



# HM44

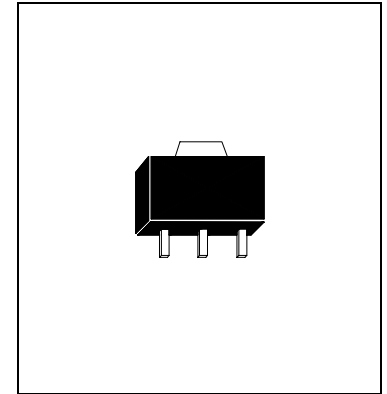
NPN EPITAXIAL PLANAR TRANSISTOR

## Description

The HM44 is designed for application requires high voltage.

## Features

- High voltage:  $V_{CEO}=400V(\text{min})$  at  $I_C=1mA$
- High current gain:  $I_C=300mA$  at  $25^\circ C$
- Complementary with HM94



## Absolute Maximum Ratings

- Maximum Temperatures  
Storage Temperature .....  $-55 \sim +150^\circ C$   
Junction Temperature .....  $+150^\circ C$  Maximum
- Maximum Power Dissipation  
Total Power Dissipation ( $T_a=25^\circ C$ ) ..... 1 W
- Maximum Voltages and Currents ( $T_a=25^\circ C$ )  
VCBO Collector to Base Voltage ..... 400 V  
VCEO Collector to Emitter Voltage ..... 400 V  
VEBO Emitter to Base Voltage ..... 6 V  
IC Collector Current ..... 300 mA

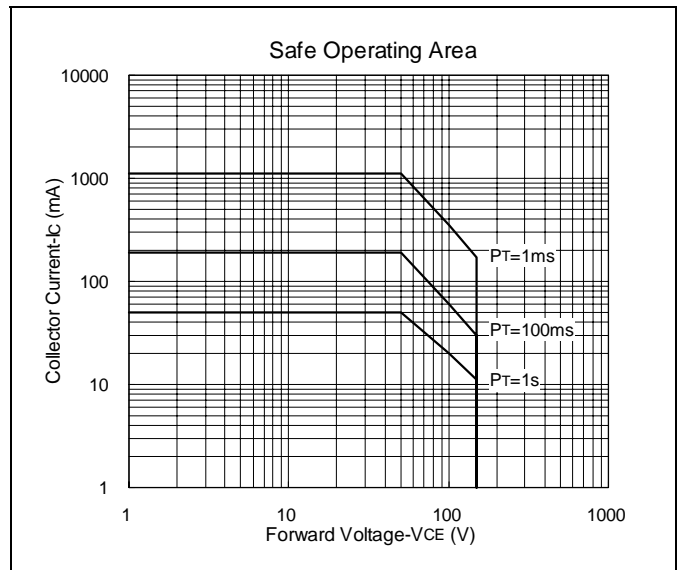
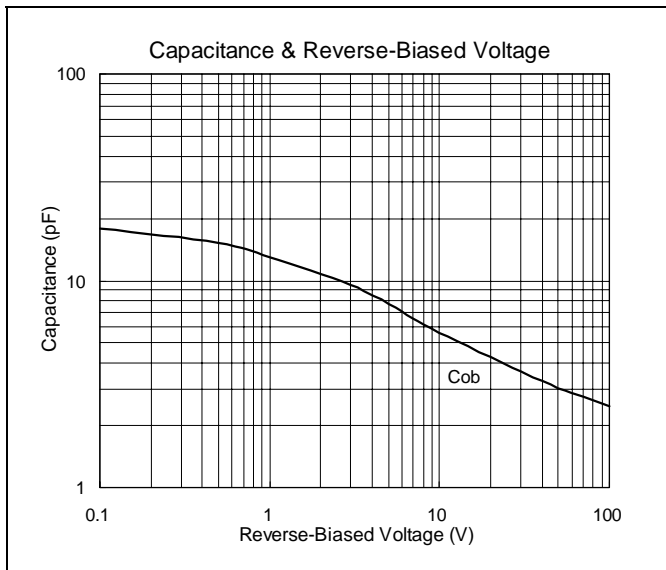
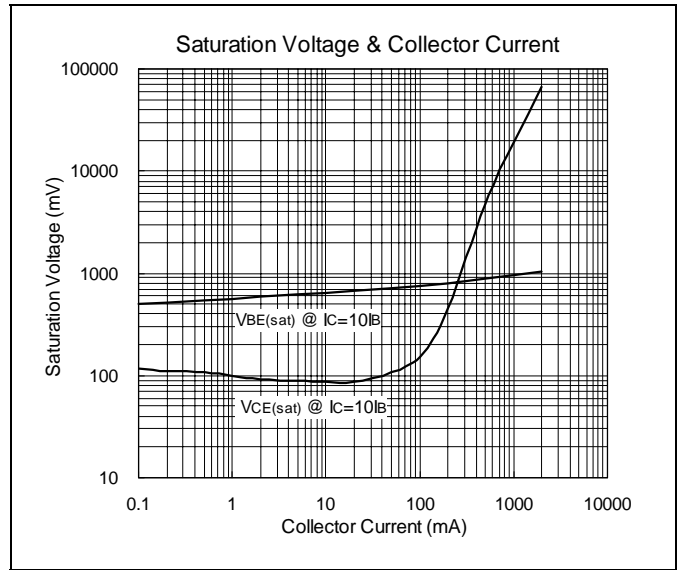
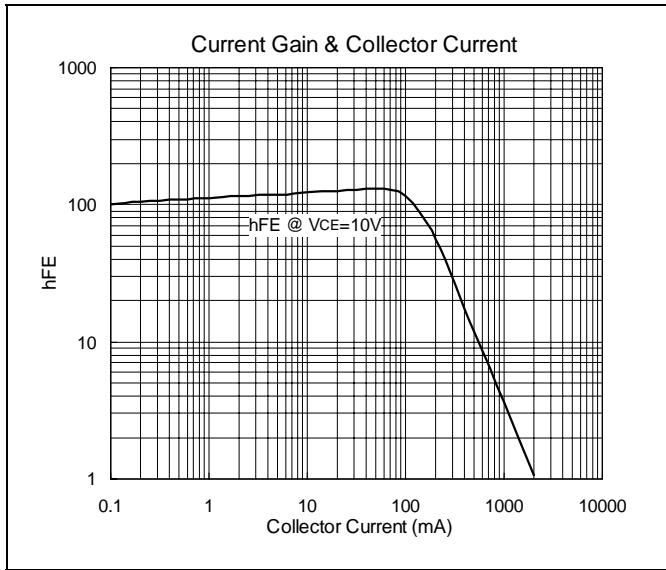
## Characteristics ( $T_a=25^\circ C$ )

