

## GMPSA13 NPN SILICON DARLINGTON TRANSISTOR

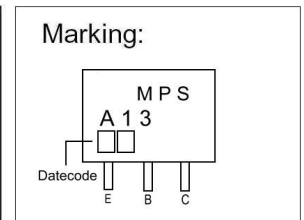
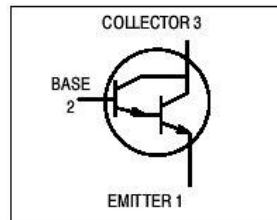
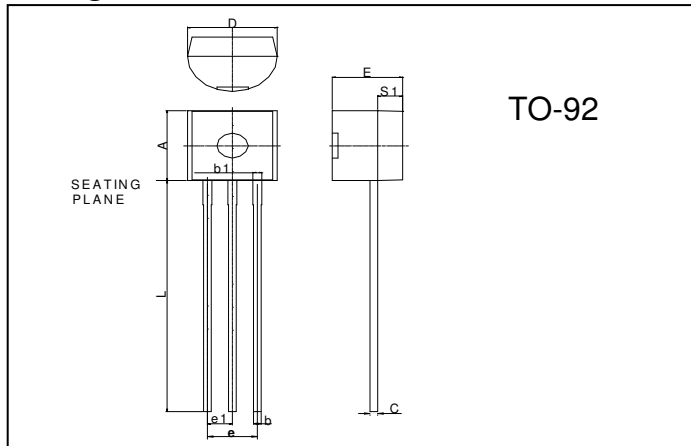
### Description

The GMPSA13 is designed for darlington applications requiring extremely high current gain at collector to 500mA.

### Features

- \*High D.C. Current Gain
- \*Complementary to GMPSA63

### Package Dimensions



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	4.45	4.7	D	4.44	4.7
S1	1.02	-	E	3.30	3.81
b	0.36	0.51	L	12.70	-
b1	0.36	0.76	e1	1.150	1.390
C	0.36	0.51	e	2.42	2.66

### Absolute Maximum Ratings at Ta = 25°C

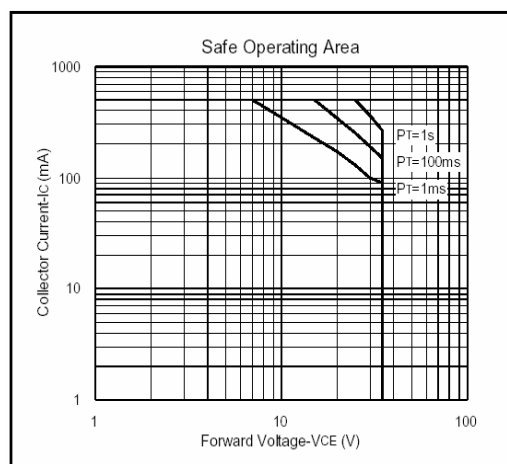
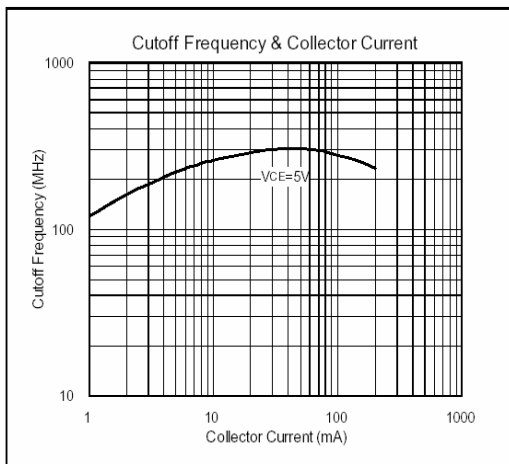
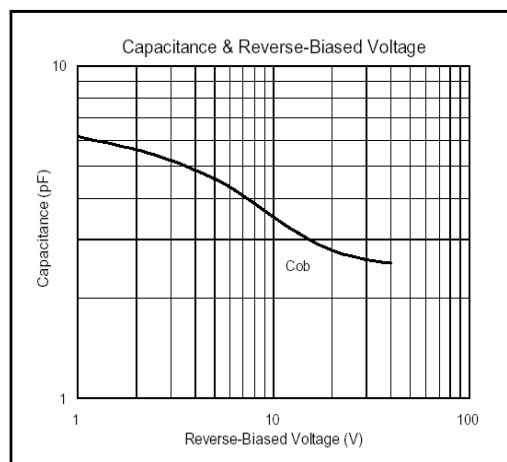
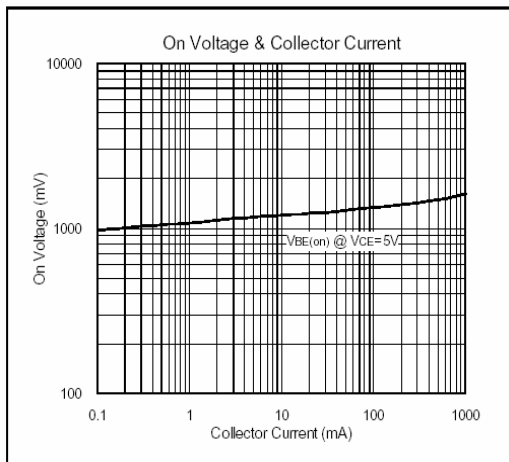
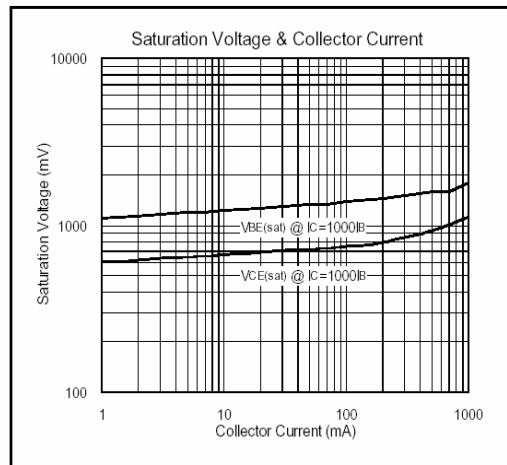
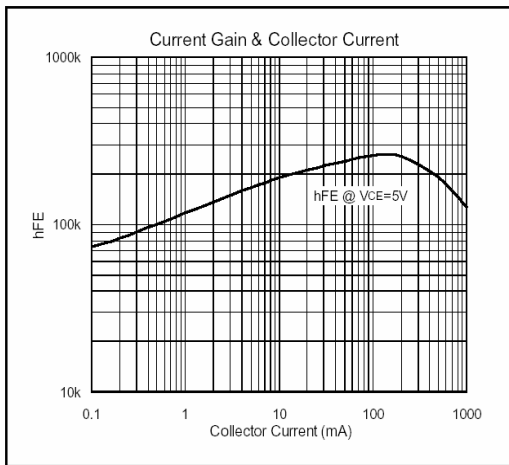
Parameter	Symbol	Ratings	Unit
Junction Temperature	Tj	+150	°C
Storage Temperature	Tstg	-55 ~ +150	°C
Collector to Base Voltage	VCBO	30	V
Collector to Emitter Voltage	VCES	30	V
Emitter to Base Voltage	VEBO	10	V
Collector Current	IC	500	mA
Total Power Dissipation	PD	625	mW

