GJSD1803 NPN EPITAXIAL PLANAR SILICON TRANSISTOR

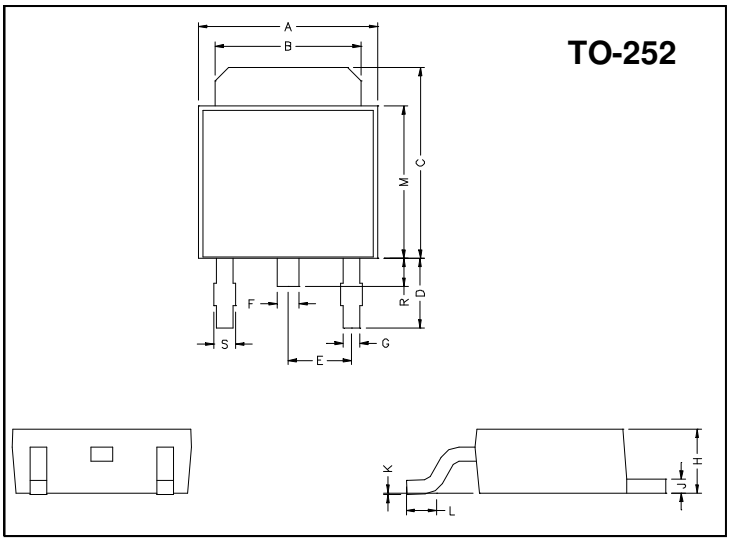
Description

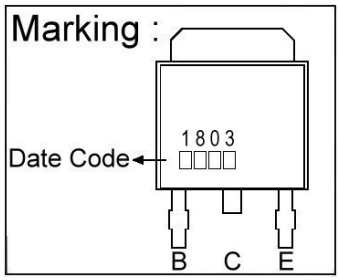
The GJSD1803 applies to relay drivers, high-speed inverters, converters, and other general high-current switching applications.

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 (Ta = 25℃, unless otherwise specified)

Parameter	Symbol	Ratings	Unit
Junction Temperature	Tj	+150	℃
Storage Temperature	Tstg	-55 ~ +150	℃
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	5	A
Collector Current(Pulse)	I_{CP}	8	A
Collector Dissipation	P_D	1	W
	Tc=25℃	20	W

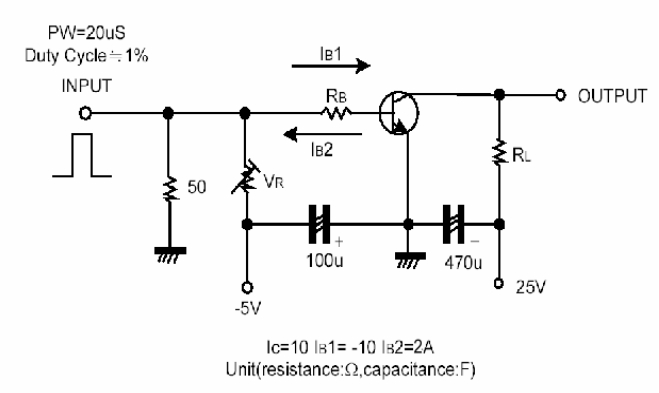
Electrical Characteristics (Ta = 25℃ unless otherwise specified)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
$V_{(BR)CBO}$	60	-	-	V	I_C=10uA, I_E=0
$V_{(BR)CEO}$	50	-	-	V	I_C=1mA, R_{BE}=∞
$V_{(BR)EBO}$	6	-	-	V	I_E=10uA, I_C=0
I_{CBO}	-	-	1	uA	V_{CB}=40V, I_E=0
I_{EBO}	-	-	1	uA	V_{EB}=4V, I_C=0
V_{CE}(sat)	-	0.22	0.4	V	I_C=3A, I_B=0.15A
V_{BE}(sat)	-	0.95	1.3	V	I_C=3A, I_B=0.15A
h_{FE1}	70	-	400		V_{CE}=2V, I_C=0.5A
h_{FE2}	35	-	-		V_{CE}=2V, I_C=4A
fT	-	180	-	MHZ	V_{CE}=5V,I_C=1A
ton	-	50	-	ns	See test circuit
tstg	-	500	-	ns	See test circuit
tf	-	20	-	ns	See test circuit
Cob	-	40	-	pF	V_{CB}=10V, f=1MHz

