



# HM5401

PNP EPITAXIAL PLANAR TRANSISTOR

## Description

The HM5401 is designed for general purpose applications requiring high breakdown voltages.

## Features

- High current-emitter breakdown voltage.  $V_{CEO}=150V$  (@ $I_C=1mA$ )
- Complements to NPN type HM5551

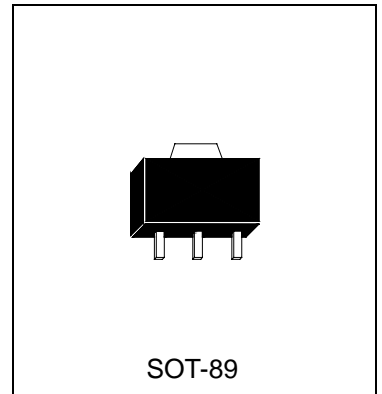
## Absolute Maximum Ratings

- Maximum Temperatures  
 Storage Temperature ..... -55 ~ +150 °C  
 Junction Temperature ..... +150 °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 ..... -160 V  
 VCES Collector to Emitter Voltage ..... -150 V  
 VEBO Emitter to Base Voltage ..... -5 V  
 IC Collector Current ..... -600 mA

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

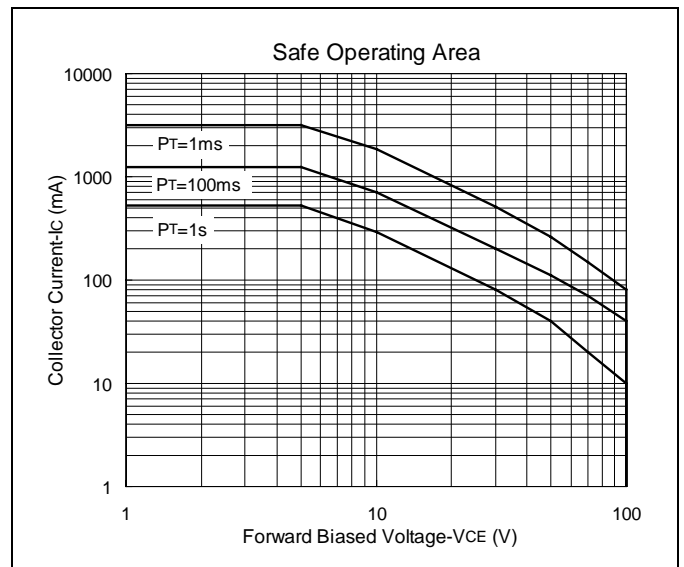
