GI5103

NPN HIGH SPEED SWITCHING TRANSISTOR

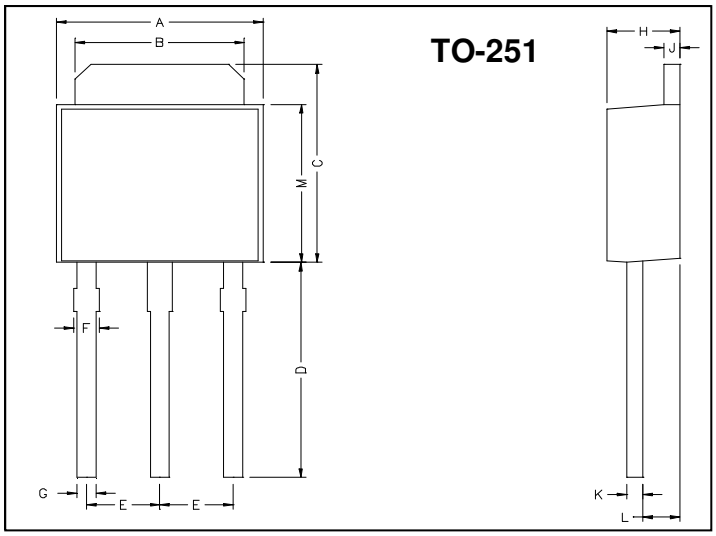
Description

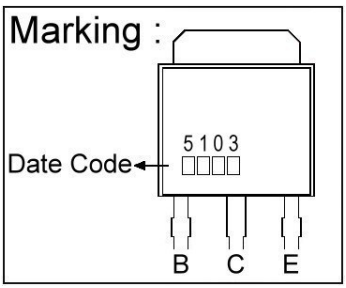
The GI5103 is designed for high speed switching applications.

Features

- Low saturation voltage, typically V_{CE}(sat) =0.15V at I_C/I_B=3A/0.15A
- High speed switching, typically tf =0.1μs at I_C=3A
- Wide SOA
- Complements to GI1952

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	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℃)

Parameter	Symbol	Ratings	Unit
Collector to Base Voltage	V_{CBO}	100	V
Collector to Emitter Voltage	V_{CEO}	60	V
Emitter to Base Voltage	V_{EBO}	5	V
Collector Current (DC)	I_C	5	A
Collector Current (Pulse PW=100ms)	I_C	10	A
Total Device Dissipation (T_A=25℃)	P_D	1	W
Total Device Dissipation (T_C=25℃)	P_D	10	W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{stg}	-55 ~ +150	℃

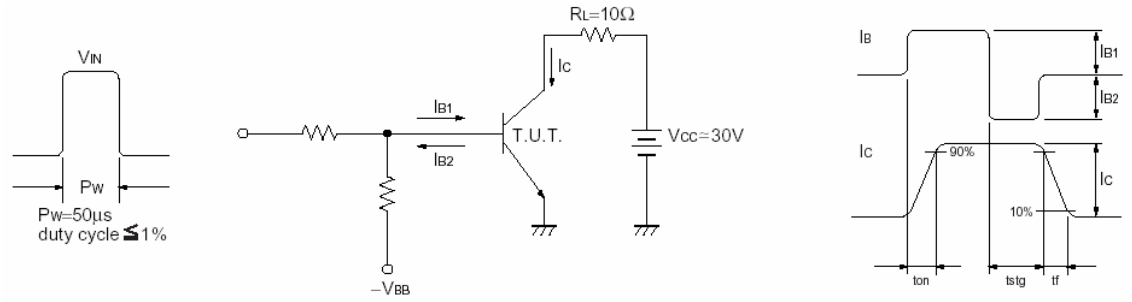
Electrical Characteristics (T_A = 25℃ unless otherwise noted)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV_{CBO}	100	-	-	V	I_C=50uA, I_E=0
BV_{CEO}	60	-	-	V	I_C=1mA, I_B=0
BV_{EBO}	5	-	-	V	I_E=50uA, I_C=0
I_{CBO}	-	-	10	uA	V_{CB}=100V, I_E=0
I_{EBO}	-	-	10	uA	V_{EB}=5V, I_C=0
*$V_{CE(sat)}$1	-	0.15	0.3	V	I_C=3A, I_B=0.15A
*$V_{CE(sat)}$2	-	-	0.5	V	I_C=4A, I_B=0.2A
*$V_{BE(sat)}$1	-	-	1.2	V	I_C=3A, I_B=0.15A
*$V_{BE(sat)}$2	-	-	1.5	V	I_C=4A, I_B=0.2A
*h_{FE}1	120	-	270		V_{CE}=2V, I_C=1A
*h_{FE}2	40	-	-		V_{CE}=2V, I_C=3A
fT	-	210	-	MHz	V_{CB}=10V, I_E=-0.5A, f=30MHz
Cob	-	80	-	pF	V_{CE}=10V, I_E=0, f=1MHz

