GMBT2907A

PNP EPITAXIAL PLANAR TRANSISTOR

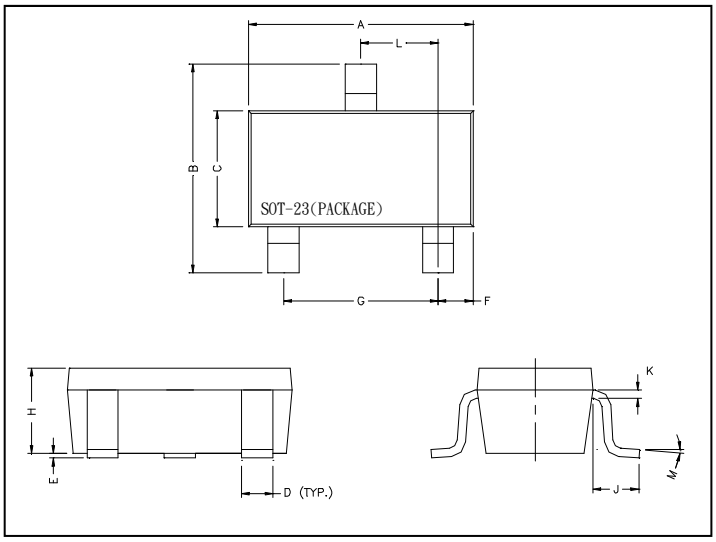
Description

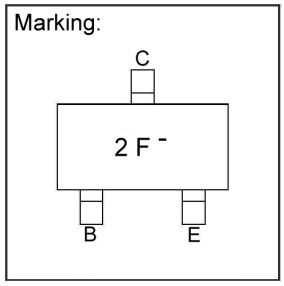
The GMBT2907A is designed for general purpose amplifier and high speed, medium-power switching applications.

Features

- Low collector saturation voltage
- High speed switching
- For complementary use with NPN type GMBT2222A

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℃

Parameter	Symbol	Ratings	Unit
Junction Temperature	Tj	+150	℃
Storage Temperature	Tstg	-55 ~ +150	℃
Collector to Base Voltage at Ta=25℃	VCBO	-60	V
Collector to Emitter Voltage at Ta=25℃	VCEO	-60	V
Emitter to Base Voltage at Ta=25℃	VEBO	-5	V
Collector Current at Ta=25℃	IC	-600	mA
Total Power Dissipation at Ta=25℃	PD	225	mW

Characteristics at Ta = 25℃

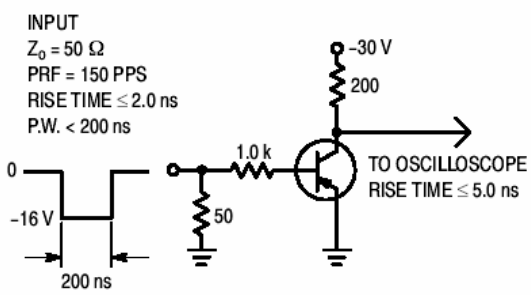
Symbol	Min.	Typ.	Max.	Unit	Test Conditions
BV_{CBO}	-60	-	-	V	I_C=-10uA, I_E=0
BV_{CEO}	-60	-	-	V	I_C=-10mA, I_B=0
BV_{EBO}	-5	-	-	V	I_E=-10uA, I_C=0
I_{CBO}	-	-	-10	nA	V_{CE}=-50V, I_E=0
I_{CEX}	-	-	-50	nA	V_{CE}=-30V, $V_{BE(OFF)}$=-0.5V
*$V_{CE(sat)1}$	-	-0.2	-0.4	V	I_C=-150mA, I_B=-15mA
*$V_{CE(sat)2}$	-	-0.5	-1.6	V	I_C=-500mA, I_B=-50mA
*$V_{BE(sat)1}$	-	-	-1.3	mV	I_C=-150mA, I_B=-15mA
*$V_{BE(sat)2}$	-	-	-2.6	V	I_C=-500mA, I_B=-50mA
*h_{FE1}	75	-	-		V_{CE}=-10V, I_C=-0.1mA
*h_{FE2}	100	-	-		V_{CE}=-10V, I_C=-1mA
*h_{FE3}	100	-	-		V_{CE}=-10V, I_C=-10mA
*h_{FE4}	100	180	300		V_{CE}=-10V, I_C=-150mA
*h_{FE5}	50	-	-		V_{CE}=-10V, I_C=-500mA
f_T	200	-	-	MHz	V_{CE}=-20V, I_C=-50mA, f=100MHz
Cob	-	-	8.0	pF	V_{CE}=-10V, I_E=0, f=1MHz