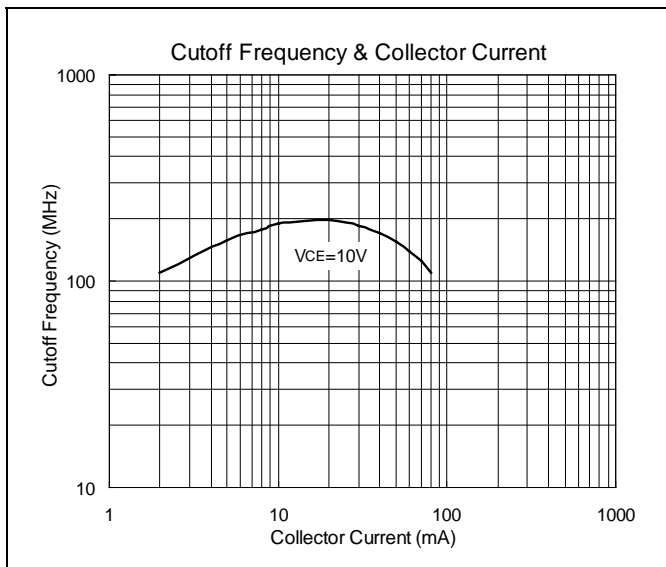
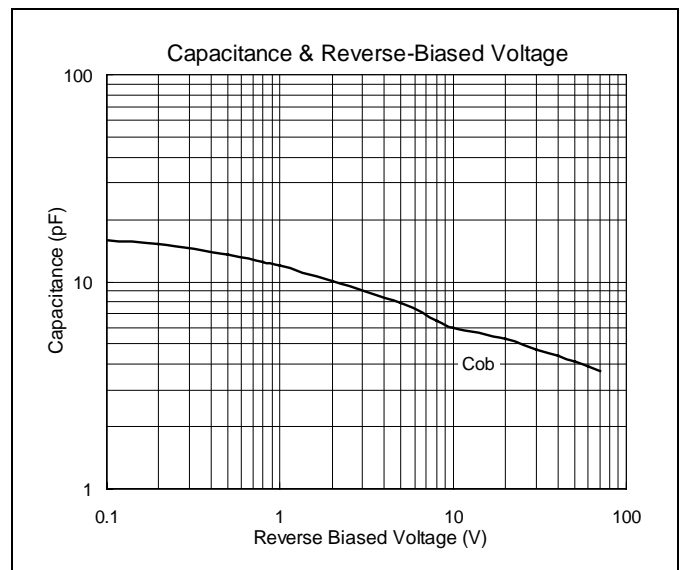
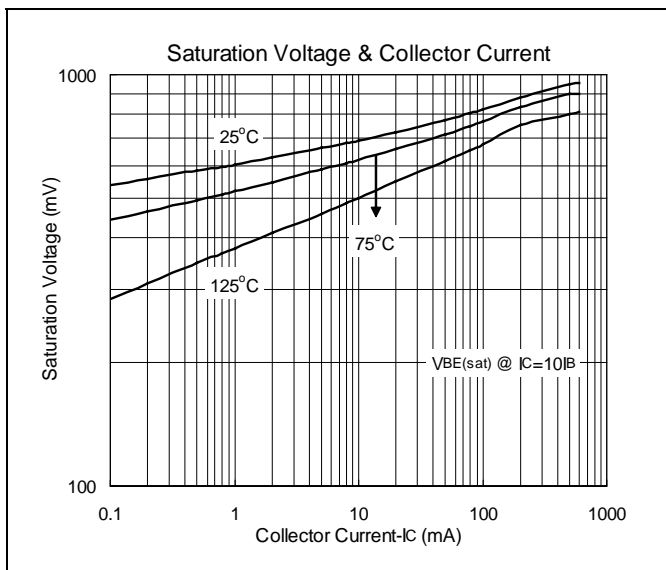
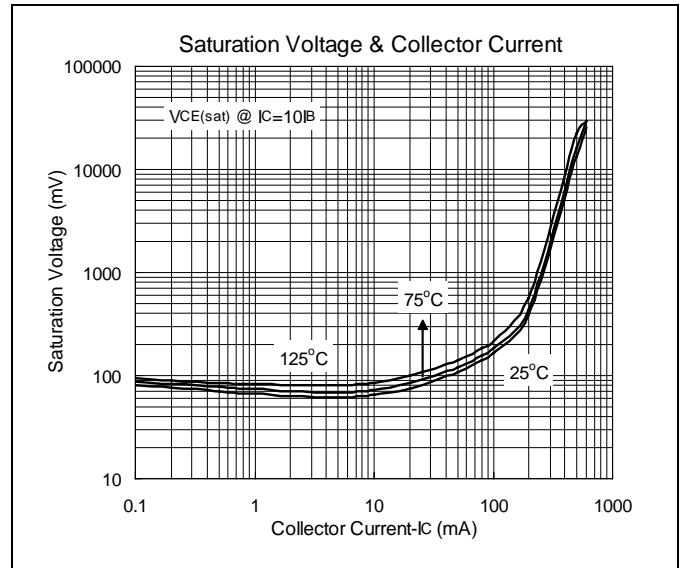
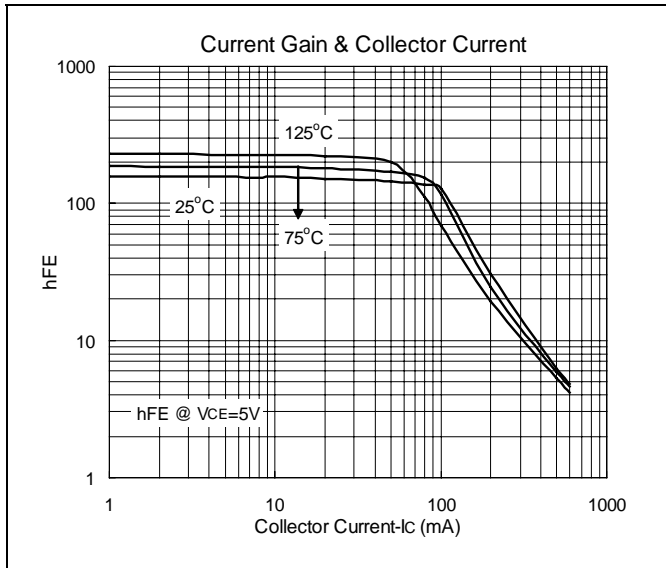
Symbol	Min.	Max.	Unit	Test Conditions
BVCBO	-160	-	V	$I_C=-100\mu A$
BVCEO	-150	-	V	$I_C=-1mA$
BVEBO	-5	-	V	$I_E=-10\mu A$
ICBO	-	-50	nA	$V_{CB}=-120V$
IEBO	-	-50	nA	$V_{EB}=-5V$
* $V_{CE(sat)1}$	-	-0.2	V	$I_C=-10mA, I_B=-1mA$
* $V_{CE(sat)2}$	-	-0.5	V	$I_C=-50mA, I_B=-5mA$
* $V_{BE(sat)1}$	-	-1	V	$I_C=-10mA, I_B=-1mA$
* $V_{BE(sat)2}$	-	-1	V	$I_C=-50mA, I_B=-5mA$
*hFE1	50	-		$V_{CE}=-5V, I_C=-1mA$
*hFE2	60	240		$V_{CE}=-5V, I_C=-10mA$
*hFE3	50	-		$V_{CE}=-5V, I_C=-50mA$
fT	100	-	MHz	$V_{CE}=-10V, I_C=-10mA, f=100MHz$
Cob	-	6	pF	$V_{CB}=-10V, f=1MHz$

