

## GISD1803 NPN EPITAXIAL PLANAR SILICON TRANSISTOR

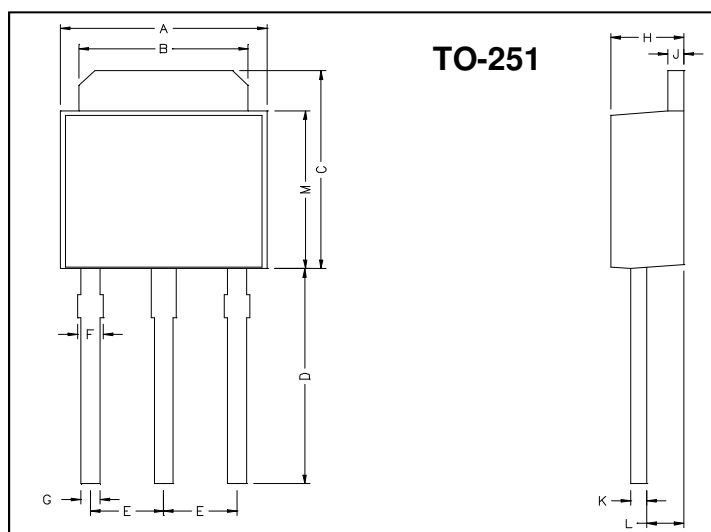
### Description

The GISD1803 applies to relay drivers, high-speed inverters, converters, and other general high-current switching applications.

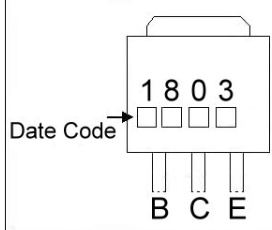
### Features

- \*Low collector-to-emitter saturation voltage.
- \*High current and high  $f_T$
- \*Excellent linearity of  $h_{FE}$
- \*Fast switching time

### Package Dimensions



### Marking :



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	6.40	6.80	G	0.50	0.70
B	5.20	5.50	H	2.20	2.40
C	6.80	7.20	J	0.45	0.55
D	7.20	7.80	K	0.45	0.60
E	2.30 REF.		L	0.90	1.50
F	0.60	0.90	M	5.40	5.80

### Absolute Maximum Ratings (Ta = 25°C, unless otherwise specified)

Parameter	Symbol	Ratings	Unit
Junction Temperature	T <sub>j</sub>	+150	°C
Storage Temperature	T <sub>stg</sub>	-55 ~ +150	°C
Collector to Base Voltage	V <sub>CB0</sub>	60	V
Collector to Emitter Voltage	V <sub>CEO</sub>	50	V
Emitter to Base Voltage	V <sub>EBO</sub>	6	V
Collector Current(DC)	I <sub>c</sub>	5	A
Collector Current(Pulse)	I <sub>CP</sub>	8	A
Collector Dissipation	P <sub>d</sub>	1	W
	T <sub>c</sub> =25°C	20	W

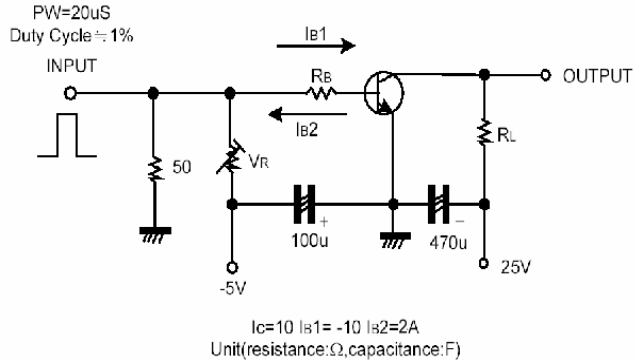
### Electrical Characteristics (Ta = 25°C unless otherwise specified)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
V(BR)CBO	60	-	-	V	I <sub>C</sub> =10uA, I <sub>E</sub> =0
V(BR)CEO	50	-	-	V	I <sub>C</sub> =1mA, R <sub>BE</sub> =∞
V(BR)EBO	6	-	-	V	I <sub>E</sub> =10uA, I <sub>C</sub> =0
I <sub>CBO</sub>	-	-	1	uA	V <sub>CB</sub> =40V, I <sub>E</sub> =0
I <sub>EBO</sub>	-	-	1	uA	V <sub>EB</sub> =4V, I <sub>C</sub> =0
V <sub>CE(sat)</sub>	-	0.22	0.4	V	I <sub>C</sub> =3A, I <sub>B</sub> =0.15A
V <sub>BE(sat)</sub>	-	0.95	1.3	V	I <sub>C</sub> =3A, I <sub>B</sub> =0.15A
h <sub>FE1</sub>	70	-	400		V <sub>CE</sub> =2V, I <sub>C</sub> =0.5A
h <sub>FE2</sub>	35	-	-		V <sub>CE</sub> =2V, I <sub>C</sub> =4A
f <sub>T</sub>	-	180	-	MHZ	V <sub>CE</sub> =5V, I <sub>C</sub> =1A
t <sub>on</sub>	-	50	-	ns	See test circuit
t <sub>stg</sub>	-	500	-	ns	See test circuit
t <sub>f</sub>	-	20	-	ns	See test circuit
C <sub>ob</sub>	-	40	-	pF	V <sub>CB</sub> =10V, f=1MHz

