

GISD1803**NPN EPITAXIAL PLANAR SILICON TRANSISTOR****Description**

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

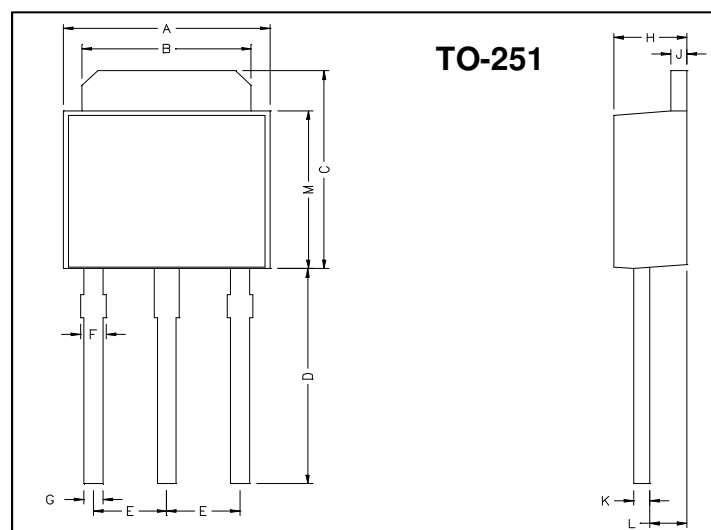
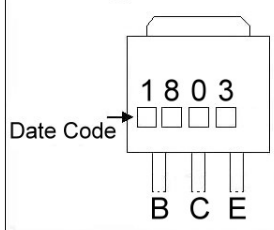
Features

*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 ($T_a = 25^\circ\text{C}$, unless otherwise specified)

Parameter	Symbol	Ratings	Unit
Junction Temperature	T_j	+150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 ~ +150	$^\circ\text{C}$
Collector to Base Voltage	V_{CB0}	60	V
Collector to Emitter Voltage	V_{CE0}	50	V
Emitter to Base Voltage	V_{EB0}	6	V
Collector Current(DC)	I_C	5	A
Collector Current(Pulse)	I_{CP}	8	A
Collector Dissipation	P_D	1	W
	$T_c=25^\circ\text{C}$	20	W

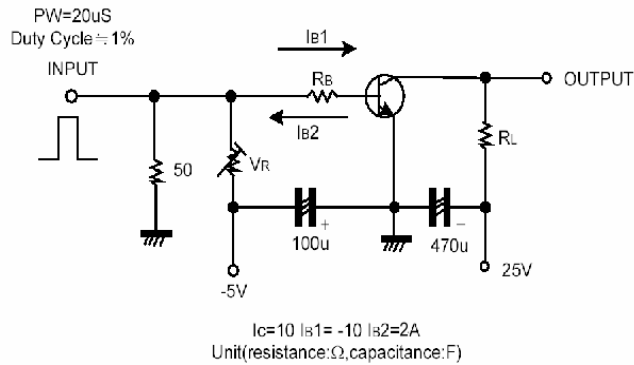
Electrical Characteristics ($T_a = 25^\circ\text{C}$, unless otherwise specified)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
$V_{(BR)CBO}$	60	-	-	V	$I_C=10\mu\text{A}$, $I_E=0$
$V_{(BR)CEO}$	50	-	-	V	$I_C=1\text{mA}$, $R_{BE}=\infty$
$V_{(BR)EBO}$	6	-	-	V	$I_E=10\mu\text{A}$, $I_C=0$
I_{CBO}	-	-	1	μA	$V_{CB}=40\text{V}$, $I_E=0$
I_{EBO}	-	-	1	μA	$V_{EB}=4\text{V}$, $I_C=0$
$V_{CE(sat)}$	-	0.22	0.4	V	$I_C=3\text{A}$, $I_B=0.15\text{A}$
$V_{BE(sat)}$	-	0.95	1.3	V	$I_C=3\text{A}$, $I_B=0.15\text{A}$
h_{FE1}	70	-	400		$V_{CE}=2\text{V}$, $I_C=0.5\text{A}$
h_{FE2}	35	-	-		$V_{CE}=2\text{V}$, $I_C=4\text{A}$
f_T	-	180	-	MHZ	$V_{CE}=5\text{V}$, $I_C=1\text{A}$
t_{on}	-	50	-	ns	See test circuit
t_{stg}	-	500	-	ns	See test circuit
t_f	-	20	-	ns	See test circuit
C_{ob}	-	40	-	pF	$V_{CB}=10\text{V}$, $f=1\text{MHz}$