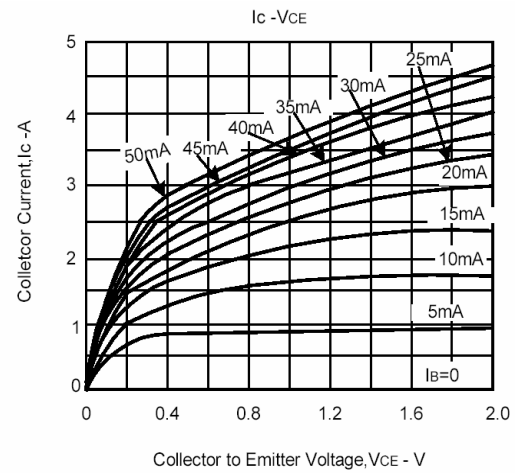
Classification Of h_{FE1}

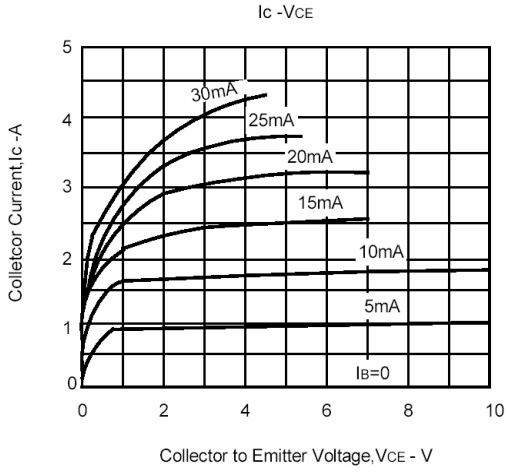
Rank	Q	R	S	T
Range	70 ~ 140	100 ~ 200	140 ~ 280	200 ~ 400