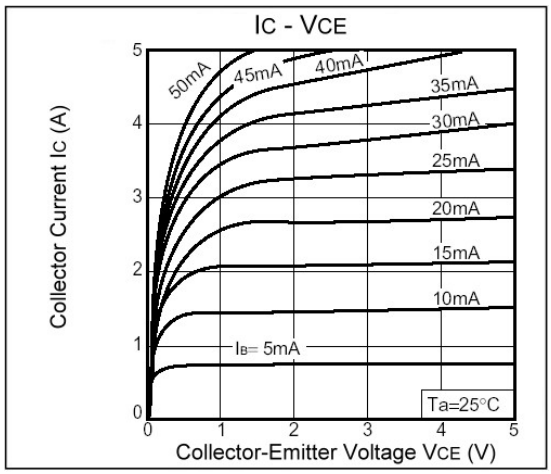
t_{on} (Turn-on Time)	-	-	0.3	uS	I_C=3A , R_L=10Ω I_{B1}=-I_{B2}=0.15A V_{CC}≈30V
t_{stg} (Storage Time)	-	-	1.5		
t_f (Fall Time)	-	0.1	0.3		

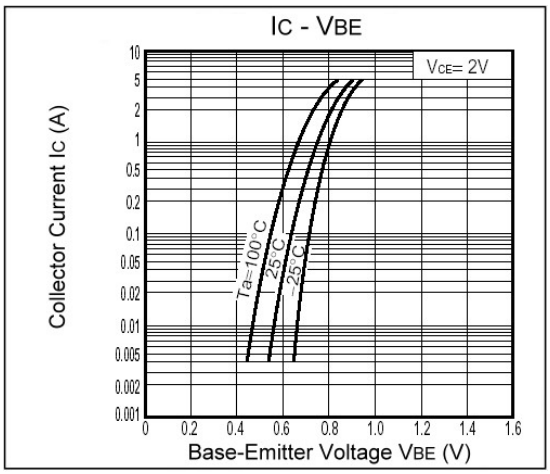
***Measure using pulse current**

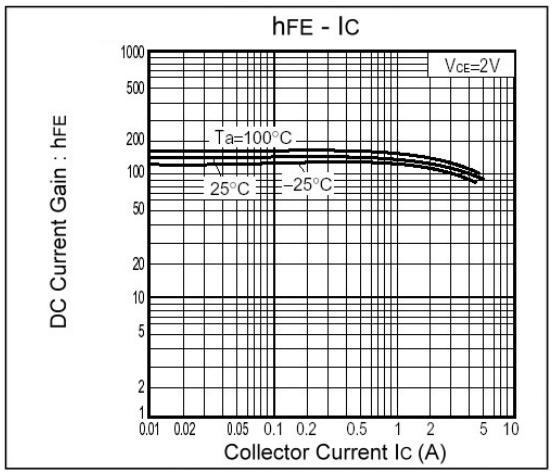
