



# HM28S

NPN EPITAXIAL PLANAR TRANSISTOR

## Description

The HM28S is a NPN silicon transistor, designed for use in general-purpose SPEECH SYNTHESIZER (Voice Rom) IC audio output driver stage amplifier applications.

## Features

- Excellent hFE Linearity
- High DC Current Gain
- High Power Dissipation

## Absolute Maximum Ratings

- Maximum Temperatures  
Storage Temperature ..... -55 ~ +150 °C  
Junction Temperature ..... 150 °C Maximum
- Maximum Power Dissipation  
Total Power Dissipation (Ta=25°C)..... 850 mW
- Maximum Voltages and Currents (Ta=25°C)  
VCBO Collector to Base Voltage..... 40 V  
VCEO Collector to Emitter Voltage ..... 20 V  
VEBO Emitter to Base Voltage..... 6 V  
IC Collector Current ..... 1.25 A  
IB Base Current ..... 0.4 A

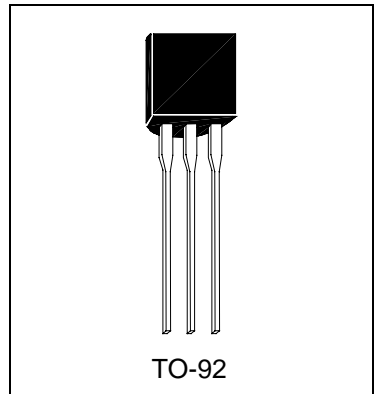
## Characteristics (Ta=25°C)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BVCBO	40	-	-	V	IC=100uA, IE=0
BVCEO	20	-	-	V	IC=1mA, IB=0
BVEBO	6	-	-	V	IE=100uA, IC=0
ICBO	-	-	100	nA	VCB=35V, IE=0
IEBO	-	-	100	nA	VEB=6V, IC=0
*VCE(sat)	-	-	0.55	V	IC=600mA, IB=20mA
*hFE1	290	-	-		VCE=1V, IC=1mA
*hFE2	300	-	1000		VCE=1V, IC=0.1A
hFE3	300	-	-		VCE=1V, IC=0.3A
hFE4	300	-	-		VCE=1V, IC=0.5A
fT	100	-	-	MHz	VCE=10V, IC=50mA, f=1MHz
Cob	-	9	-	pF	VCB=10V, f=1MHz, IE=0

