



# HMBT4401

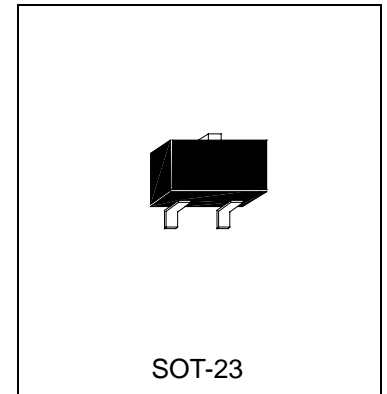
NPN EPITAXIAL PLANAR TRANSISTOR

## Description

The HMBT4401 is designed for general purpose switching and amplifier applications.

## Absolute Maximum Ratings

- Maximum Temperatures  
 Storage Temperature ..... -55 ~ +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..... 600 mA



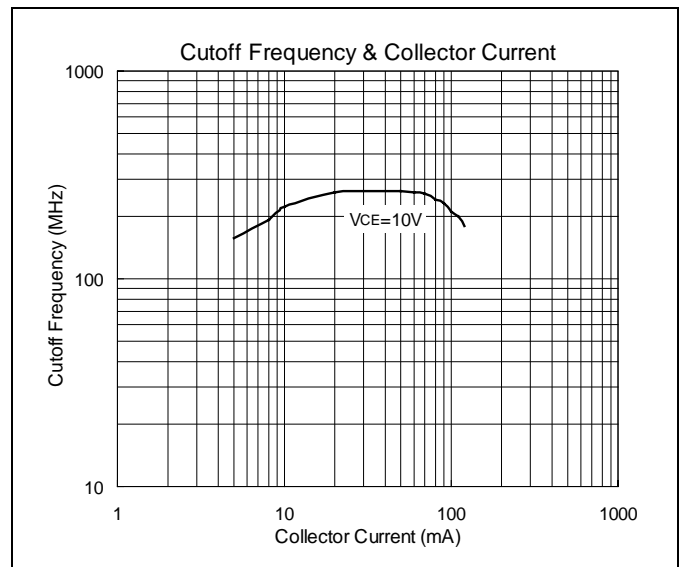
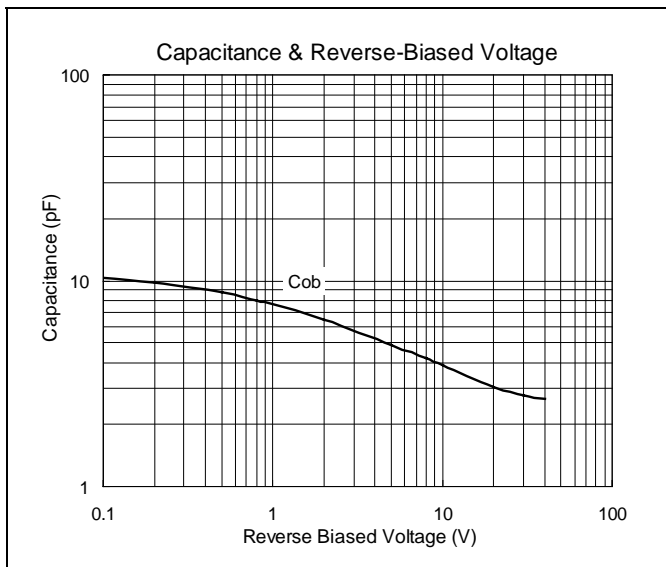
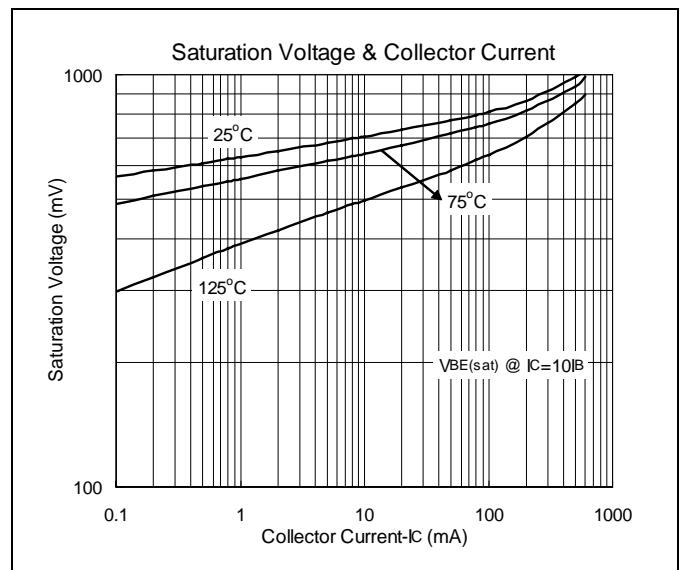
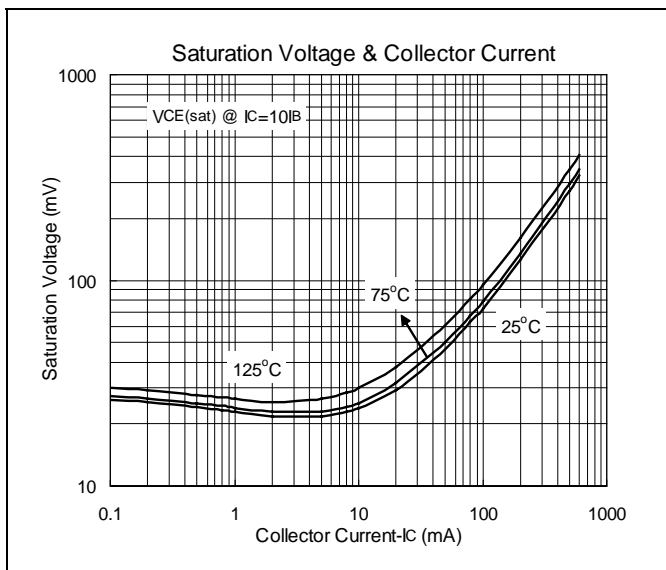
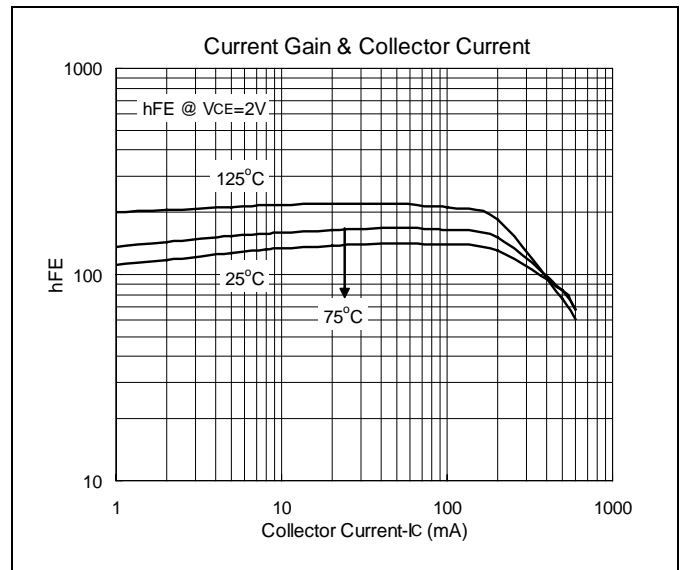
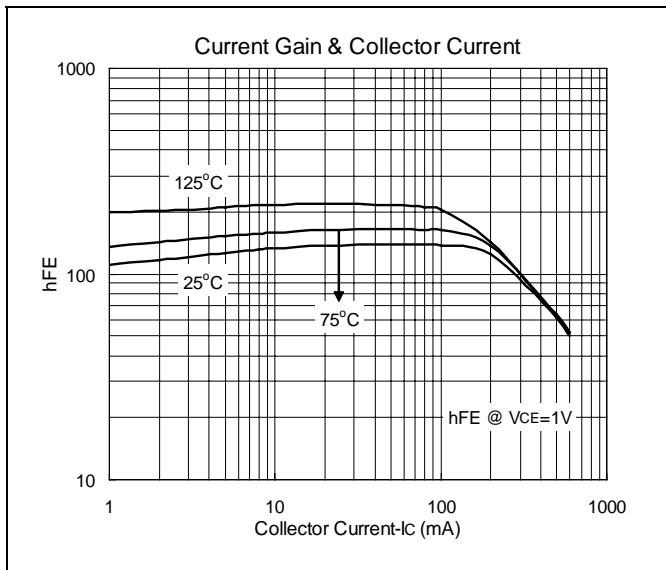
## Characteristics (Ta=25°C)

