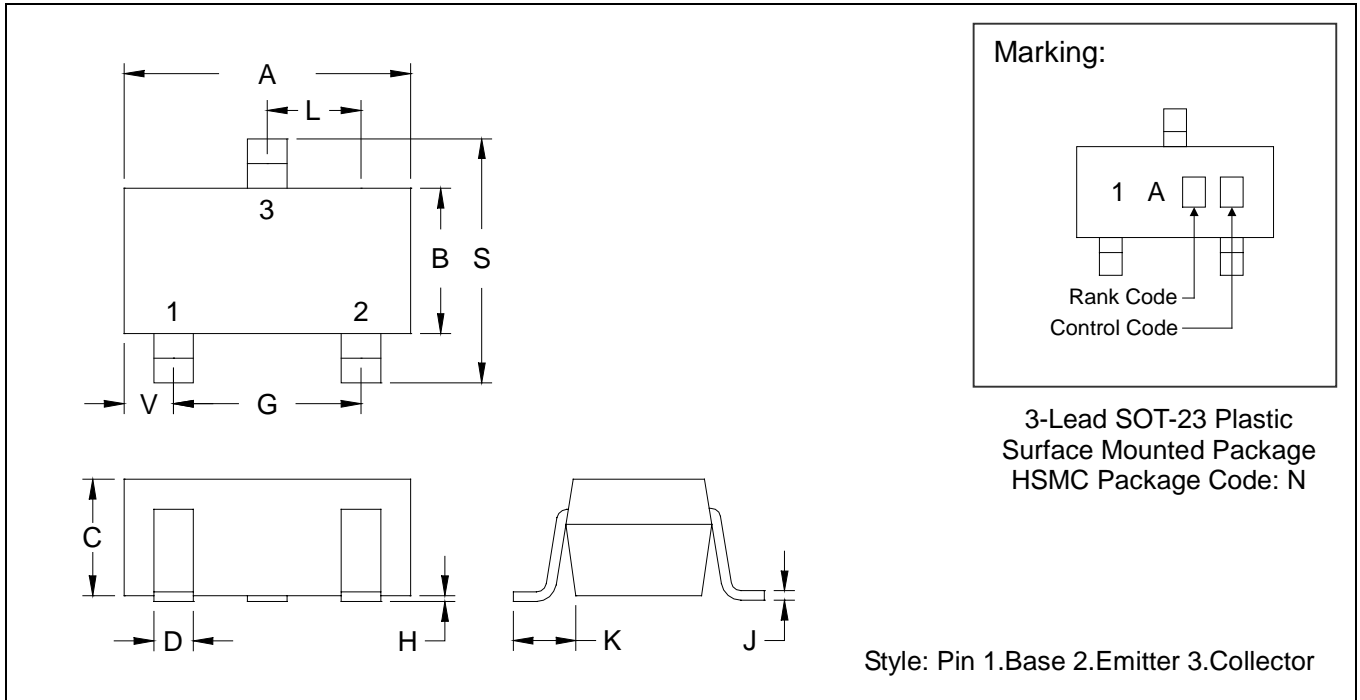


### Characteristics Curve





### SOT-23 Dimension



\*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.1102	0.1204	2.80	3.04	J	0.0034	0.0070	0.085	0.177
B	0.0472	0.0630	1.20	1.60	K	0.0128	0.0266	0.32	0.67
C	0.0335	0.0512	0.89	1.30	L	0.0335	0.0453	0.85	1.15
D	0.0118	0.0197	0.30	0.50	S	0.0830	0.1083	2.10	2.75
G	0.0669	0.0910	1.70	2.30	V	0.0098	0.0256	0.25	0.65
H	0.0005	0.0040	0.013	0.10					

- Notes: 1.Dimension and tolerance based on our Spec. dated Sep. 07,1997.  
 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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