



HSC3953S

NPN EPITAXIAL PLANAR TRANSISTOR

Description

High-definition CRT display video output, wide-band amplifier applications.

Features

- High f_T : $f_T=500\text{MHz}$
- High breakdown voltage: $V_{CEO}=120\text{V}$ min
- Small reverse transfer capacitance



Absolute Maximum Ratings

- Maximum Temperatures
Storage Temperature -55 ~ +150 °C
Junction Temperature 150 °C Maximum
- Maximum Power Dissipation
Total Power Dissipation ($T_a=25^\circ\text{C}$) 900 mW
- Maximum Voltages and Currents ($T_a=25^\circ\text{C}$)
VCBO Collector to Base Voltage 120 V
VCEO Collector to Emitter Voltage 120 V
VEBO Emitter to Base Voltage 3 V
IC Collector Current 200 mA
Icp Peak Collector Current 400 mA

Characteristics ($T_a=25^\circ\text{C}$)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BVCBO	120	-	-	V	$I_C=10\mu\text{A}$, $I_E=0$
BVCEO	120	-	-	V	$I_C=1\text{mA}$, $I_B=0$
BVEBO	3	-	-	V	$I_E=100\mu\text{A}$, $I_C=0$
ICBO	-	-	0.1	μA	$V_{CB}=80\text{V}$, $I_E=0$
IEBO	-	-	0.1	μA	$V_{EB}=2\text{V}$, $I_C=0$
* $V_{CE}(\text{sat})$	-	-	1	V	$I_C=30\text{mA}$, $I_B=3\text{mA}$
* $V_{BE}(\text{sat})$	-	-	1	V	$I_C=30\text{mA}$, $I_B=3\text{mA}$
*hFE1	60	160	320		$V_{CE}=10\text{V}$, $I_C=10\text{mA}$
*hFE2	40	-	-		$V_{CE}=10\text{V}$, $I_C=100\text{mA}$
f_T	-	400	-	MHz	$V_{CE}=10\text{V}$, $I_C=50\text{mA}$,
Cob	-	2.1	-	pF	$I_E=0$, $V_{CB}=30\text{V}$, $f=1\text{MHz}$

