

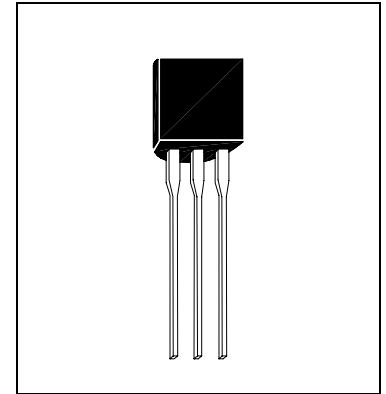


# HMPS650

NPN SILICON TRANSISTOR

## Description

The HMPS650 is designed for audio transistor.



## Absolute Maximum Ratings

- Maximum Temperatures
  - Storage Temperature ..... -55 ~ +150 °C
  - Junction Temperature ..... +150 °C Maximum
- Maximum Power Dissipation
  - Total Power Dissipation (Ta=25°C) ..... 625 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 ..... 5 V
  - IC Collector Current ..... 2 A

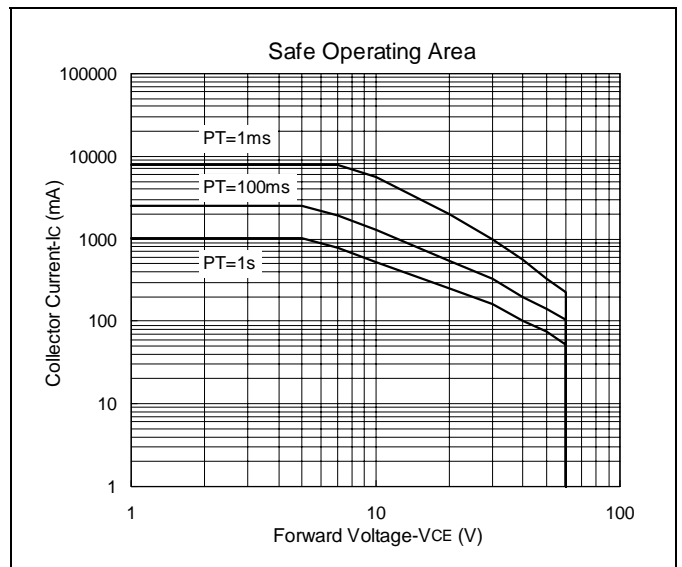
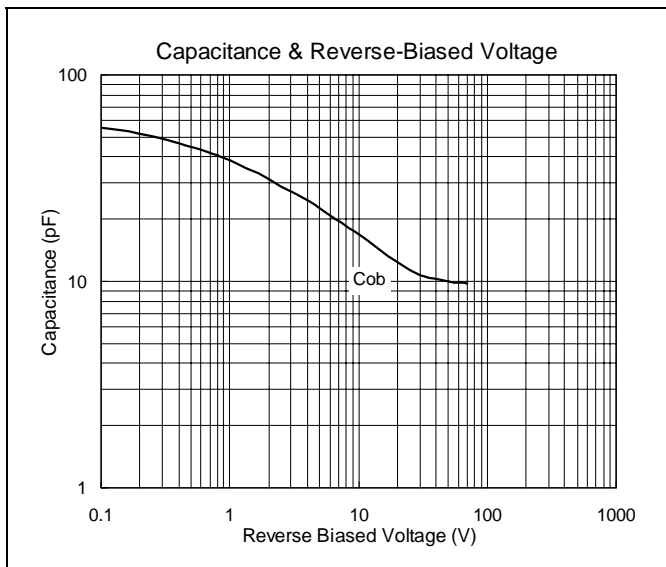
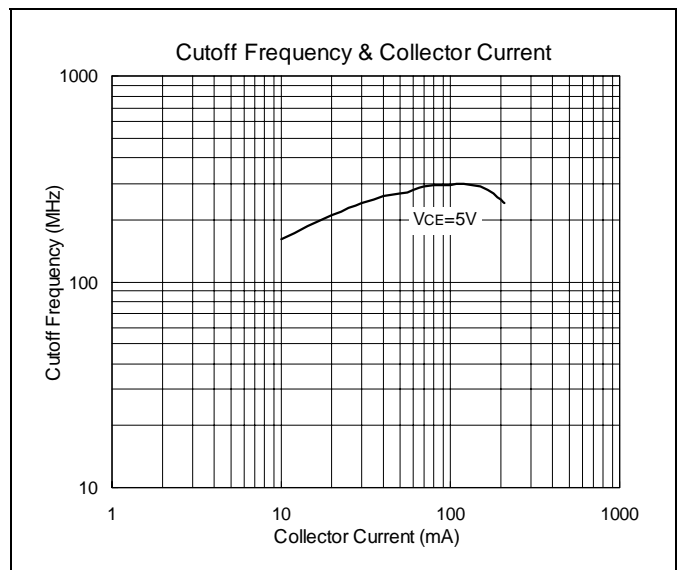
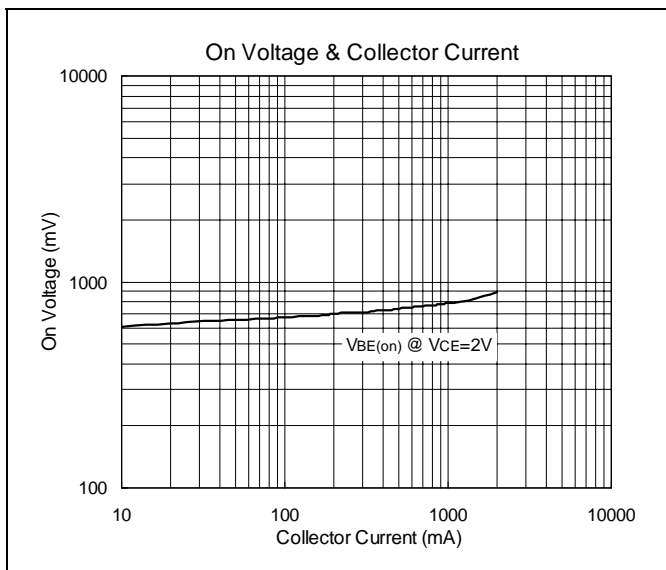
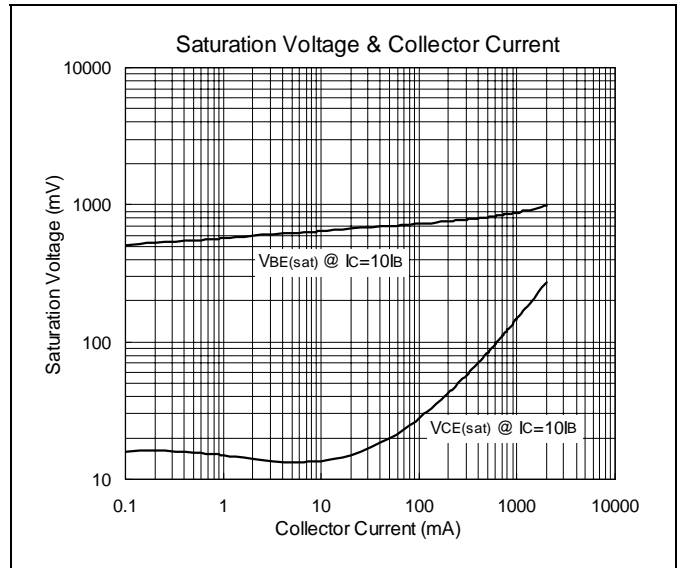
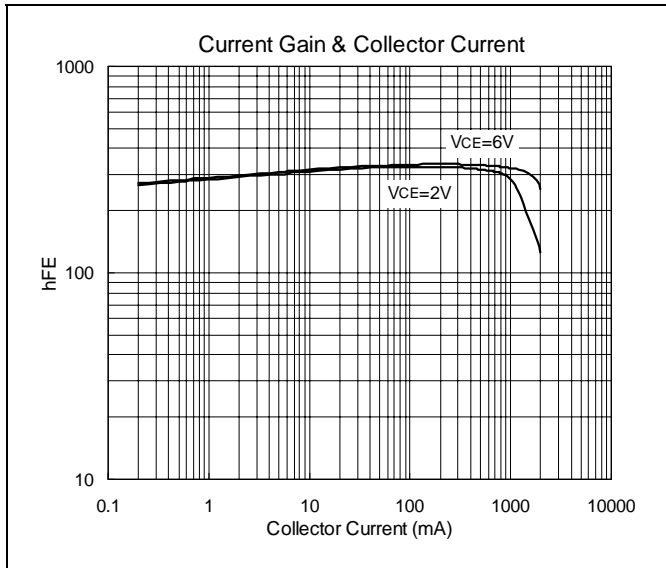
## Characteristics (Ta=25°C)