Switching Time Test Circuit

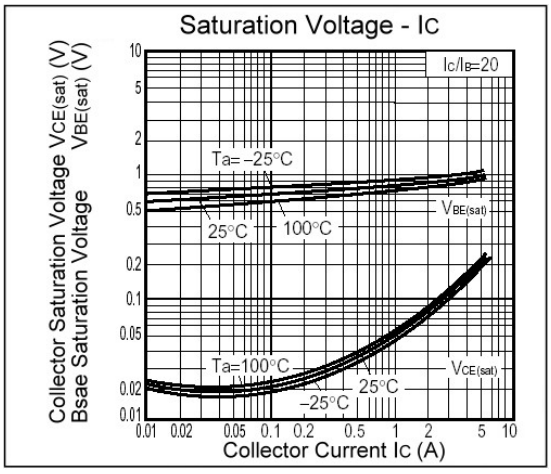


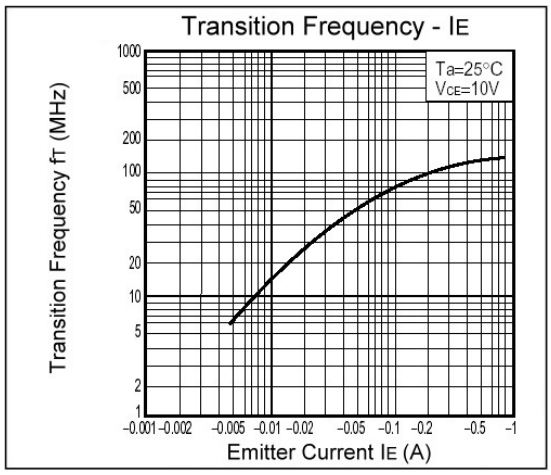
Characteristics Curve

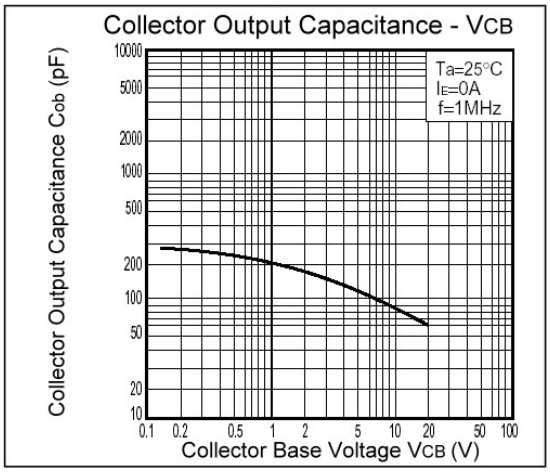


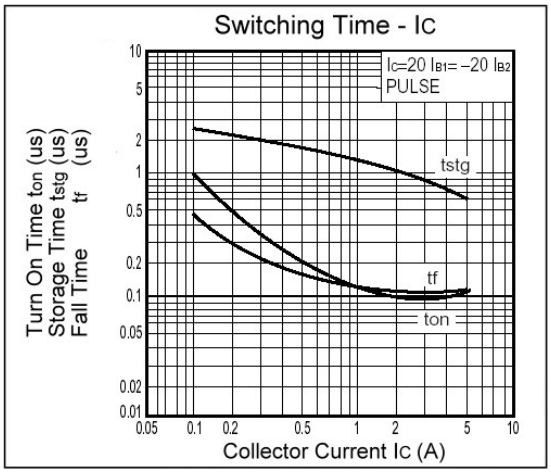


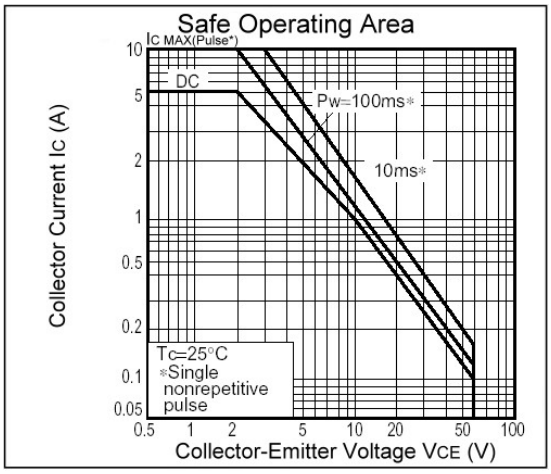












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