

GJSD1804 NPN EPITAXIAL PLANAR SILICON TRANSISTOR

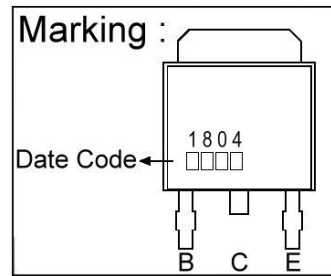
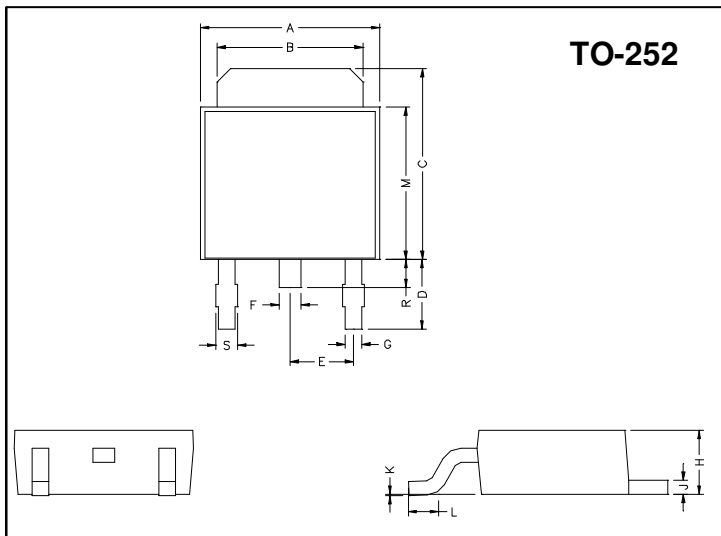
Description

The GJSD1804 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



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	2.40	3.00	K	0	0.15
E	2.30 REF.		L	0.90	1.50
F	0.70	0.90	M	5.40	5.80
S	0.60	0.90	R	0.80	1.20

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_{CBO}	60	V
Collector to Emitter Voltage	V_{CEO}	50	V
Emitter to Base Voltage	V_{EBO}	6	V
Collector Current(DC)	I_C	8	A
Collector Current(Pulse)	I_C	12	A
Collector Dissipation	PD	1	W
	$T_c=25^\circ\text{C}$	20	W

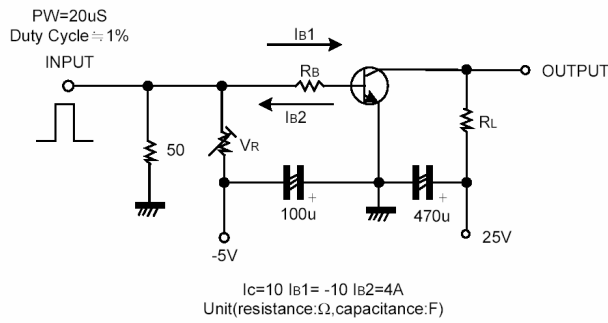
Electrical Characteristics ($T_a = 25^\circ\text{C}$ unless otherwise specified)

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	$V_{EB}=4\text{V}, I_C=0$
$V_{CE(sat)}$	-	0.2	0.4	V	$I_C=4\text{A}, I_B=0.2\text{A}$
$V_{BE(sat)}$	-	0.95	1.3	V	$I_C=4\text{A}, I_B=0.2\text{A}$
h_{FE1}	70	-	400		$V_{CE}=2\text{V}, I_C=0.5\text{A}$
h_{FE2}	35	-	-		$V_{CE}=2\text{V}, I_C=6\text{A}$
f_T	-	180	-	MHZ	$V_{CE}=5\text{V}, I_C=1\text{A}$
t_{stg}	-	500	-	ns	See test circuit
t_f	-	20	-	ns	See test circuit
C_{ob}	-	65	-	pF	$V_{CB}=10\text{V}, f=1\text{MHz}$

