

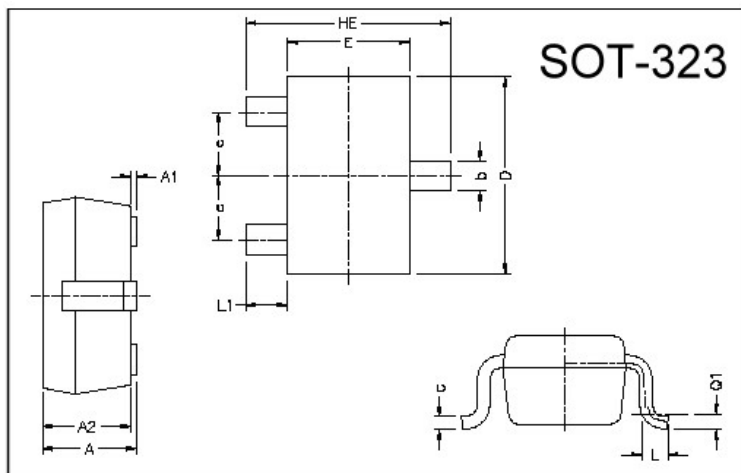
## GSMBT9013

### NPN EPITAXIAL TRANSISTOR

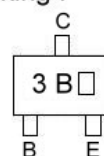
#### Description

The GSMBT9013 is designed for use in 1W output amplifier of portable radios in class B push-pull operation.

#### Package Dimensions



Marking :



□:hFE Rank Code

REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	0.80	1.10	L1	0.42 REF.	
A1	0	0.10	L	0.15	0.35
A2	0.80	1.00	b	0.25	0.40
D	1.80	2.20	c	0.10	0.25
E	1.15	1.35	e	0.65 REF.	
HE	1.80	2.40	Q1	0.15 BSC.	

#### 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

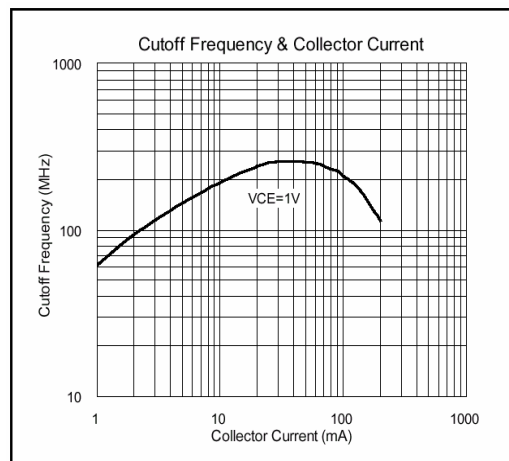
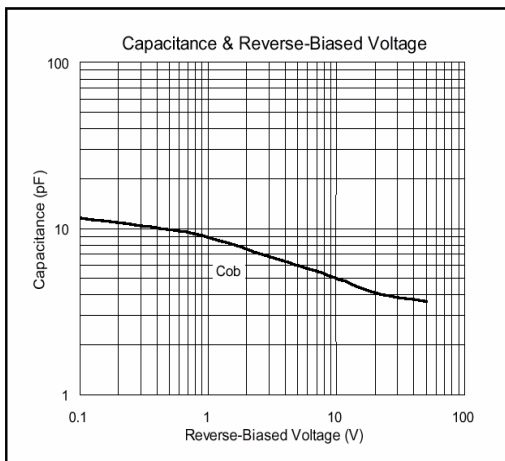
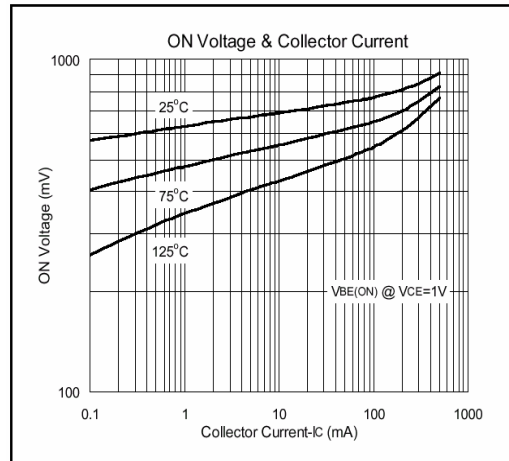
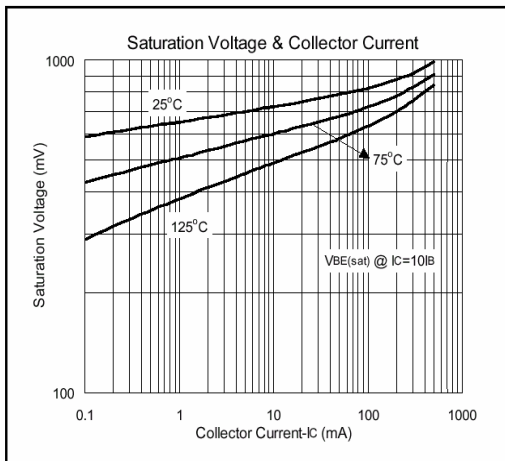
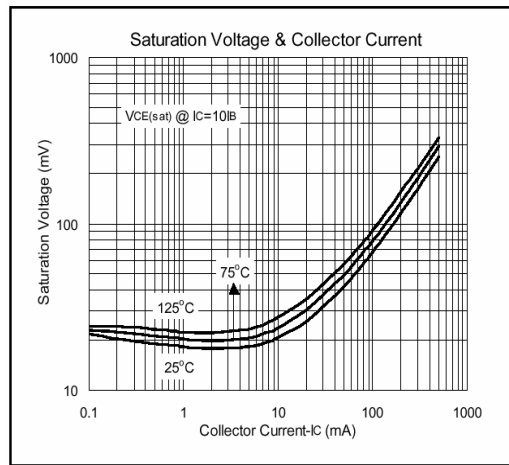
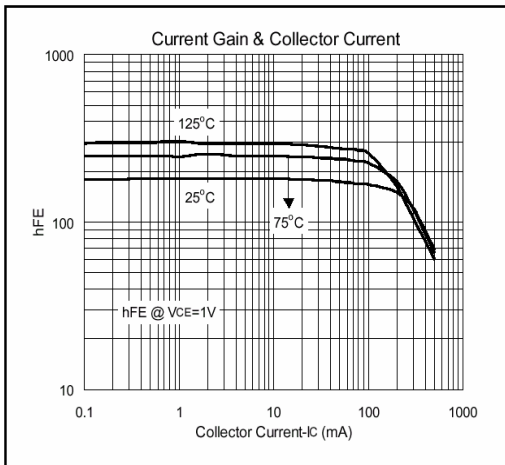
Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BVCBO	40	-	-	V	I <sub>C</sub> =100μA, I <sub>E</sub> =0
BVCEO	20	-	-	V	I <sub>C</sub> =1mA, I <sub>B</sub> =0
BVEBO	5	-	-	V	I <sub>E</sub> =100μA, I <sub>C</sub> =0
ICBO	-	-	100	nA	V <sub>CB</sub> =25V, I <sub>E</sub> =0
IEBO	-	-	100	nA	V <sub>EB</sub> =3V, 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
Cob	-	-	8	pF	V <sub>CB</sub> =10V, f=1MHz

\* Pulse Test: Pulse Width ≤ 380μs, Duty Cycle ≤ 2%

#### Classification Of hFE1

Rank	3BG	3BH	3BL
Range	112 - 166	144 - 202	176 - 300

## Characteristics Curve



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