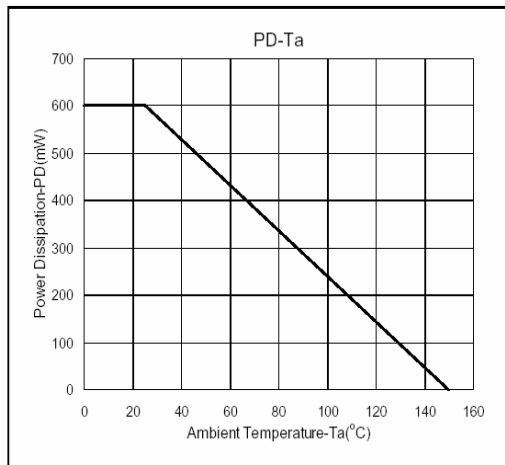
### Characteristics at Ta = 25°C

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV <sub>CB0</sub>	30	-	-	V	I <sub>C</sub> =100μA, I <sub>E</sub> =0
BV <sub>CES</sub>	30	-	-	V	I <sub>C</sub> =100μA, V <sub>BE</sub> =0
BV <sub>EBO</sub>	10	-	-	V	I <sub>E</sub> =10μA, I <sub>C</sub> =0
I <sub>CB0</sub>	-	-	100	nA	V <sub>CB</sub> =30V, I <sub>E</sub> =0
I <sub>EBO</sub>	-	-	100	nA	V <sub>EB</sub> =10V, I <sub>C</sub> =0
*V <sub>CE(sat)1</sub>	-	-	1.5	V	I <sub>C</sub> =100mA, I <sub>B</sub> =0.1mA
*V <sub>CE(sat)2</sub>	-	1.0	-	V	I <sub>C</sub> =500mA, I <sub>B</sub> =0.5mA
*h <sub>FE1</sub>	5	-	-	K	V <sub>CE</sub> =5V, I <sub>C</sub> =10mA
*h <sub>FE2</sub>	10	-	-	K	V <sub>CE</sub> =5V, I <sub>C</sub> =100mA
*h <sub>FE3</sub>	-	50	-	K	V <sub>CE</sub> =5V, I <sub>C</sub> =500mA
f <sub>T</sub>	125	-	-	MHz	V <sub>CE</sub> =5V, I <sub>C</sub> =10mA, f=100MHz
C <sub>ob</sub>	-	-	6	pF	V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=1MHz

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

## Characteristics Curve





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