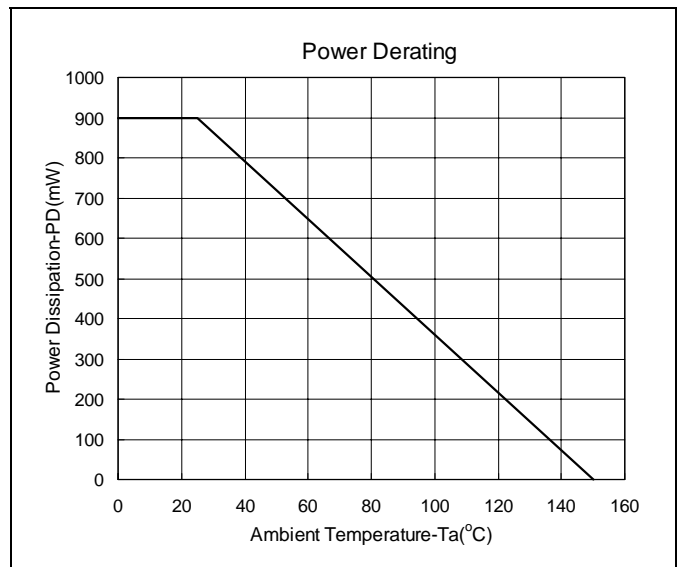
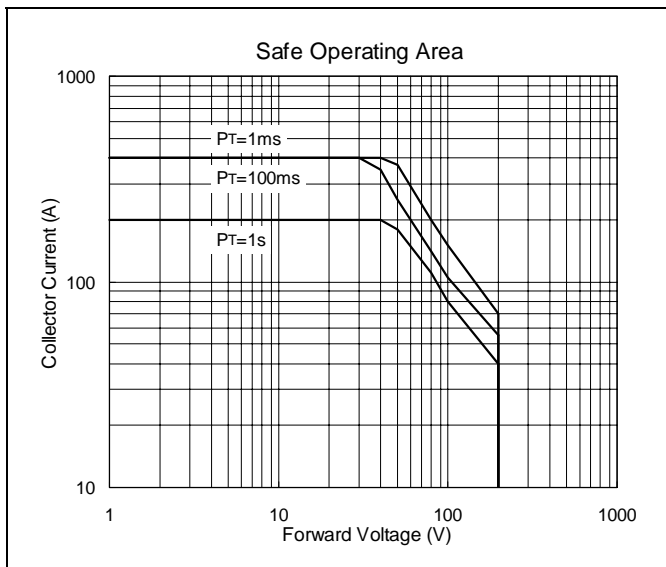
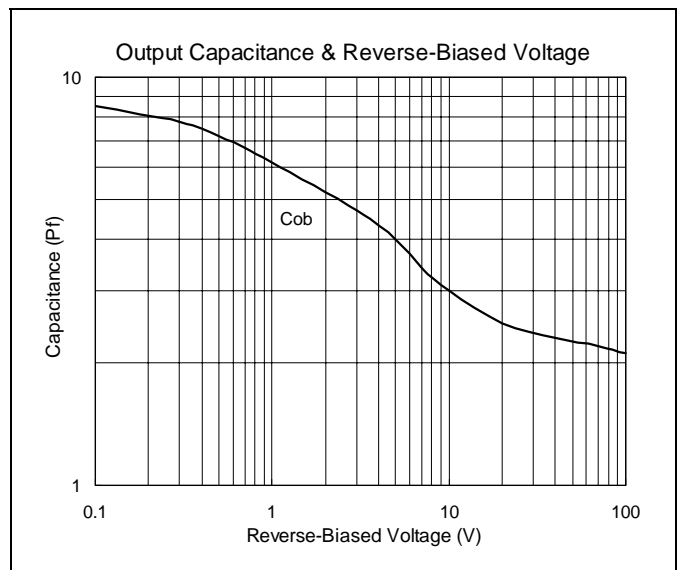
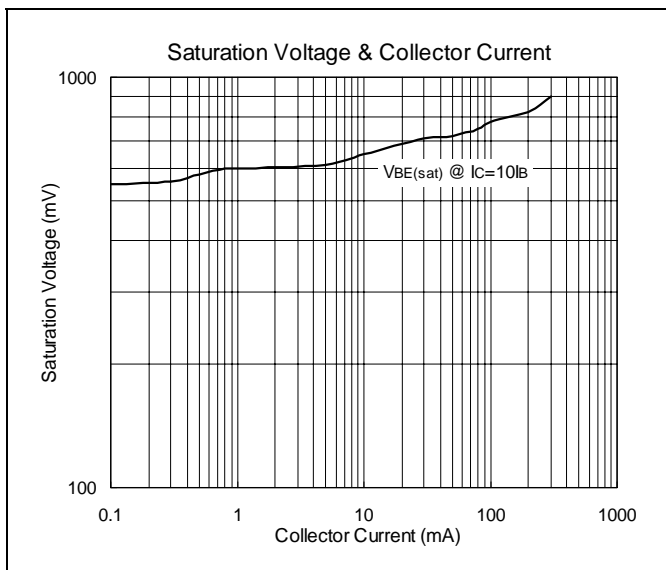
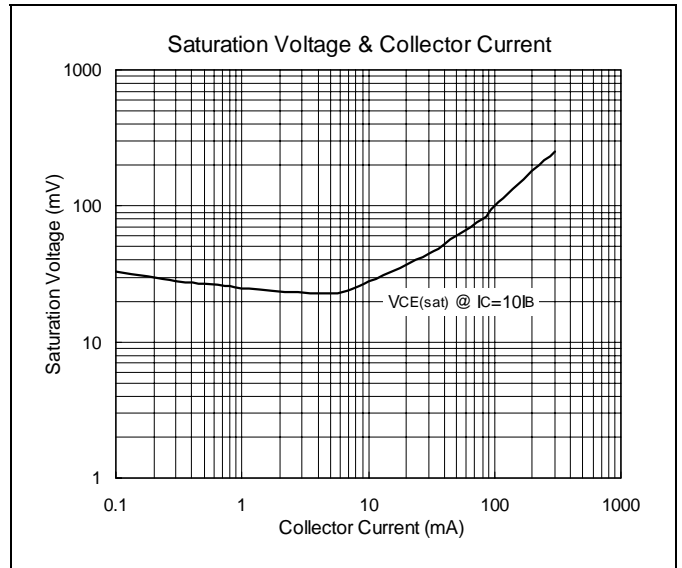
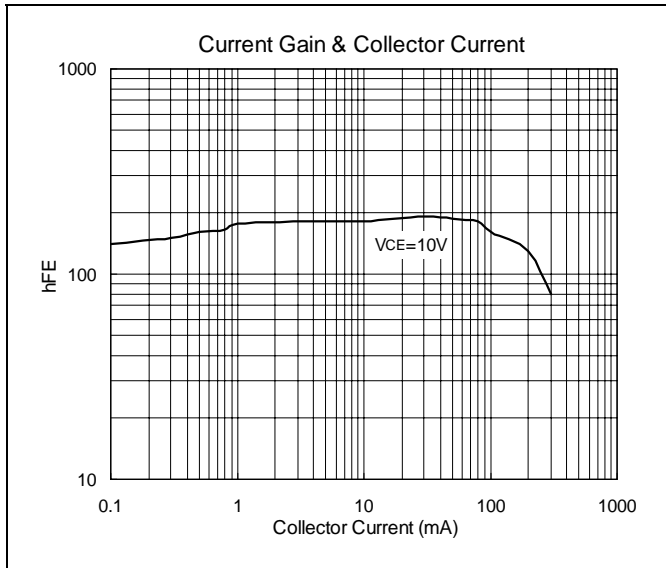
*Pulse Test : Pulse Width $\leq 380\mu\text{s}$, Duty Cycle $\leq 2\%$

Classification of hFE1

Rank	D	E	F
Range	60-120	100-200	160-320



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. Collector 3. Base

*: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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