

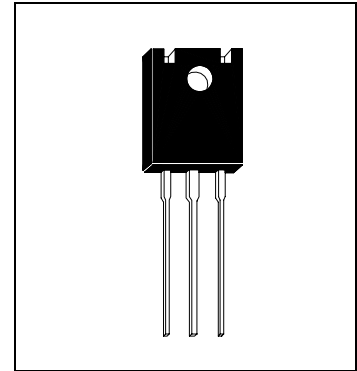


# HSC3953

NPN EPITAXIAL PLANAR TRANSISTOR

## Description

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



## Features

- High  $f_T$ : 500MHz
- High Breakdown Voltage:  $BV_{CEO}=120V_{min}$
- Small Reverse Transfer Capacitance & Excellent HF Response:  $C_{re}=1.7pF$

## Absolute Maximum Ratings ( $T_a=25^{\circ}C$ )

- Maximum Temperatures
  - Storage Temperature ..... -55 ~ +150 °C
  - Junction Temperature ..... +150 °C Maximum
- Maximum Power Dissipation
  - Total Power Dissipation ( $T_a=25^{\circ}C$ ) ..... 1.3 W
  - Total Power Dissipation ( $T_c=25^{\circ}C$ ) ..... 8 W
- Maximum Voltages and Currents
  - $BV_{CBO}$  Collector to Base Voltage ..... 120 V
  - $BV_{CEO}$  Collector to Emitter Voltage ..... 120 V
  - $BV_{EBO}$  Emitter to Base Voltage ..... 3 V
  - $I_C$  Collector Current ..... 200 mA
  - $I_{cp}$  Peak Collector Current ..... 400 mA

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

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
$BV_{CBO}$	120	-	-	V	$I_C=100\mu A, I_E=0$
$BV_{CEO}$	120	-	-	V	$I_C=1mA, I_B=0$
$BV_{EBO}$	3	-	-	V	$I_E=100\mu A, I_C=0$
$I_{CBO}$	-	-	0.1	$\mu A$	$V_{CB}=120V, I_E=0$
$I_{EBO}$	-	-	0.1	$\mu A$	$V_{EB}=2V$
* $V_{CE(sat)}$	-	-	1	V	$I_C=30mA, I_B=3mA$
* $V_{BE(sat)}$	-	-	1	V	$I_C=30mA, I_B=3mA$
* $h_{FE1}$	60	-	320		$I_C=10mA, V_{CE}=10V$
* $h_{FE2}$	40	-	-		$I_C=100mA, V_{CE}=10V$
$f_T$	-	400	-	MHz	$I_C=50mA, V_{CE}=10V$

