

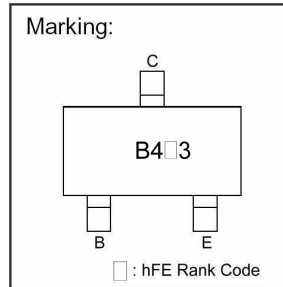
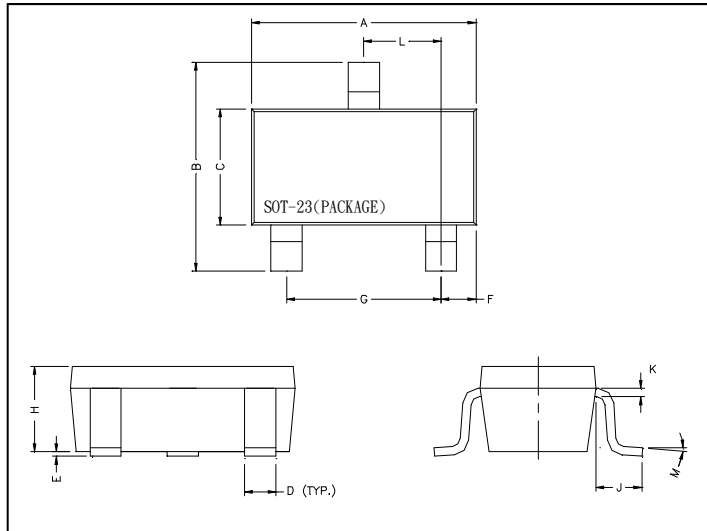
## GMBT9013

NPN EPITAXIAL TRANSISTOR

### Description

The GMBT9013 is designed for use in 1W output amplifier of portable radios in class B push-pull operation.

### Package Dimensions



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 Ta = 25°C

Parameter	Symbol	Ratings	Unit
Junction Temperature	T <sub>j</sub>	+150	°C
Storage Temperature	T <sub>stg</sub>	-55 ~ +150	°C
Collector to Base Voltage	VCBO	40	V
Collector to Emitter Voltage	VCEO	20	V
Emitter to Base Voltage	VEBO	5	V
Collector Current	I <sub>C</sub>	500	mA
Total Power Dissipation	PD	225	mW

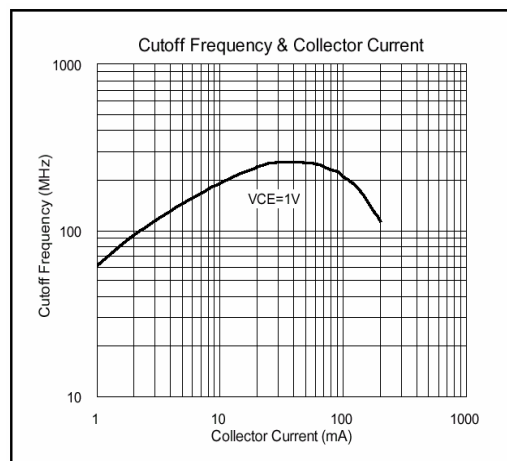
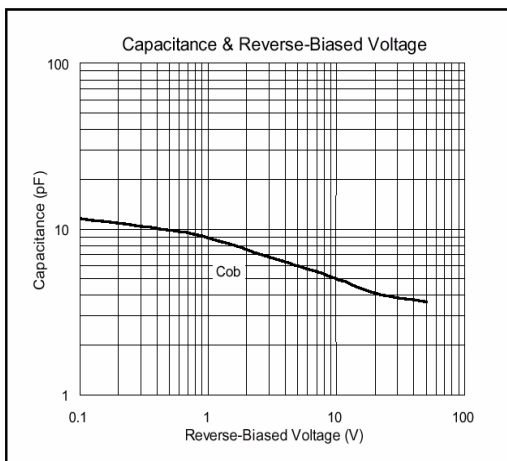
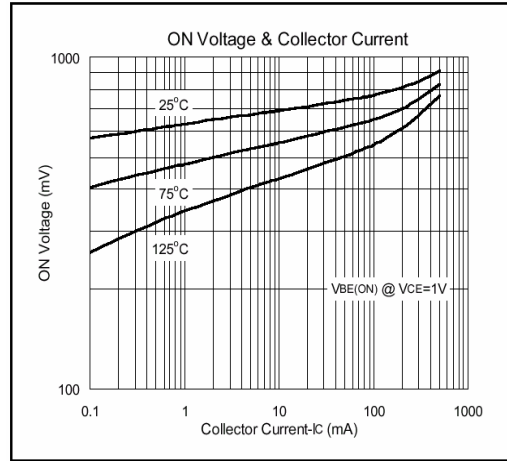
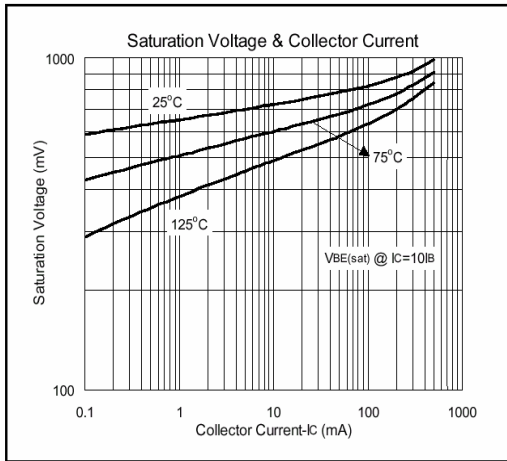
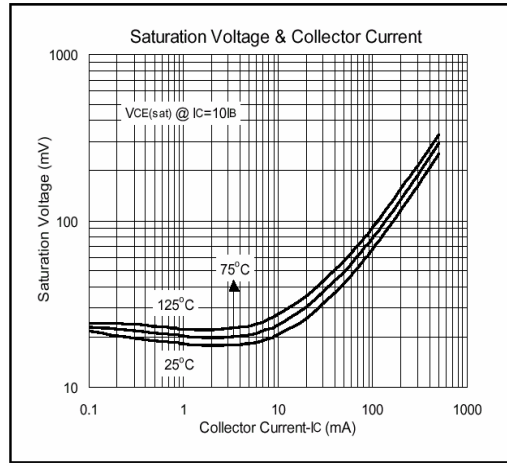
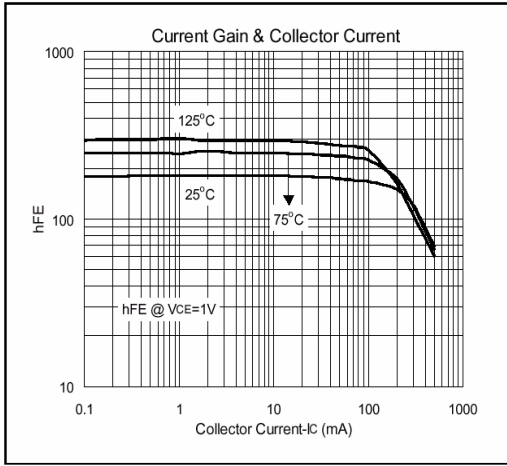
### Characteristics at Ta = 25°C