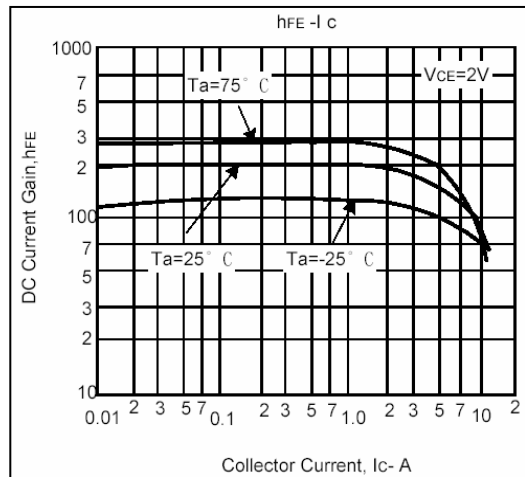
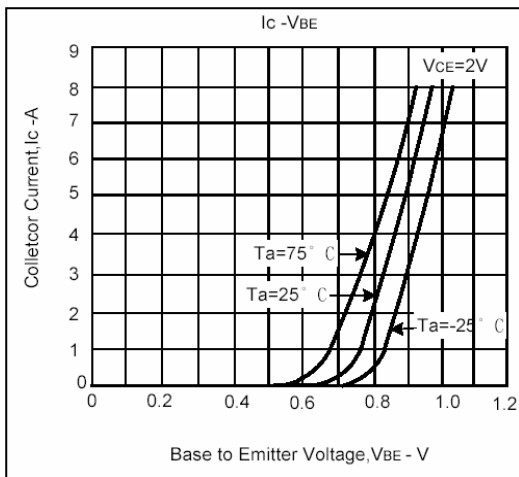
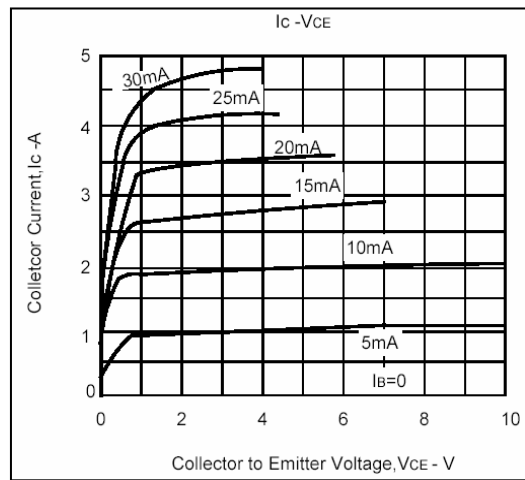
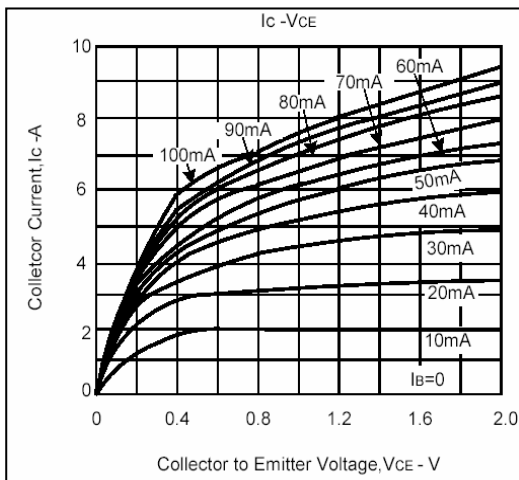
Classification Of hFE1