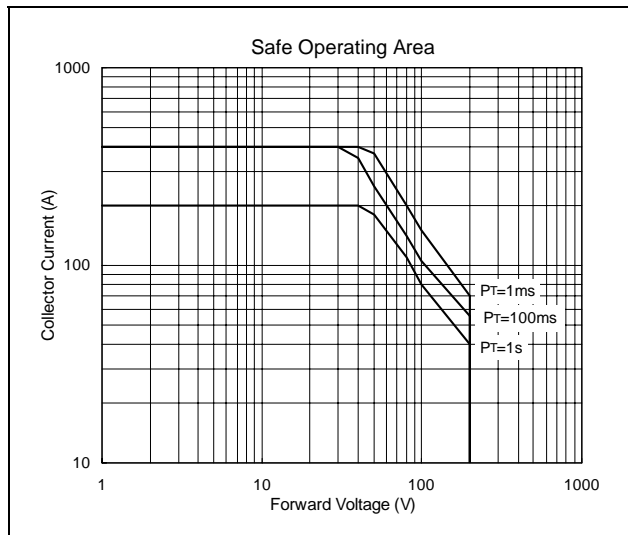
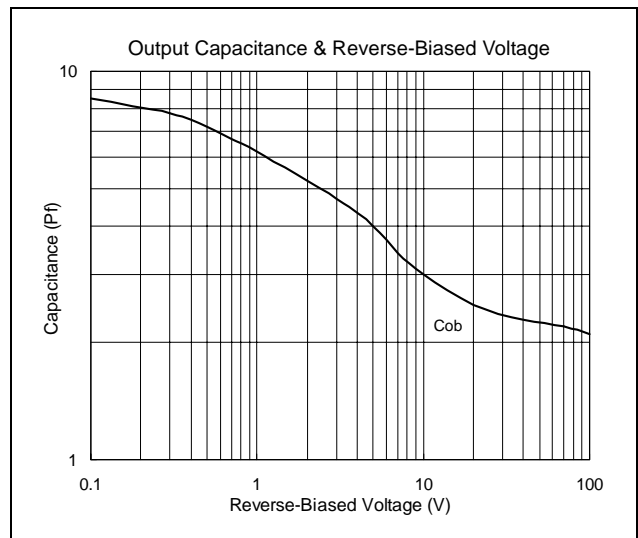
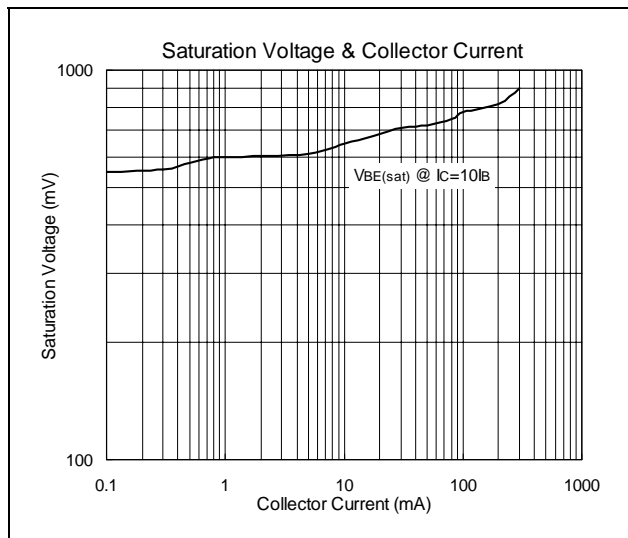
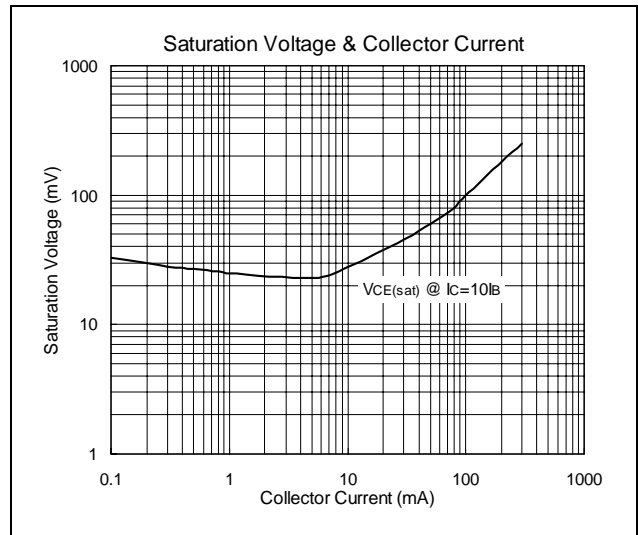
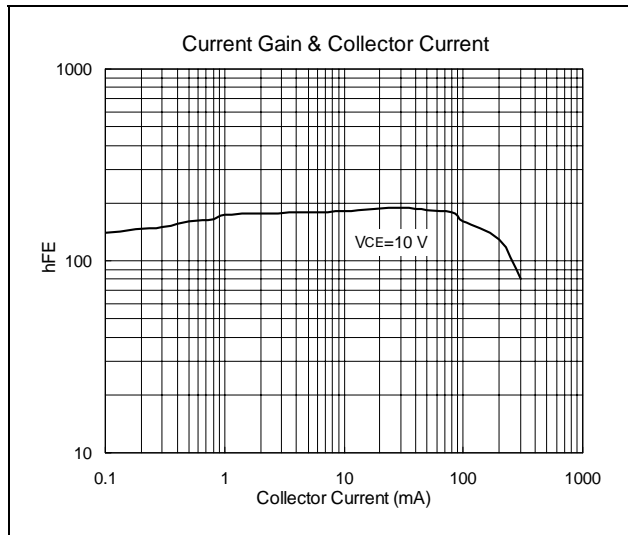
\*Pulse Test : Pulse Width  $\leq 380\mu s$ , Duty Cycle  $\leq 2\%$