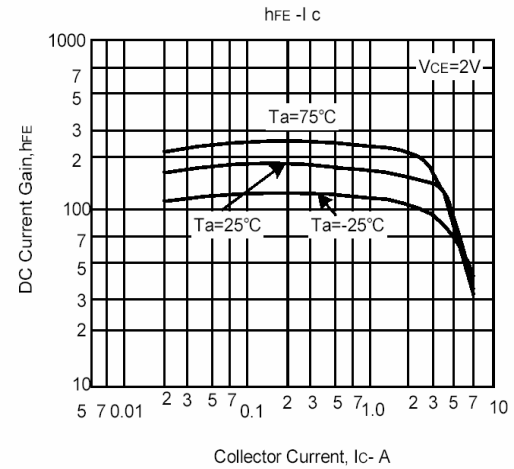
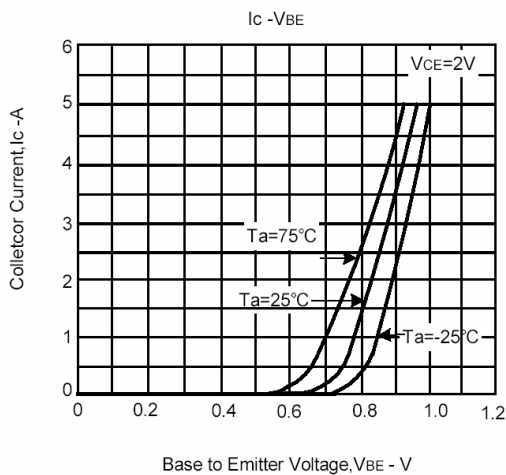
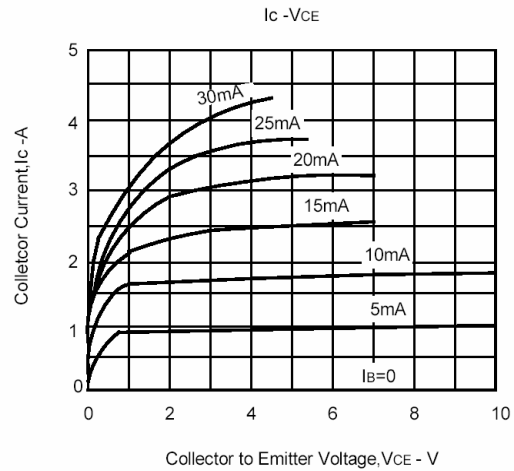
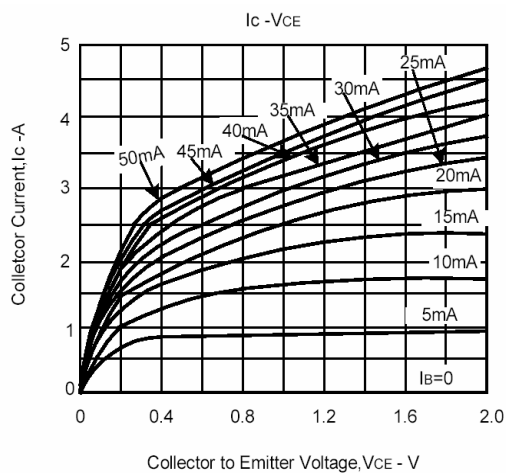
Classification Of hFE1