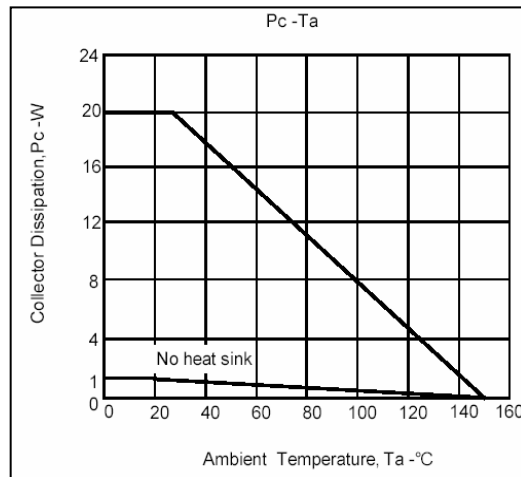
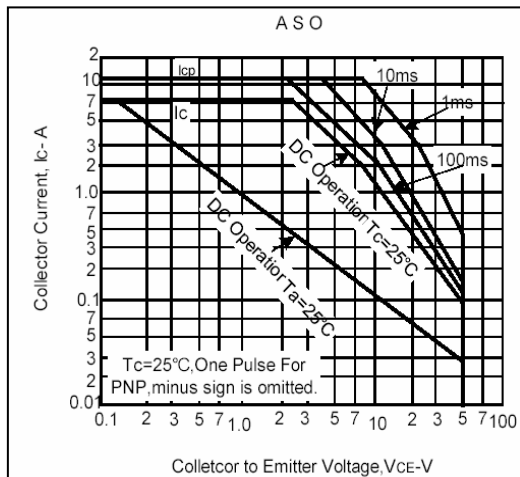
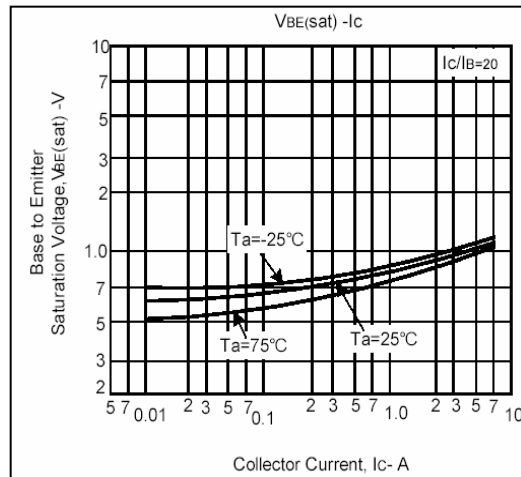
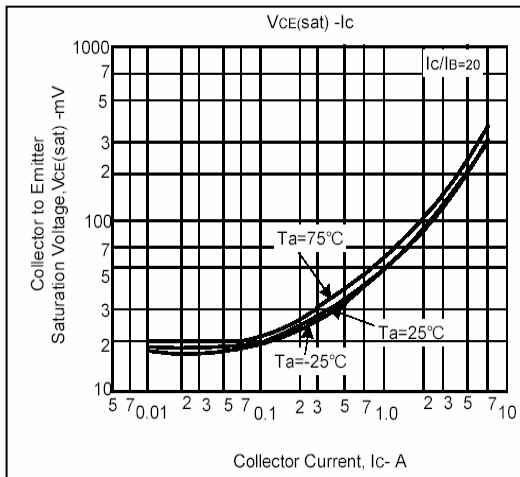
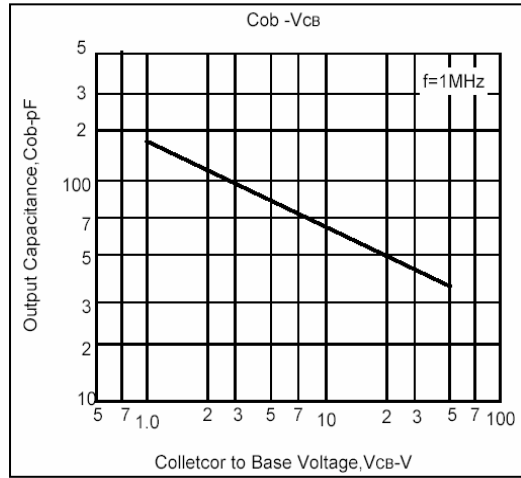
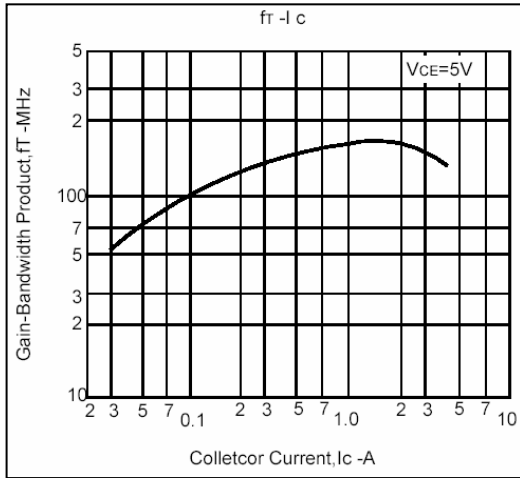
Rank	Q	R	S	T
Range	70 ~ 140	100 ~ 200	140 ~ 280	200 ~ 400

Switching Time Test Circuit



Characteristics Curve





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