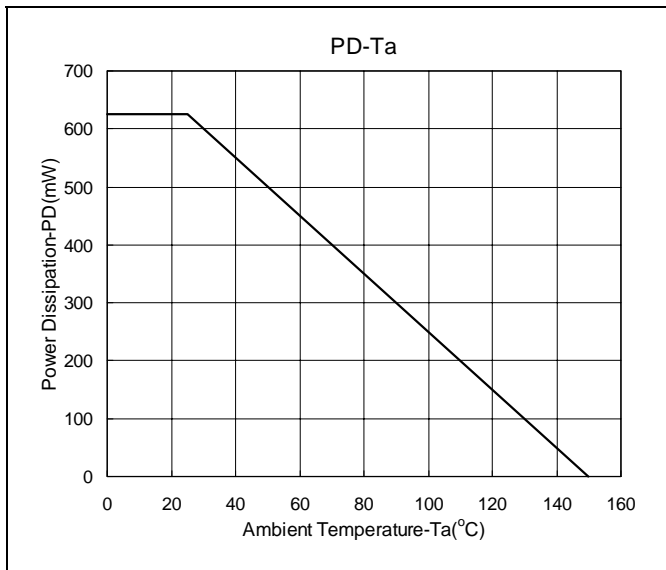
Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BVCBO	40	-	-	V	IC=10mA, IB=0
BVCEO	60	-	-	V	IC=100uA, IE=0
BVEBO	5	-	-	V	IE=10uA, IC=0
ICBO	-	-	100	nA	VCB=60V, IE=0
IEBO	-	-	100	nA	VEB=4V, IC=0
*VCE(sat)1	-	-	0.5	V	IC=2A, IB=200mA
*VCE(sat)2	-	-	0.3	V	IC=1A, IB=100mA
VBE(on)	-	-	1	V	VCE=2V, IC=1A
*VBE(sat)	-	-	1.2	V	IC=1A, IB=100mA
*hFE1	75	-	-		VCE=2V, IC=50mA
*hFE2	75	-	-		VCE=2V, IC=500mA
*hFE3	75	-	-		VCE=2V, IC=1A
*hFE4	40	-	-		VCE=2V, IC=2A
ft	75	-	-	MHz	VCE=5V, IC=50mA, f=100MHz

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



### Characteristics Curve







### TO-92 Dimension

3-Lead TO-92 Plastic Package  
HSMC Package Code : A

**Marking :**

HSMC Logo → □ □ □ □ ← Product Series  
 Part Number → □ □ □ □ □ □  
 Date Code → □ □ □ □ □ □ ← Rank  
 Laser Mark

HSMC Logo  
 Product Series  
 Part Number → □ □ □ □ □ □  
 Ink Mark

Style : Pin 1. Emitter 2. Base 3. Collector

\*: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	α1	-	*5°	-	*5°
E	-	*0.0500	-	*1.27	α2	-	*2°	-	*2°
F	0.1323	0.1480	3.36	3.76	α3	-	*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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