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

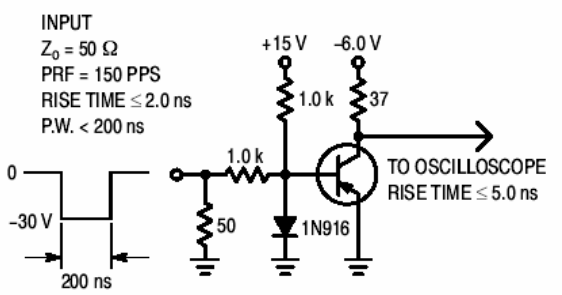
Switching Characteristics

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
ton (Turn-On Time)	-	-	45	ns	V_{CC}=-30V, IC=-150mA, IB1=-15mA
td (Delay Time)	-	-	10	ns	
tr (Rise Time)	-	-	40	ns	
toff (Turn-Off Time)	-	-	100	ns	V_{CC}=-6V, IC=-150mA, IB1=IB2=-15mA
ts (Storage Time)	-	-	80	ns	
tf (Fall Time)	-	-	30	ns	

Switching Time Equivalent Test Circuits



Delay and Rise Time Test Circuit



Storage and Fall Time Test Circuit

Characteristics Curve

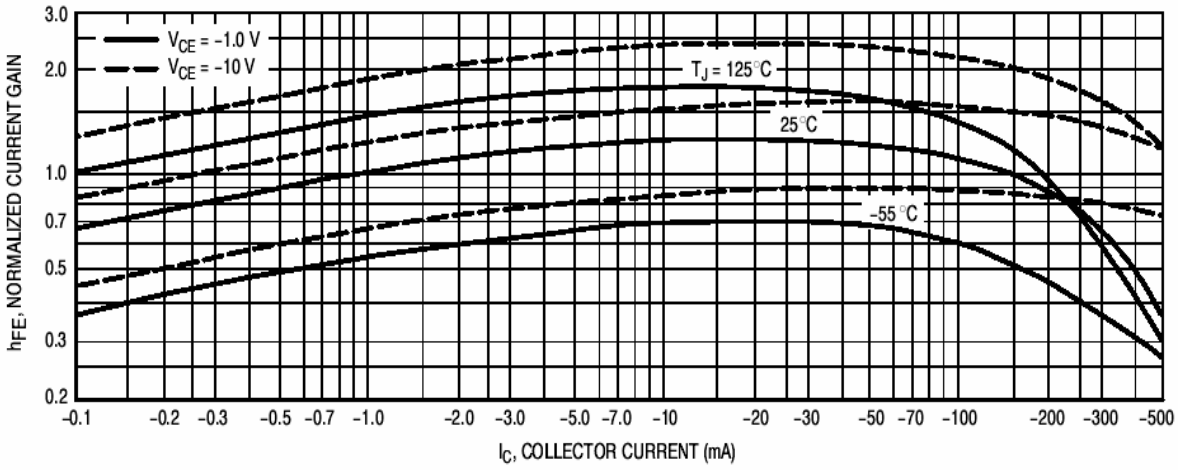


Fig 1. DC Current Gain

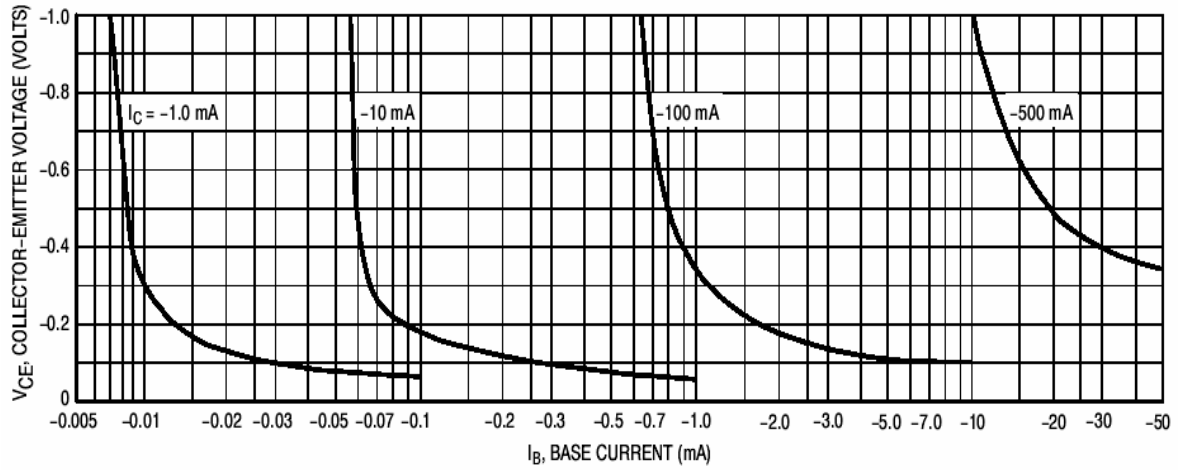


Fig 2. Collector saturation Region

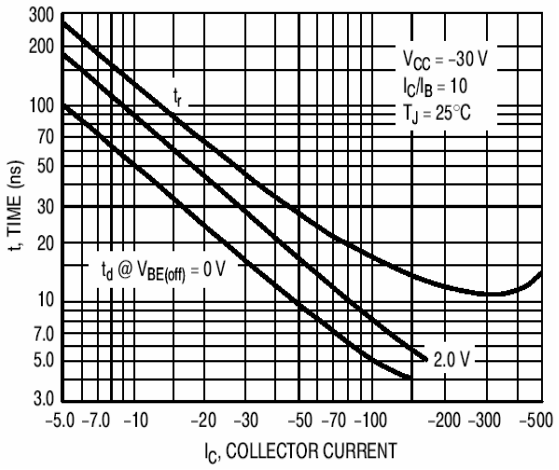


Fig 3. Turn-On Time

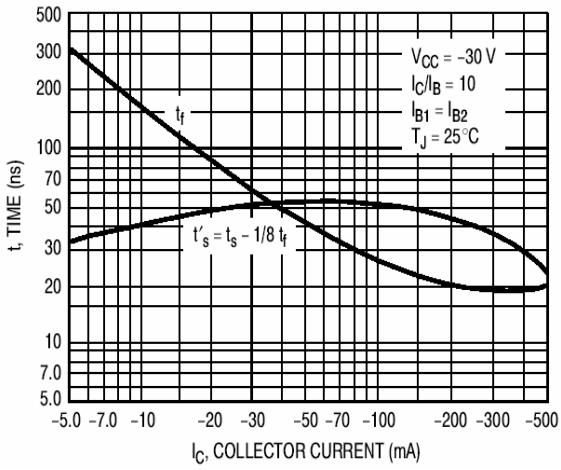


Fig 4. Turn-Off Time

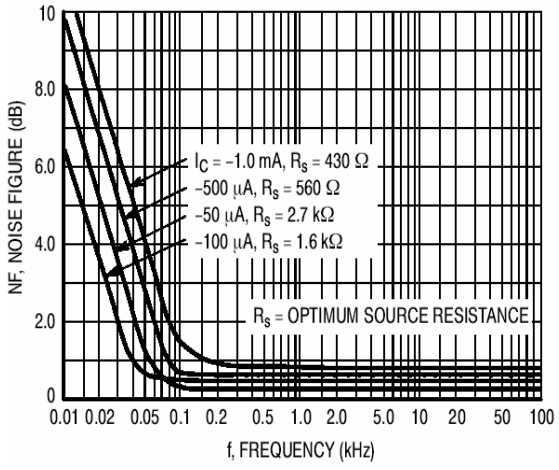


Fig 5. Frequency Effects

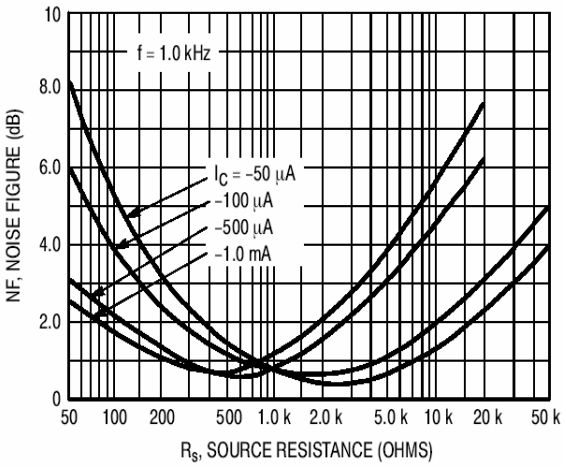


Fig 6. Source Resistance Effects

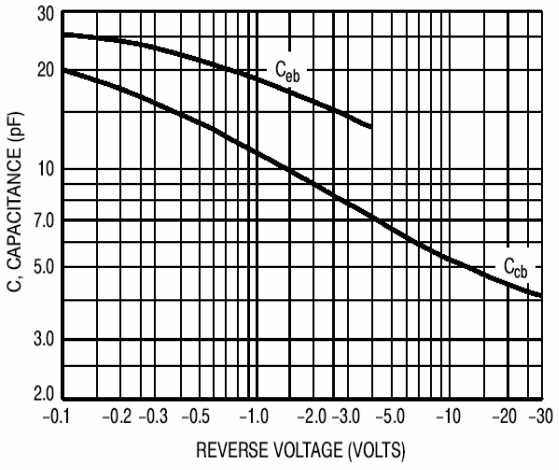


Fig 7. Capacitance