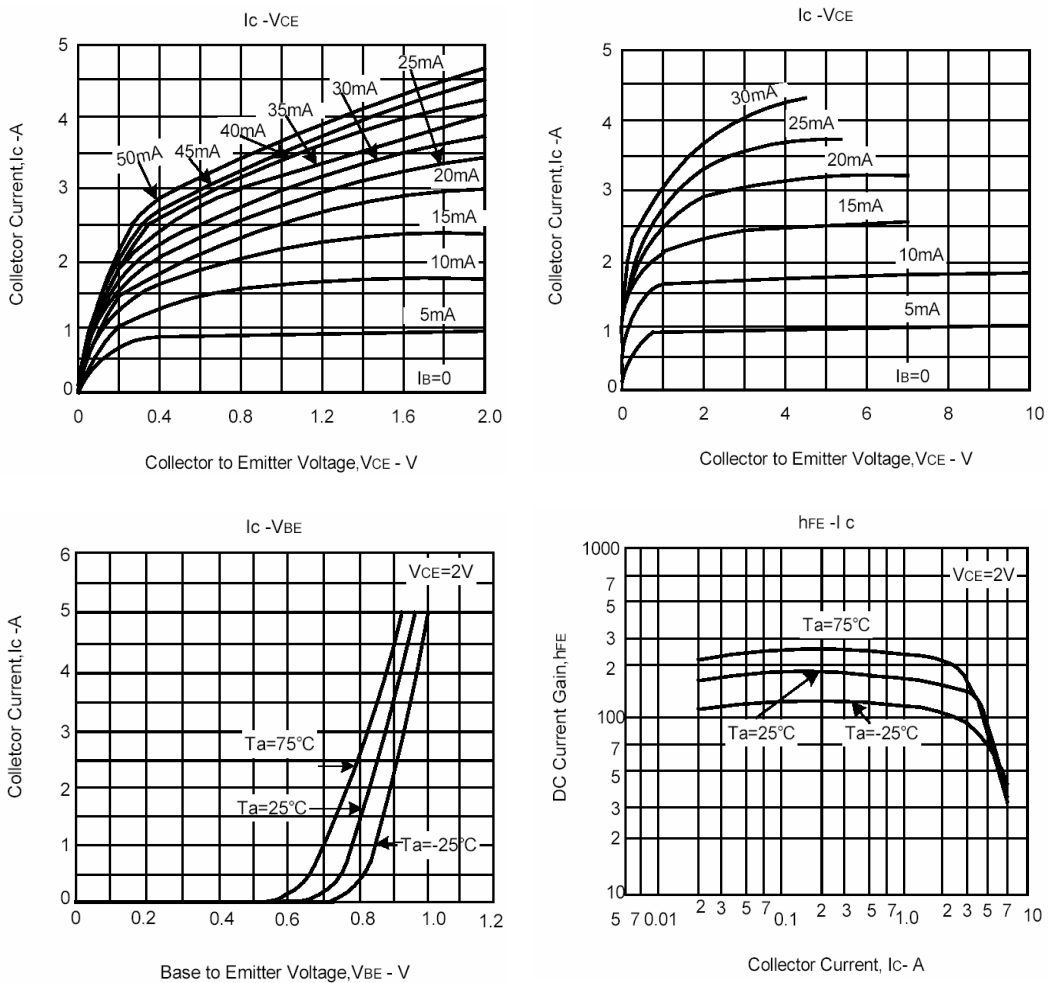
## Classification Of hFE1

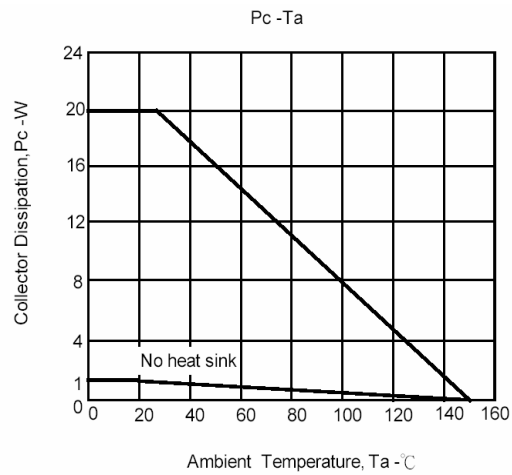
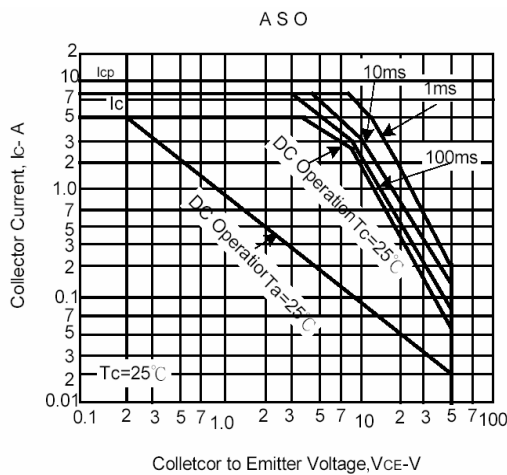
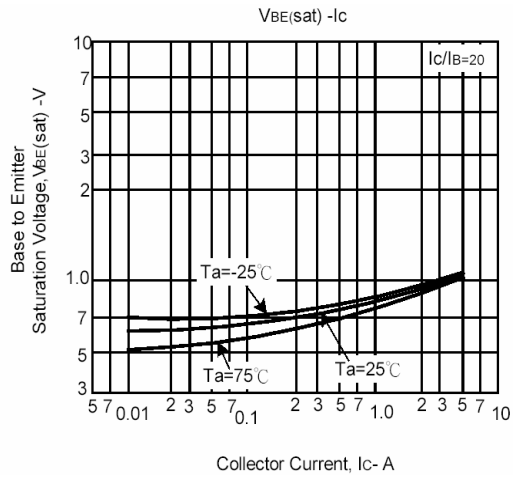
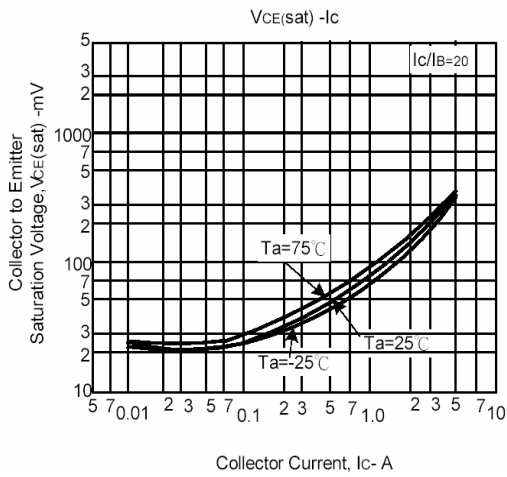