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BVCBO	40	-	-	V	I <sub>C</sub> =100μA, I <sub>E</sub> =0
BVCEO	20	-	-	V	I <sub>C</sub> =1mA, I <sub>B</sub> =0
BVEBO	5	-	-	V	I <sub>E</sub> =100μA, I <sub>C</sub> =0
ICBO	-	-	100	nA	V <sub>CE</sub> =25V, I <sub>E</sub> =0
IEBO	-	-	100	nA	V <sub>EB</sub> =3V, I <sub>C</sub> =0
VCE(sat)	-	-	0.6	V	I <sub>C</sub> =500mA, I <sub>B</sub> =50mA
VBE(sat)	-	-	1.2	V	I <sub>C</sub> =500mA, I <sub>B</sub> =50mA
VBE(on)	-	-	0.9	V	V <sub>CE</sub> =1V, I <sub>C</sub> =10mA
hFE1	112	180	300		V <sub>CE</sub> =1V, I <sub>C</sub> =50mA
hFE2	40	-	-		V <sub>CE</sub> =1V, I <sub>C</sub> =500mA
f <sub>T</sub>	100	-	-	MHz	V <sub>CE</sub> =1V, I <sub>C</sub> =10mA, f=100MHz
C <sub>ob</sub>	-	-	8	pF	V <sub>CB</sub> =10V, f=1MHz, I <sub>E</sub> =0

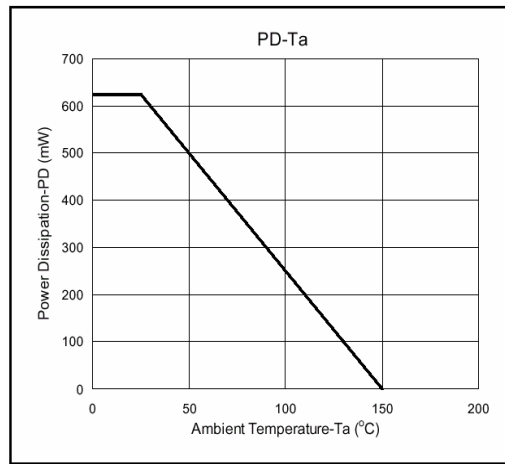
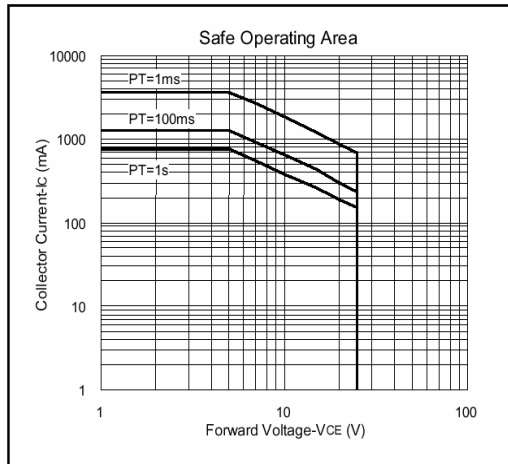
### Classification Of hFE1

Rank	G	H	L
hFE	112-166	144-202	176-300

## Characteristics Curve



## Characteristics Curve



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