

GMBT194

NPN SILICON PLANAR MEDIUM POWER TRANSISTOR

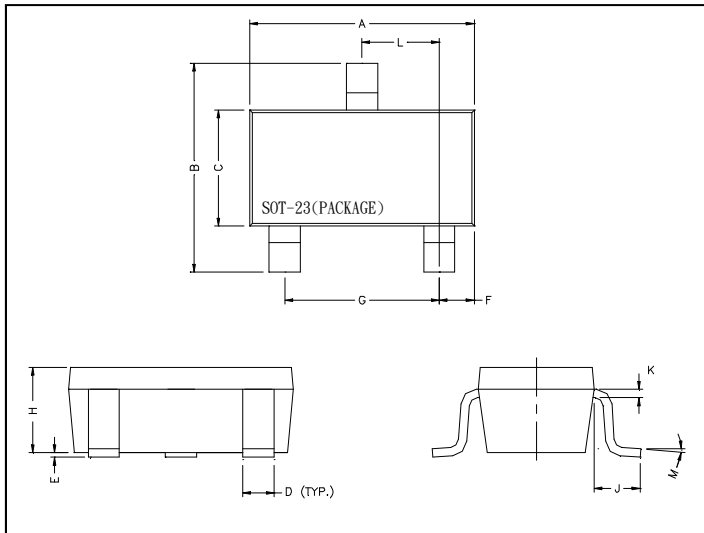
Description

The GMBT194 is designed for medium power amplifier applications.

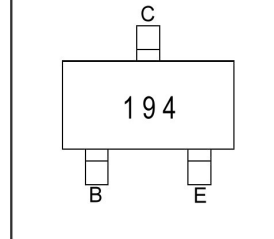
Features

- 60 Volt V_{CEO}
- 1 Amp continuous current
- Complementary to GMBT195

Package Dimensions



Marking :



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.70	3.10	G	1.90	REF.
B	2.40	2.80	H	1.00	1.30
C	1.40	1.60	K	0.10	0.20
D	0.35	0.50	J	0.40	-
E	0	0.10	L	0.85	1.15
F	0.45	0.55	M	0°	10°

Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

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}	80	V
Collector to Emitter Voltage	V_{CEO}	60	V
Emitter to Base Voltage	V_{EBO}	5	V
Collector Current (DC)	I_C	1	A
Collector Current (Pulse)	I_C	2	A
Total Power Dissipation(Note1)	PD	500	mW