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

## Classification of hFE2

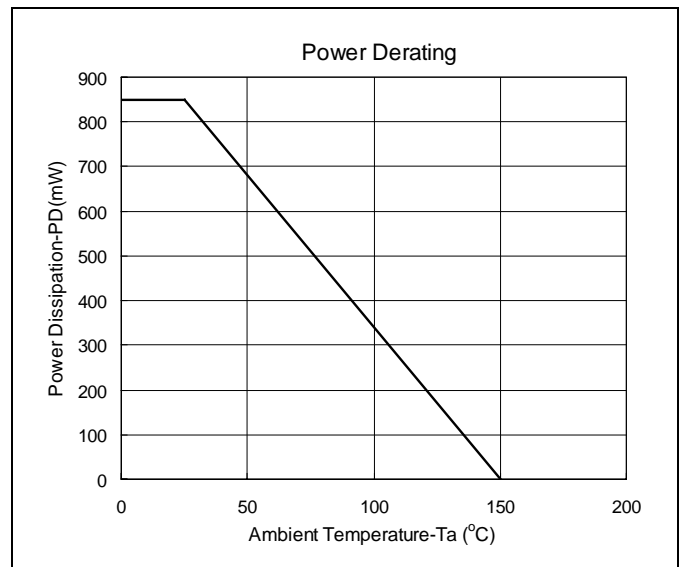
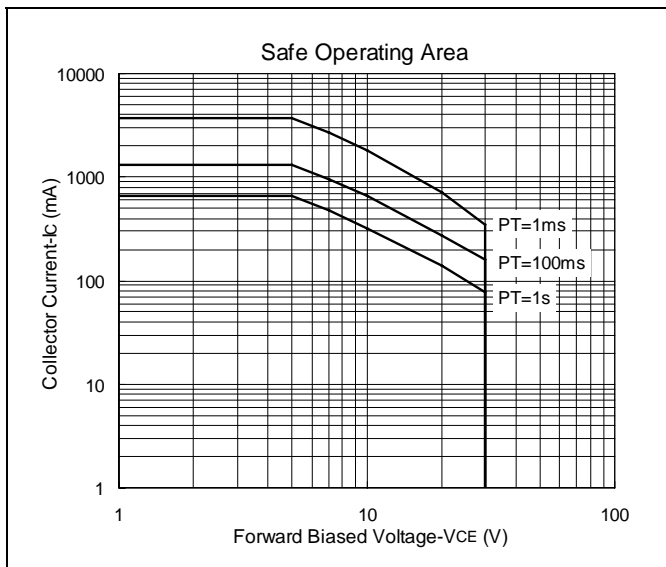
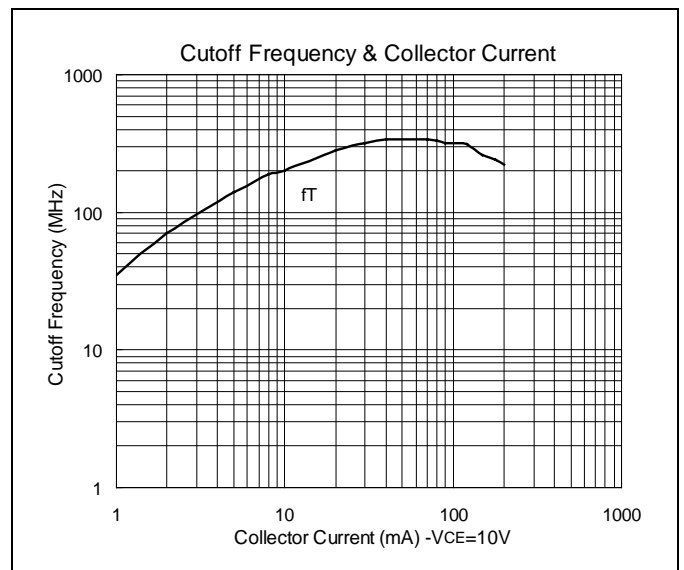
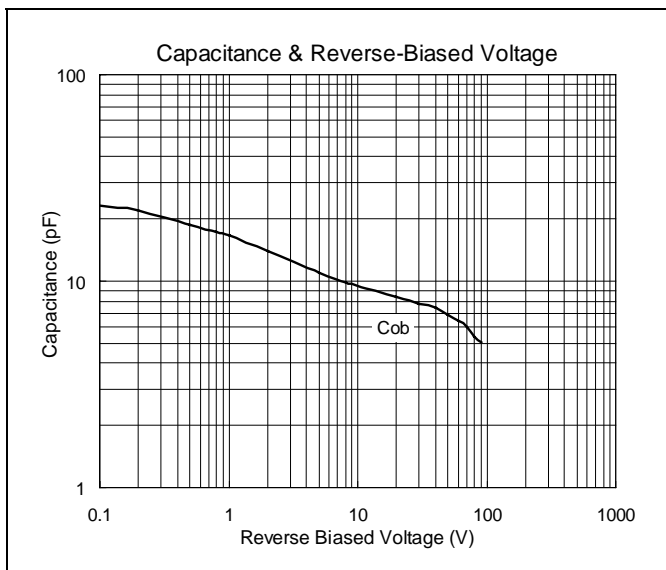
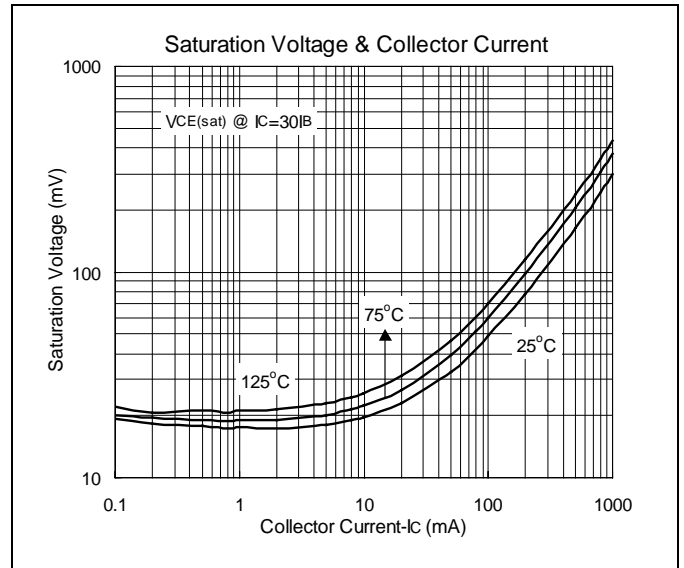
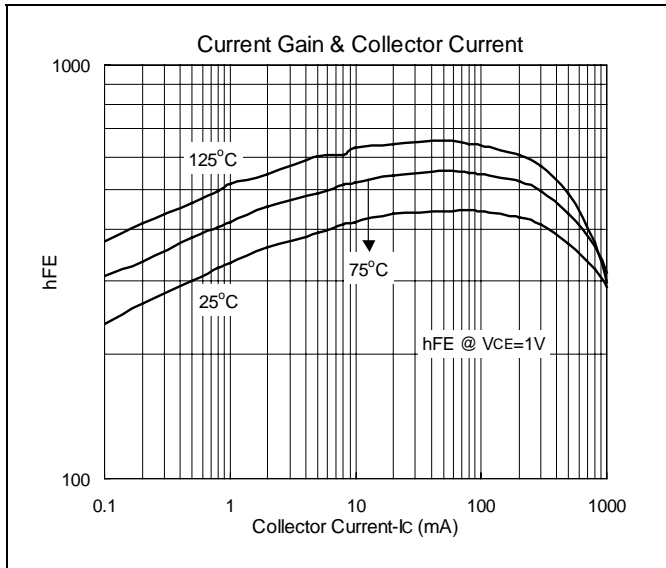
Rank	B	C	D
Range	300-550	500-700	650-1000