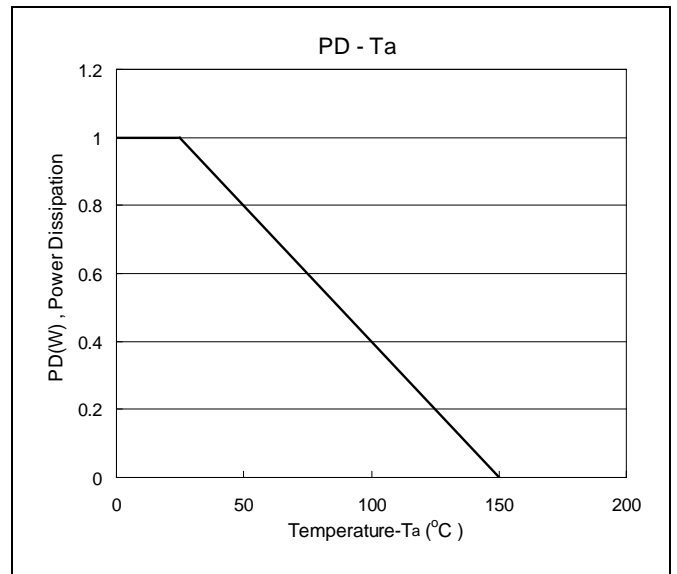
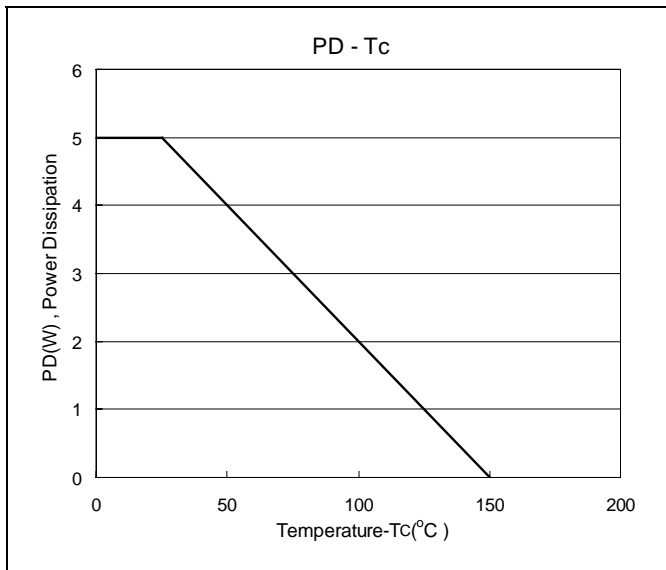
\*Pulse Test: Pulse Width  $\leq 380\mu s$ , Duty Cycle  $\leq 2\%$