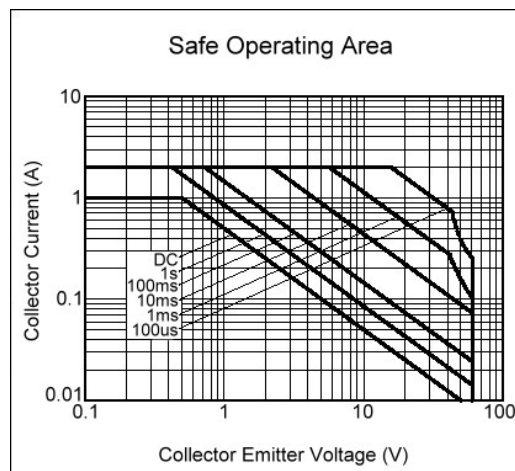
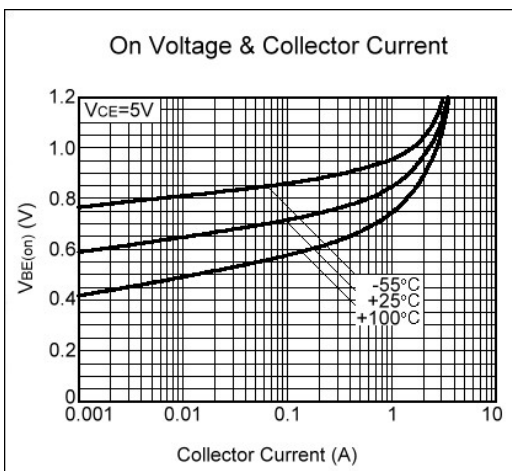
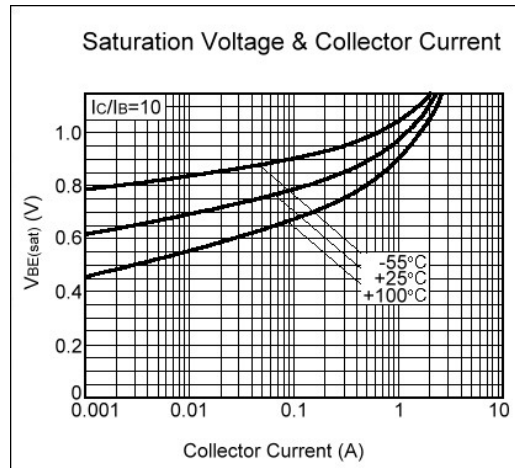
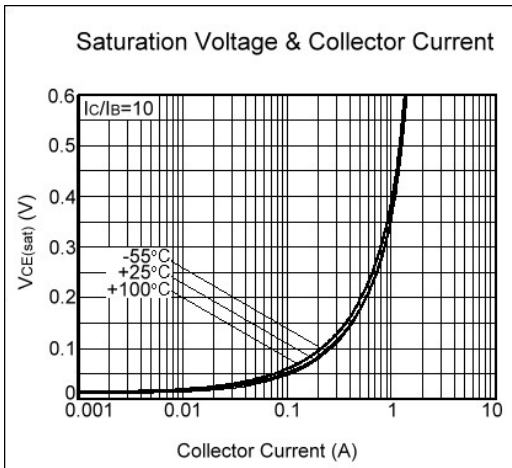
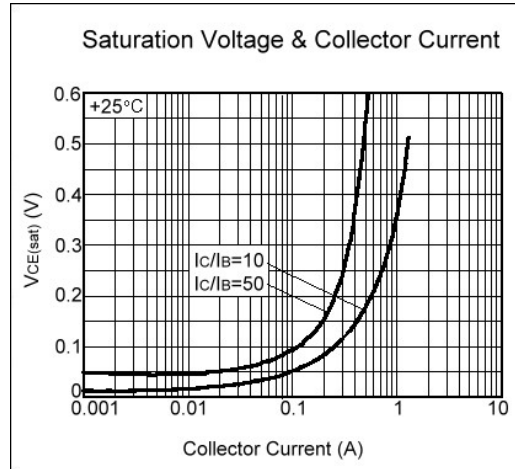
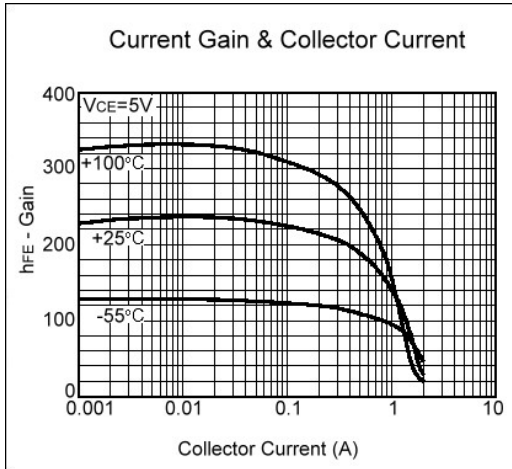
Note 1. Device mounted on FR-4=1.6*1.6*0.06in

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

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
V_{CBO}	80	-	-	V	$I_C=100\mu\text{A}$, $I_E=0$
* V_{CEO}	60	-	-	V	$I_C=10\text{mA}$, $I_B=0$
V_{EBO}	5	-	-	V	$I_E=100\mu\text{A}$, $I_C=0$
I_{CBO}	-	-	100	nA	$V_{CB}=60\text{V}$, $I_E=0$
I_{CES}	-	-	100	nA	$V_{CE}=60\text{V}$
I_{EBO}	-	-	100	nA	$V_{EB}=4\text{V}$, $I_C=0$
* $V_{CE(sat)1}$	-	-	0.25	V	$I_C=500\text{mA}$, $I_B=50\text{mA}$
* $V_{CE(sat)2}$	-	-	0.5	V	$I_C=1\text{A}$, $I_B=100\text{mA}$
* $V_{BE(sat)}$	-	-	1.1	V	$I_C=1\text{A}$, $I_B=100\text{mA}$
* $V_{BE(on)}$	-	-	1.0	V	$V_{CE}=5\text{V}$, $I_C=1\text{A}$
* h_{FE1}	100	-	-		$V_{CE}=5\text{V}$, $I_C=1\text{mA}$
* h_{FE2}	100	-	300		$V_{CE}=5\text{V}$, $I_C=500\text{mA}$
* h_{FE3}	80	-	-		$V_{CE}=5\text{V}$, $I_C=1\text{A}$
* h_{FE4}	30	-	-		$V_{CE}=5\text{V}$, $I_C=2\text{A}$
fT	150	-	-	MHz	$V_{CE}=10\text{V}$, $I_C=50\text{mA}$, $f=100\text{MHz}$
Cob	-	-	10	pF	$V_{CB}=10\text{V}$, $I_E=0$, $f=1\text{MHz}$

*Measured under pulse condition. Pulse width=300 μs , Duty Cycle \leq 2%

Characteristics Curve



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