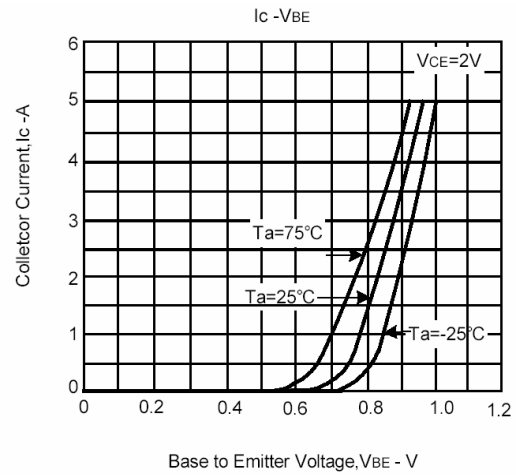
Switching Time Test Circuit

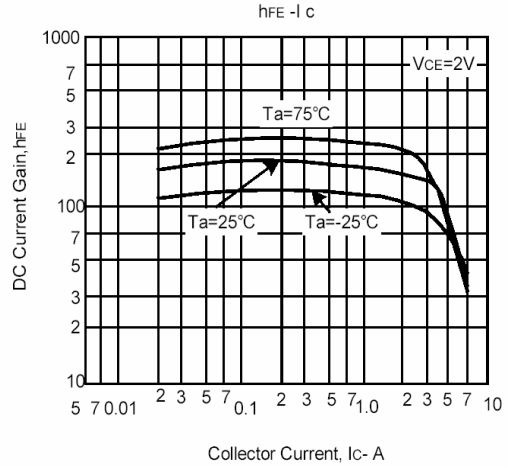


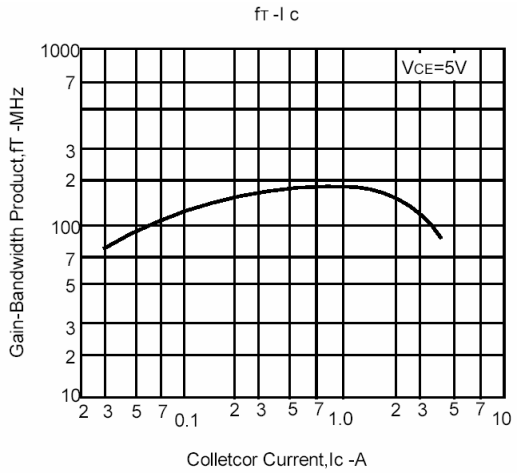
Characteristics Curve

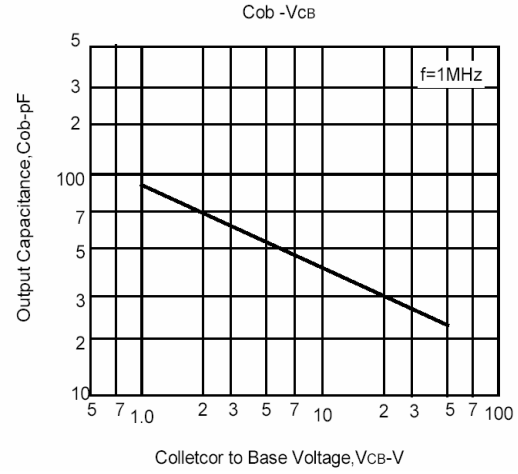


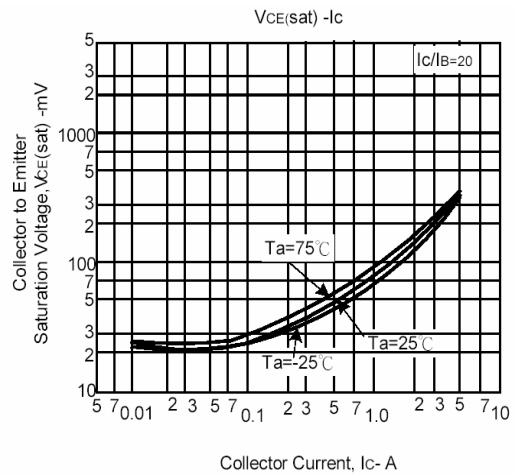


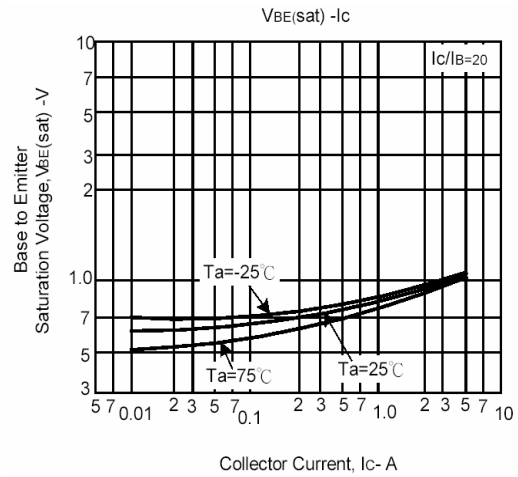


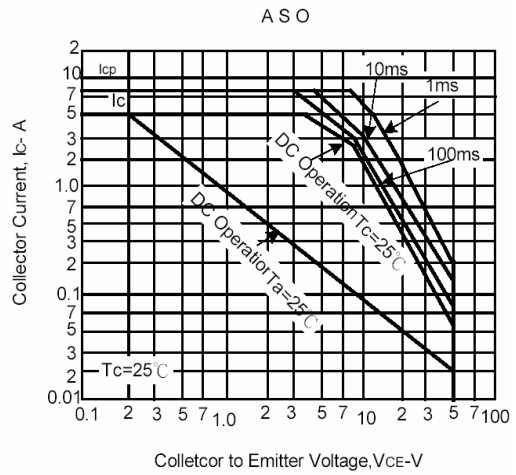


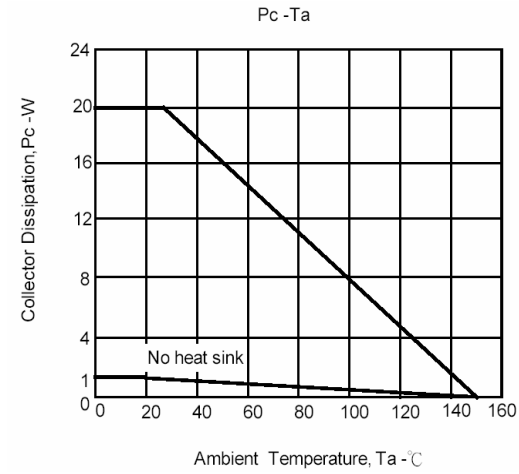












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