## Classification Of $h_{FE1}$

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

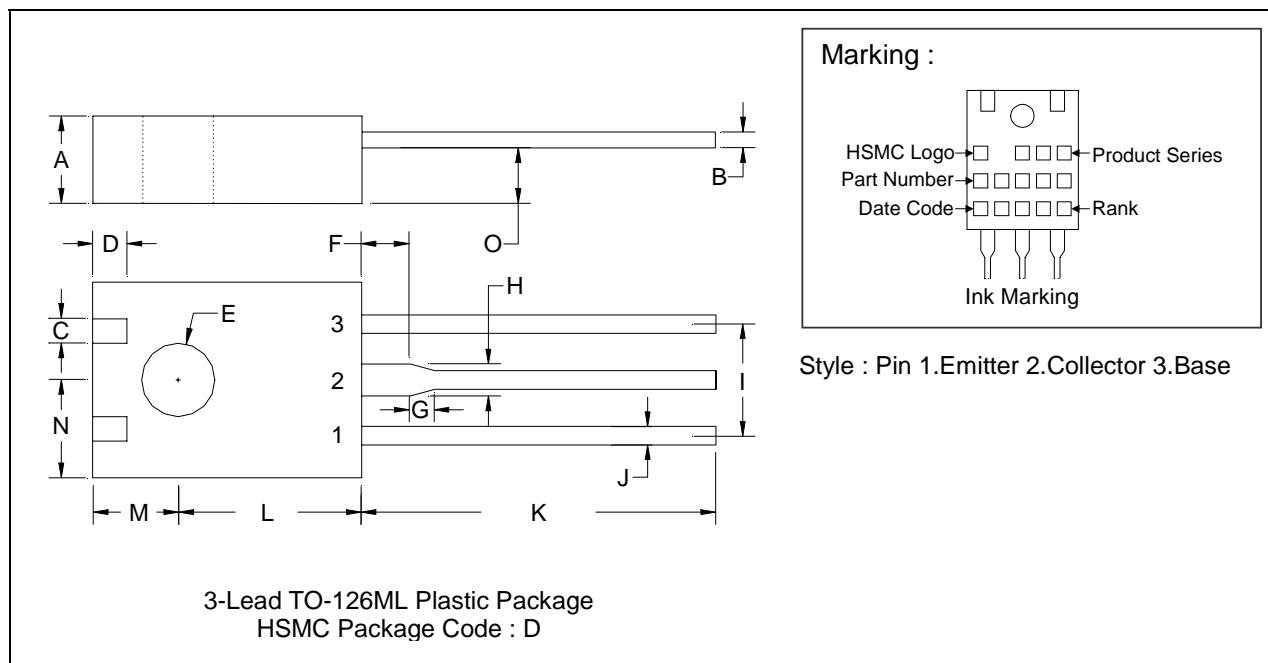


### Characteristics Curve





### TO-126ML Dimension



DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.1356	0.1457	3.44	3.70	I	-	*0.1795	-	*4.56
B	0.0170	0.0272	0.43	0.69	J	0.0268	0.0331	0.68	0.84
C	0.0344	0.0444	0.87	1.12	K	0.5512	0.5906	14.00	15.00
D	0.0501	0.0601	1.27	1.52	L	0.2903	0.3003	7.37	7.62
E	0.1131	0.1231	2.87	3.12	M	0.1378	0.1478	3.50	3.75
F	0.0737	0.0837	1.87	2.12	N	0.1525	0.1625	3.87	4.12
G	0.0294	0.0494	0.74	1.25	O	0.0740	0.0842	1.88	2.14
H	0.0462	0.0562	1.17	1.42					

Notes : 1.Dimension and tolerance based on our Spec. dated Mar. 6,1995.  
 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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**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