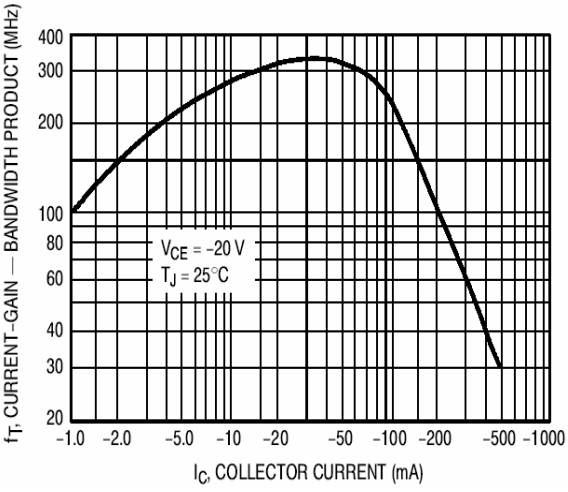


Fig 8. Current-Gain Bandwidth Product

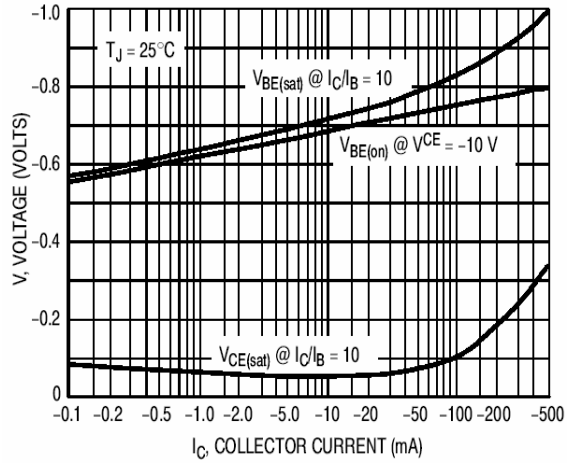


Fig 9. "On" Voltage

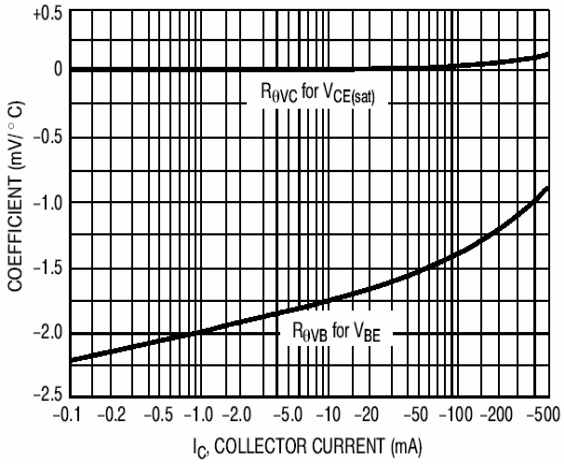


Fig 10. Temperature Coefficients

Head Office And Factory:
- **Taiwan**: No. 17-1 Tatung Rd. Fu Kou Hsin-Chu Industrial Park, Hsin-Chu, Taiwan, R. O. C.
  TEL : 886-3-597-7061 FAX : 886-3-597-9220, 597-0785
- **China**: (201203) No.255, Jang-Jiang Tsai-Lueng RD. , Pu-Dung-Hsin District, Shang-Hai City, China
  TEL : 86-21-5895-7671 ~ 4 FAX : 86-21-38950165