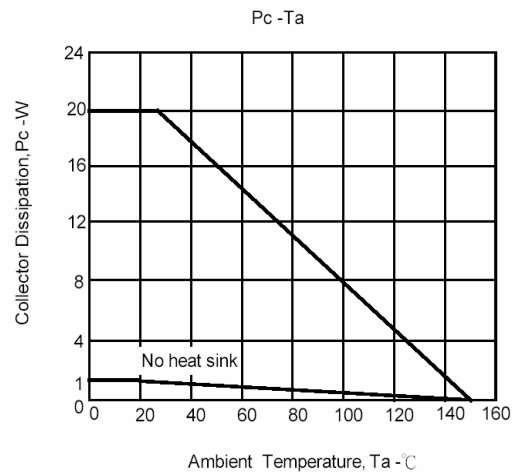
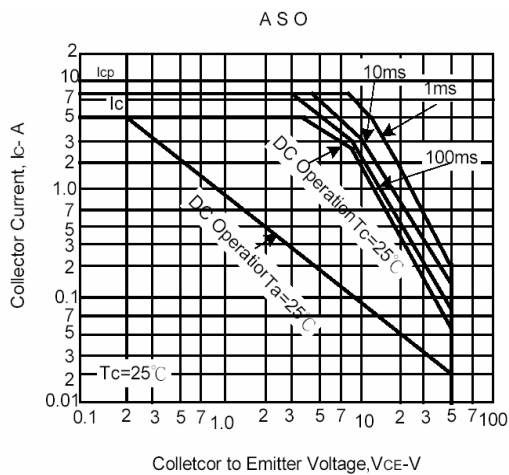
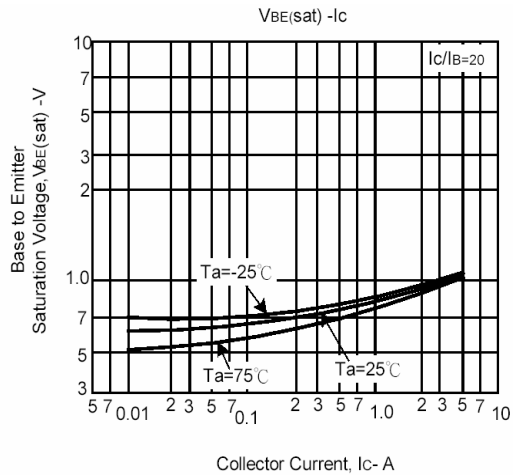
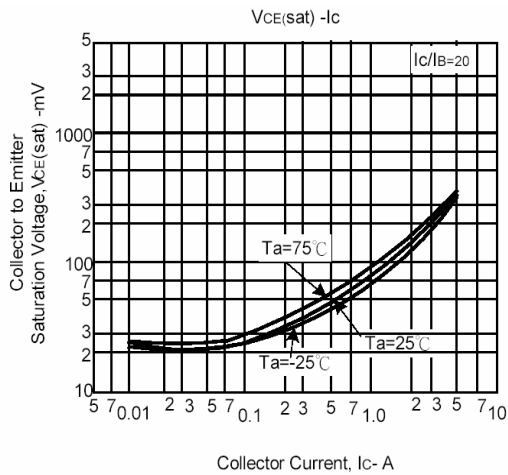
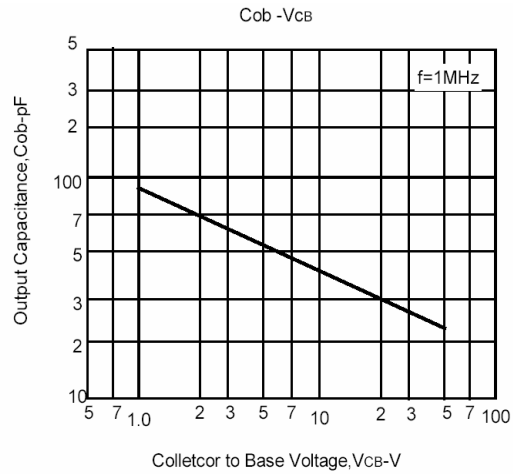
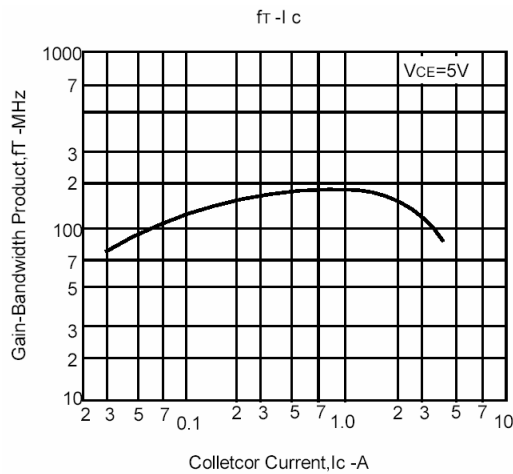
Rank	Q	R	S	T
Range	70 ~ 140	100 ~ 200	140 ~ 280	200 ~ 400

Switching Time Test Circuit



Characteristics Curve





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