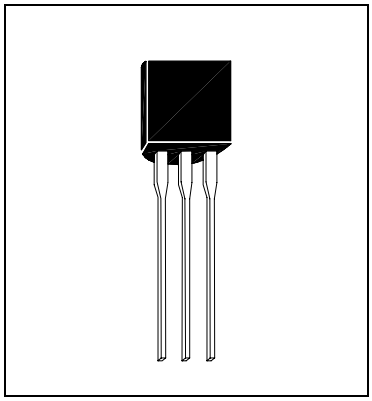
HMPSA13

NPN SILICON DARLINGTON TRANSISTOR



Description

The HMPSA13 is designed for applications requiring extremely high current gain at collector to 500mA.

Features

- High D.C. Current Gain
- Complementary to HMPSA63

Absolute Maximum Ratings

- Maximum Temperatures
  Storage Temperature ..... -55 ~ +150 °C
  Junction Temperature ..... +150 °C Maximum
- Maximum Power Dissipation
  Total Power Dissipation (Ta=25°C) ..... 600 mW
- Maximum Voltages and Currents (Ta=25°C)
  VCBO Collector to Base Voltage ..... 30 V
  VCES Collector to Emitter Voltage..... 30 V
  VEBO Emitter to Base Voltage ..... 10 V
  IC Collector Current..... 500 mA

Characteristics (Ta=25°C)

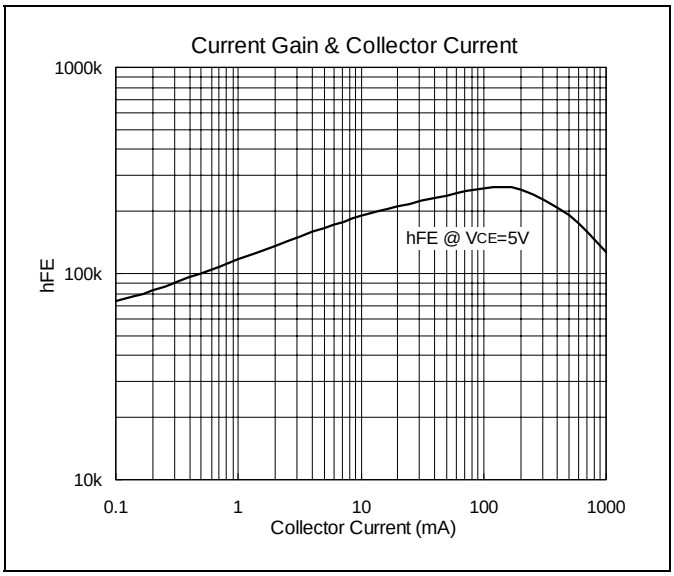
Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BVCBO	30	-	-	V	IC=100uA, IE=0
BVCES	30	-	-	V	IC=100uA, VBE=0
BVEBO	10	-	-	V	IE=10uA, IC=0
ICBO	-	-	100	nA	VCB=30V, IE=0
IEBO	-	-	100	nA	VEB=10V, IC=0
*VCE(sat)1	-	-	1.5	V	IC=100mA, IB=0.1mA
*VCE(sat)2	-	1.0	-	V	IC=500mA, IB=0.5mA
*hFE1	5	-	-	K	VCE=5V, IC=10mA
*hFE2	10	-	-	K	VCE=5V, IC=100mA
*hFE3	-	50	-	K	VCE=5V, IC=500mA
fT	125	-	-	MHz	VCE=5V, IC=10mA, f=100MHz
Cob	-	-	6	pF	VCB=10V, f=1MHz

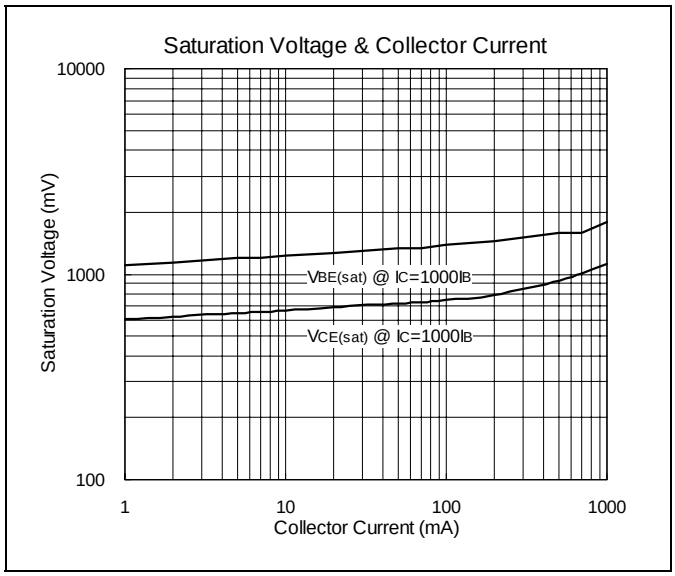
*Pulse Test : Pulse Width ≤380us, Duty Cycle≤2%