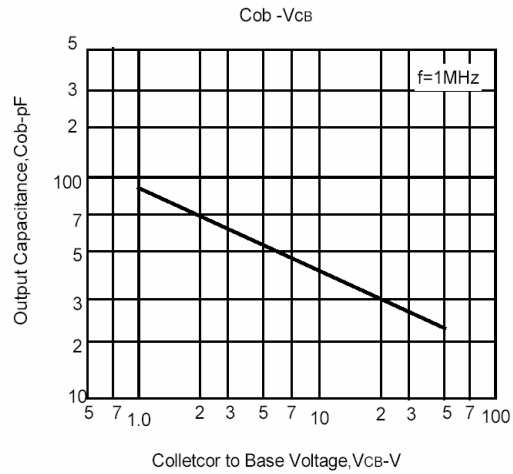
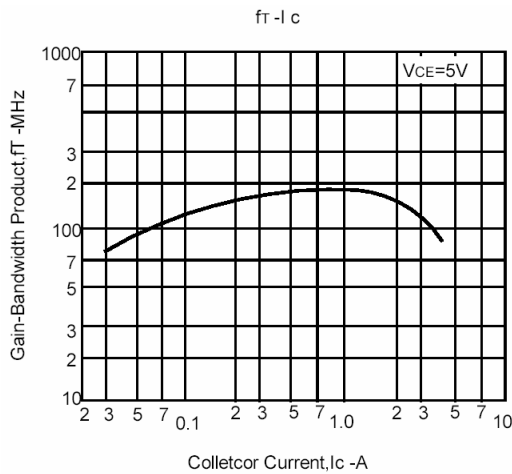
Rank	Q	R	S	T
Range	70 ~ 140	100 ~ 200	140 ~ 280	200 ~ 400

## Switching Time Test Circuit



## Characteristics Curve





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