TO-92

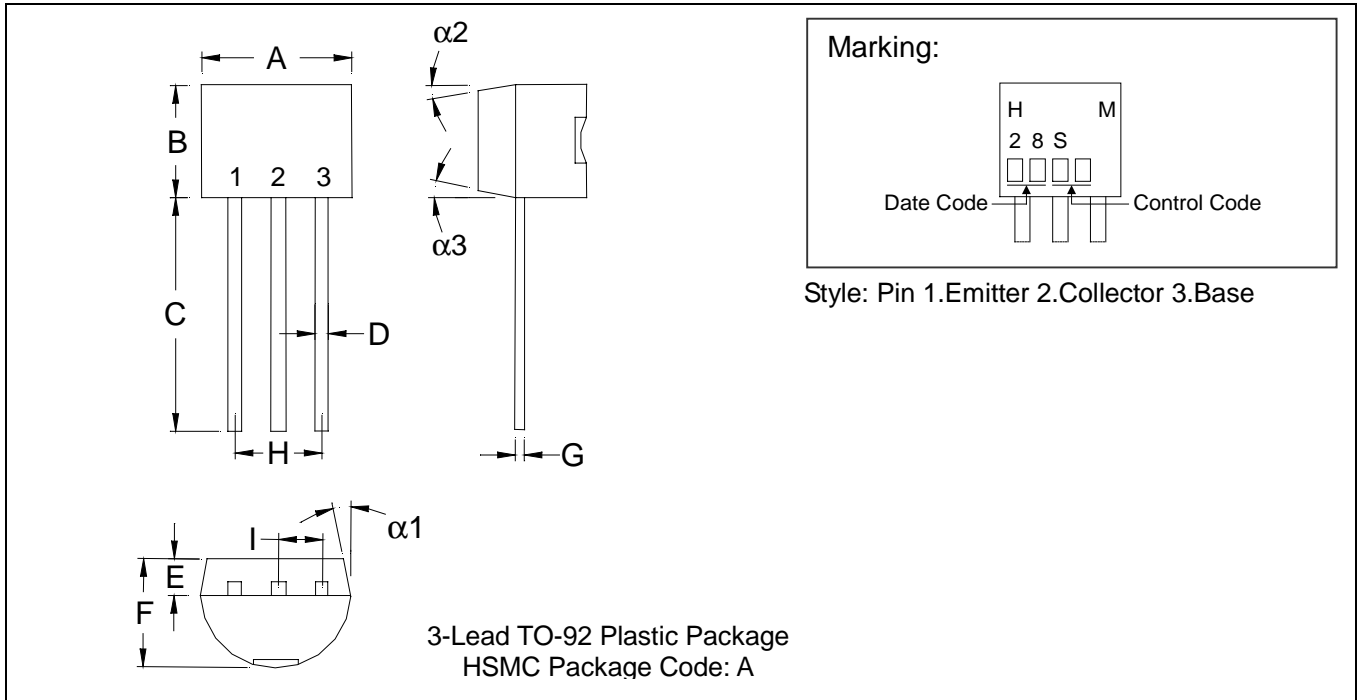


### Characteristics Curve





### 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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