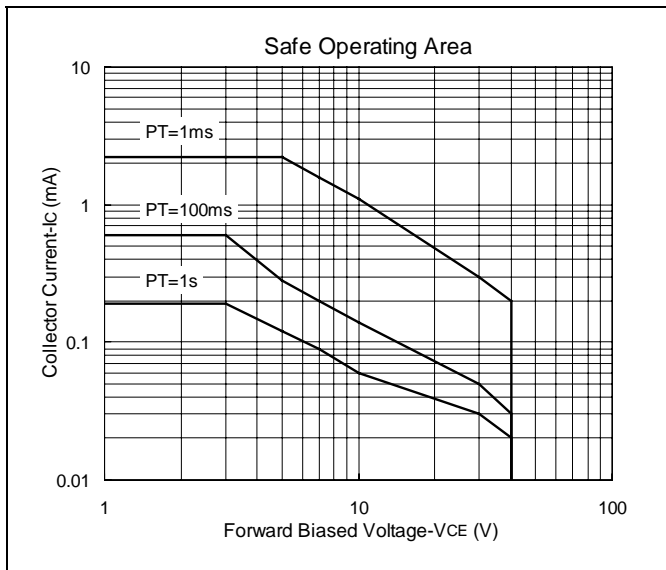
Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BVCBO	60	-	-	V	IC=100uA
BVCEO	40	-	-	V	IC=1mA
BVEBO	6	-	-	V	IE=10uA
ICEX	-	-	100	nA	VCE=35V, VBE=-0.4V
*VCE(sat)1	-	-	0.4	V	IC=150mA, IB=15mA
*VCE(sat)2	-	-	750	mV	IC=500mA, IB=50mA
*VBE(sat)1	-	-	950	mV	IC=150mA, IB=15mA
*VBE(sat)2	-	-	1.2	V	IC=500mA, IB=50mA
*hFE1	20	-	-		VCE=1V, IC=0.1mA
*hFE2	40	-	-		VCE=1V, IC=1mA
*hFE3	80	-	-		VCE=1V, IC=10mA
*hFE4	100	-	300		VCE=1V, IC=150mA
*hFE5	40	-	-		VCE=2V, IC=500mA
fT	250	-	-	MHz	VCE=10V, IC=20mA, f=100MHz
Cob	-	-	6.5	PF	VCB=5V, f=1MHz