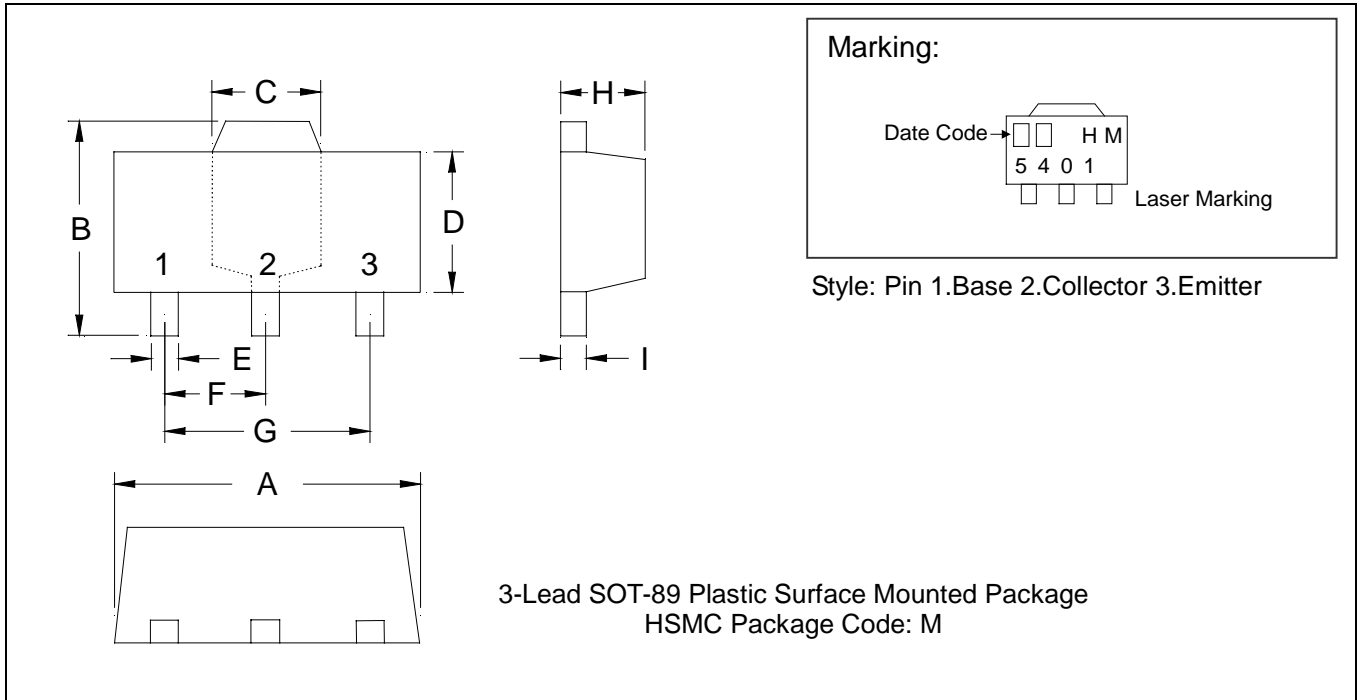
### Characteristics Curve







### 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

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