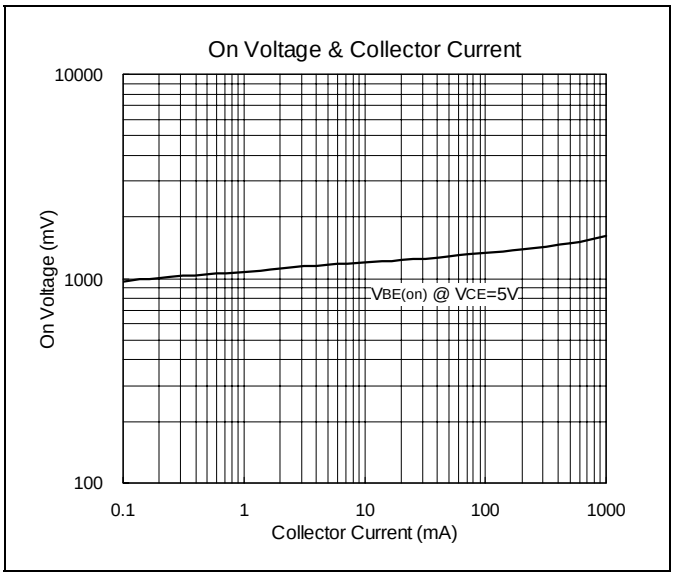
Classification Of hFE3

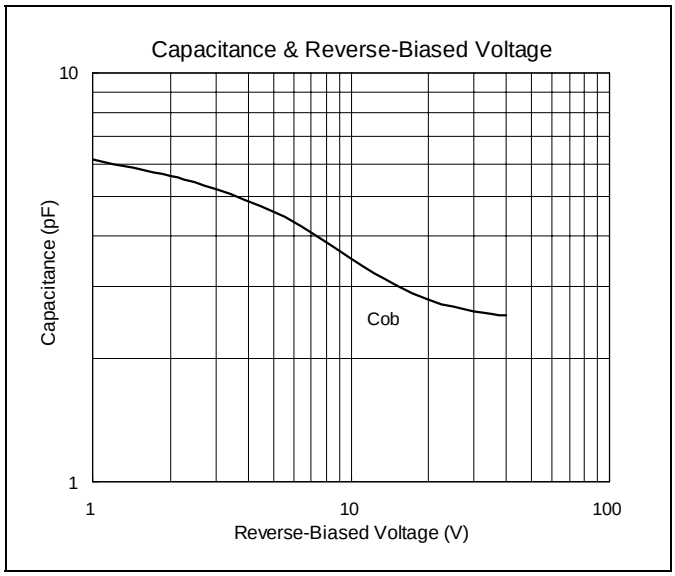
Rank	VCE(sat)2	hFE3
SUN	<1.2V	>20K
N	VCE(sat)2	hFE3