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



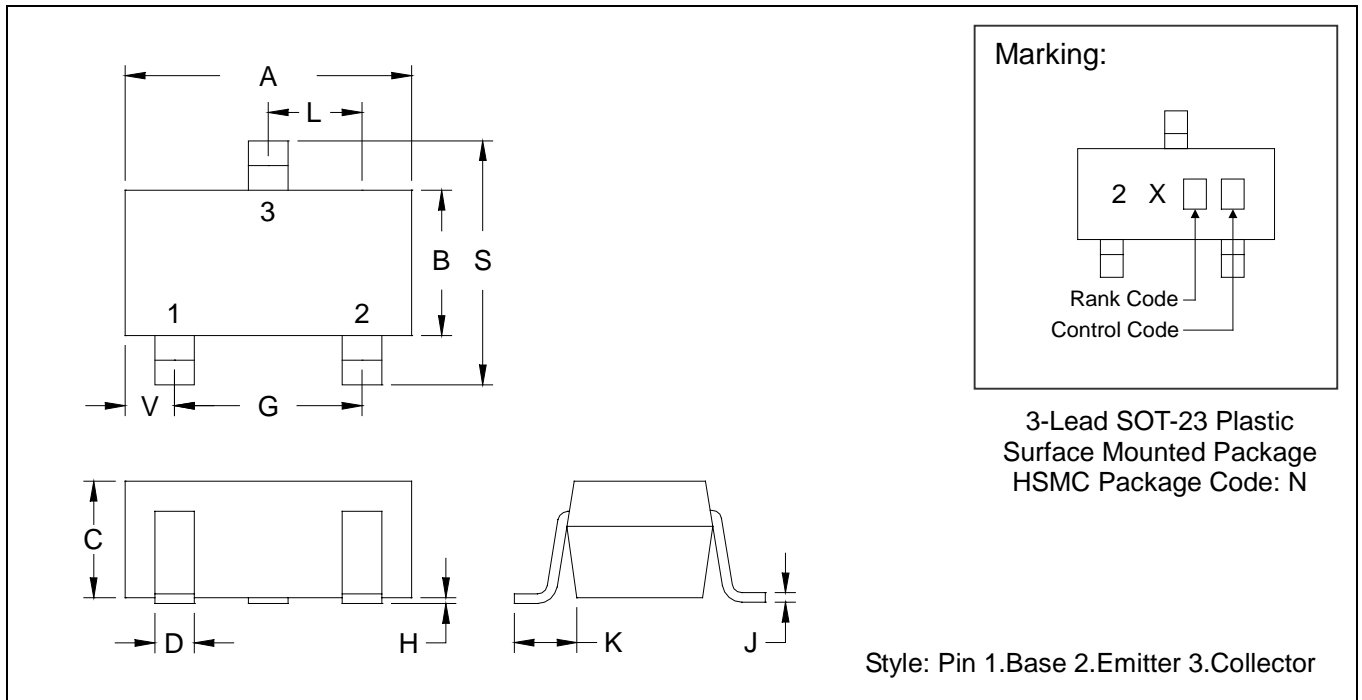
### Characteristics Curve







### 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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**Head Office And Factory:**

- **Head Office** (Hi-Sincerity Microelectronics Corp.): 10F.,No. 61, Sec. 2, Chung-Shan N. Rd. Taipei Taiwan R.O.C.  
 Tel: 886-2-25212056 Fax: 886-2-25632712, 25368454
- **Factory 1:** No. 38, Kuang Fu S. Rd., Fu-Kou Hsin-Chu Industrial Park Hsin-Chu Taiwan. R.O.C  
 Tel: 886-3-5983621~5 Fax: 886-3-5982931