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BVCBO	400	-	-	V	$I_C=100\mu A$
BVCEO	400	-	-	V	$I_C=1mA$
BVEBO	6	-	-	V	$I_E=10\mu A$
ICBO	-	-	100	nA	$V_{CB}=400V$
IEBO	-	-	100	nA	$V_{EB}=4V$
ICES	-	-	500	nA	$V_{CE}=400V$
* $V_{CE}(\text{sat})1$	-	-	375	mV	$I_C=20mA, I_B=2mA$
* $V_{CE}(\text{sat})2$	-	-	750	mV	$I_C=50mA, I_B=5mA$
* $V_{BE}(\text{sat})$	-	-	750	mV	$I_C=10mA, I_B=1mA$
* $h_{FE1}$	40	-	-		$V_{CE}=10V, I_C=1mA$
* $h_{FE2}$	50	-	300		$V_{CE}=10V, I_C=10mA$
* $h_{FE3}$	45	-	-		$V_{CE}=10V, I_C=50mA$
* $h_{FE4}$	40	-	-		$V_{CE}=10V, I_C=100mA$
Cob	-	4	6	pF	$V_{CB}=20V, f=1MHz$

\*Pulse Test : Pulse Width  $\leq 380\mu s$ , Duty Cycle  $\leq 2\%$

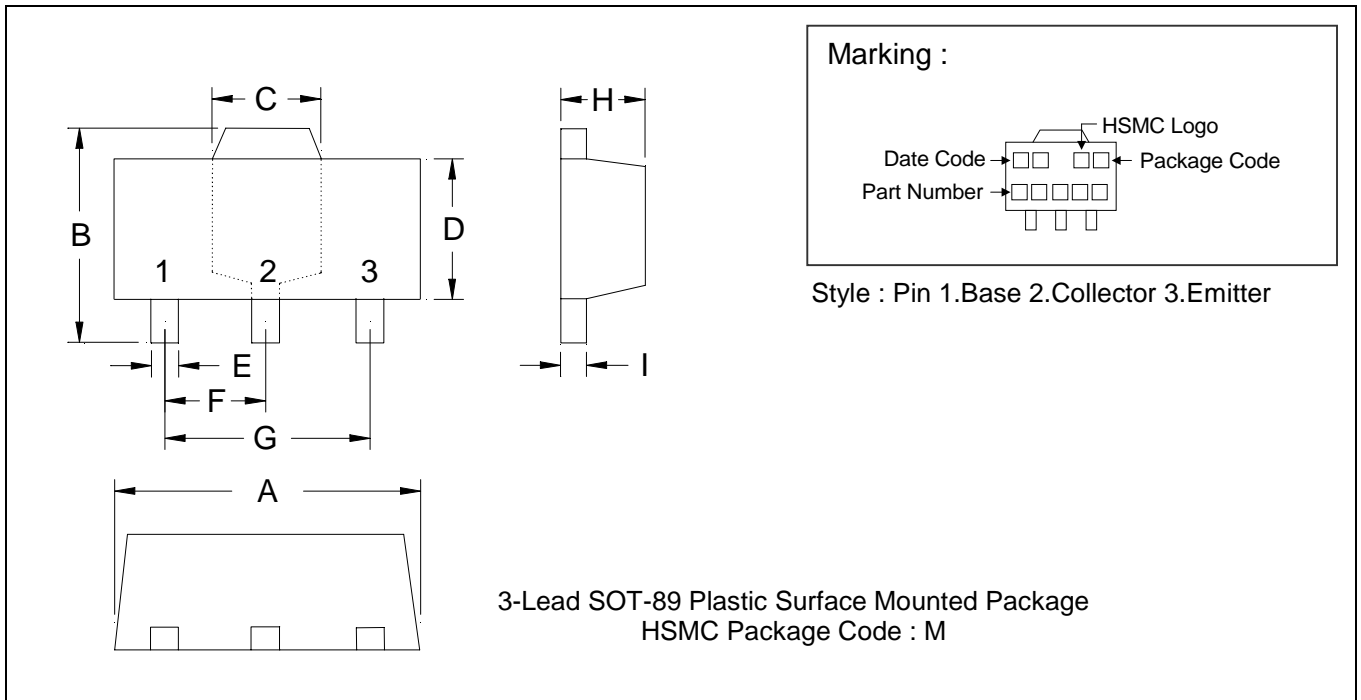


### Characteristics Curve





### SOT-89 Dimension



\*:Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.1732	0.1811	4.40	4.60	F	0.0583	0.0598	1.48	1.52
B	0.1594	0.1673	4.05	4.25	G	0.1165	0.1197	2.96	3.04
C	0.0591	0.0663	1.50	1.70	H	0.0551	0.0630	1.40	1.60
D	0.0945	0.1024	2.40	2.60	I	0.0138	0.0161	0.35	0.41
E	0.0141	0.0201	0.36	0.51					

**Notes :** 1.Dimension and tolerance based on our Spec. dated May. 05,1996.  
 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

**Important Notice:**

- All rights are reserved. Reproduction in whole or in part is prohibited without the prior written approval of HSMC.
- HSMC reserves the right to make changes to its products without notice.
- **HSMC semiconductor products are not warranted to be suitable for use in Life-Support Applications, or systems.**
- HSMC assumes no liability for any consequence of customer product design, infringement of patents, or application assistance.

**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
- **Factory 2** : No. 17-1, Ta-Tung Rd., Fu-Kou Hsin-Chu Industrial Park Hsin-Chu Taiwan. R.O.C  
 Tel : 886-3-5977061 Fax : 886-3-5979220