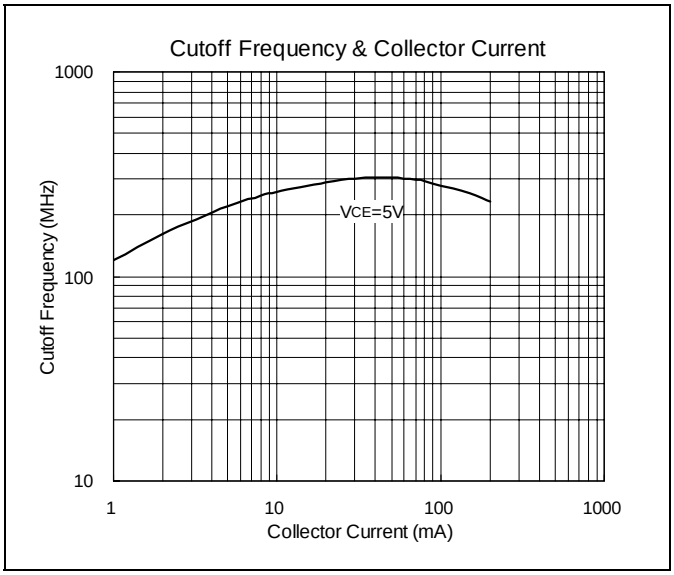
Characteristics Curve

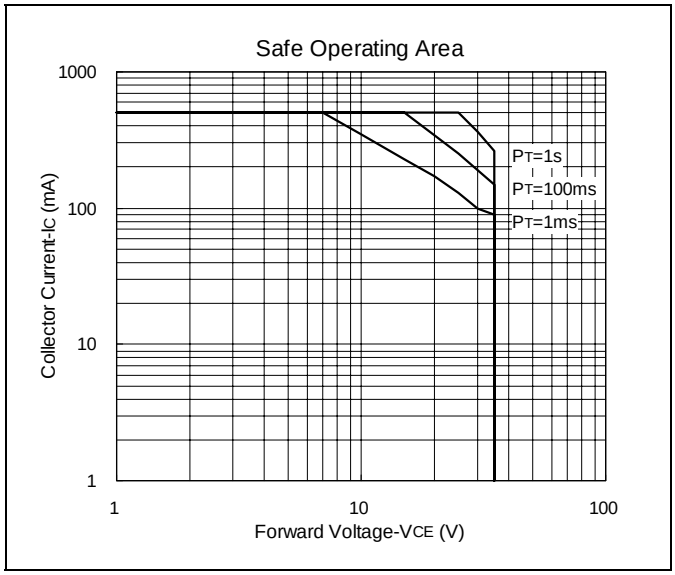


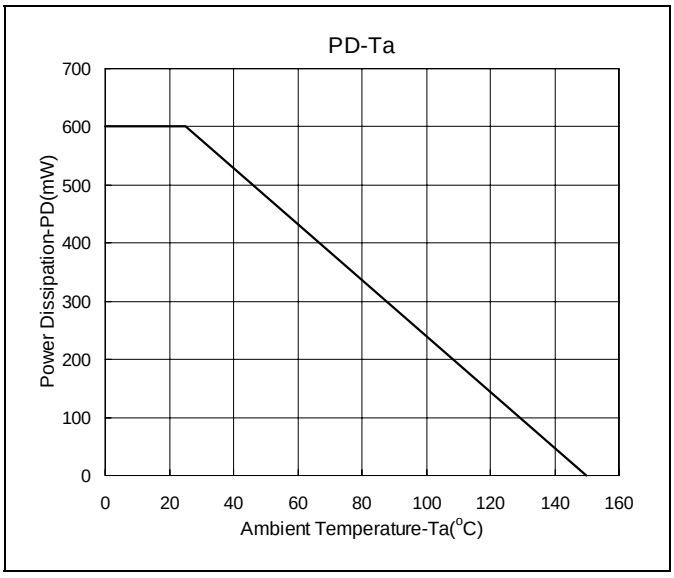




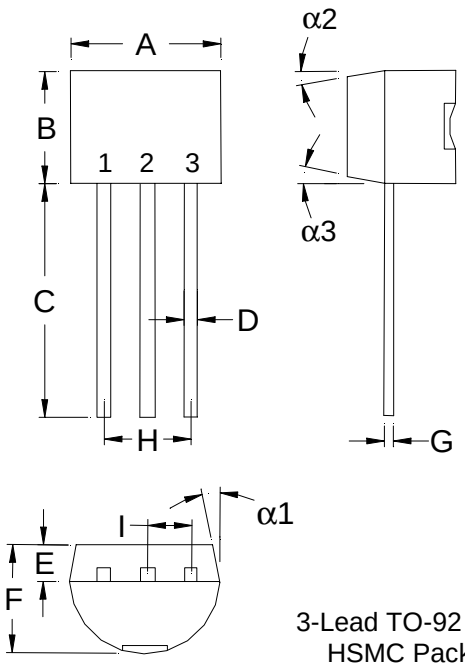






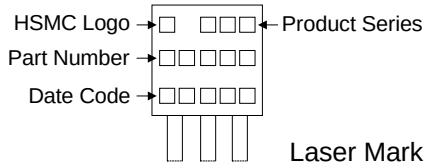

PD-Ta
Power Dissipation-PD(mW)
700
600
500
400
300
200
100
0
0
20
40
60
80
100
120
140
160
Ambient Temperature-Ta(°C)

TO-92 Dimension

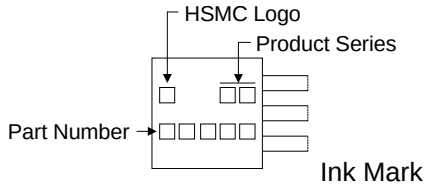


3-Lead TO-92 Plastic Package
HSMC Package Code : A

Marking :



Laser Mark



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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