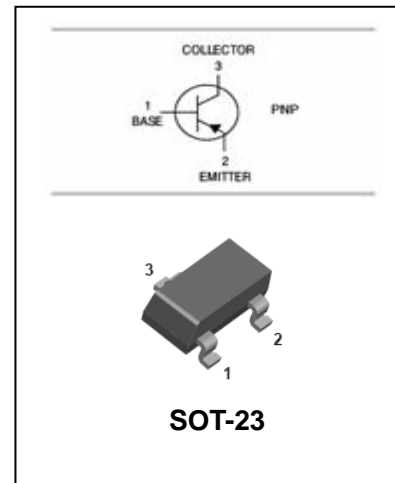


## PNP General Purpose Amplifier

## MMBT2907

### FEATURES

- Epitaxial planar die construction.
- Ideal for medium power amplification and switching.



### APPLICATIONS

- This device is designed as a general purpose amplifier and switching.

### ORDERING INFORMATION

Type No.	Marking	Package Code
MMBT2907	M2B	SOT-23

### MAXIMUM RATING @ Ta=25°C unless otherwise specified

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	-60	V
$V_{CEO}$	Collector-Emitter Voltage	-40	V
$V_{EBO}$	Emitter-Base Voltage	-5	V
$I_C$	Collector Current -Continuous	-600	mA
$P_D$	Total Device Dissipation	350	mW
$R_{\theta JA}$	Thermal resistance, Junction to ambient	357	°C/W
$T_j, T_{stg}$	Junction and Storage Temperature	-55 to +150	°C



**PNP General Purpose Amplifier**

**MMBT2907**

**ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified**

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-10\mu A I_E=0$	-60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=-10mA I_B=0$	-40			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-10\mu A I_C=0$	-5			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=-50V I_E=0$			-0.02	$\mu A$
Collector cut-off current	$I_{CEX}$	$V_{CE}=-30V V_{BE}=0.5V$			-0.05	$\mu A$
DC current gain	$h_{FE}$	$V_{CE}=-10V I_C=-150mA$	100		300	
		$V_{CE}=-10V I_C=-0.1mA$	35			
		$V_{CE}=-10V I_C=-1mA$	50			
		$V_{CE}=-10V I_C=-10mA$	75			
		$V_{CE}=-10V I_C=-500mA$	30			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=-150mA I_B=-15mA$ $I_C=-500mA I_B=-50mA$			-0.4 -1.6	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=-150mA I_B=-15mA$ $I_C=-500mA I_B=-50mA$			-1.3 -2.6	V
Output capacitance	$C_{ob}$	$V_{CB}=-10V, f=1.0MHz$			8.0	pF
Input capacitance	$C_{ib}$	$V_{EB}=-2V, f=1.0MHz$			30	pF
Transition frequency	$f_T$	$V_{CE}=-20V I_C=-50mA$ $f=100MHz$	200			MHz
Turn-on time	$t_{on}$	$V_{CE}=-30V, I_C=-150mA,$ $I_{B1}=-15mA$			45	ns
Delay time	$t_d$				10	ns
Rise time	$t_r$				40	ns
Turn-off time	$t_{off}$	$V_{CE}=-6V, I_C=-150mA$ $I_{B1}=I_{B2}=-15mA$			100	ns
Storage time	$t_s$				80	ns
Fall time	$t_f$				30	ns



# PNP General Purpose Amplifier

# MMBT2907

TYPICAL CHARACTERISTICS @  $T_a=25^\circ\text{C}$  unless otherwise specified

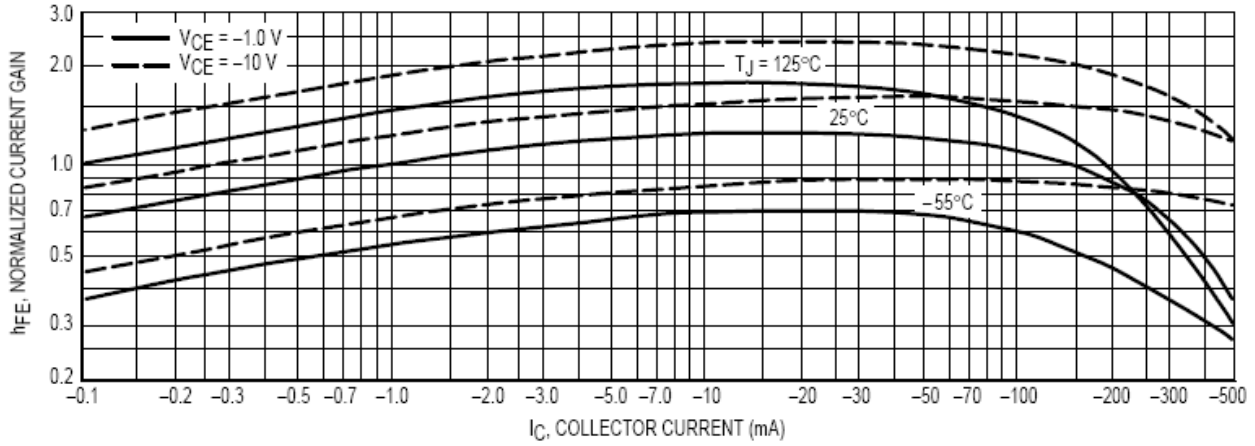


Figure 1. DC Current Gain

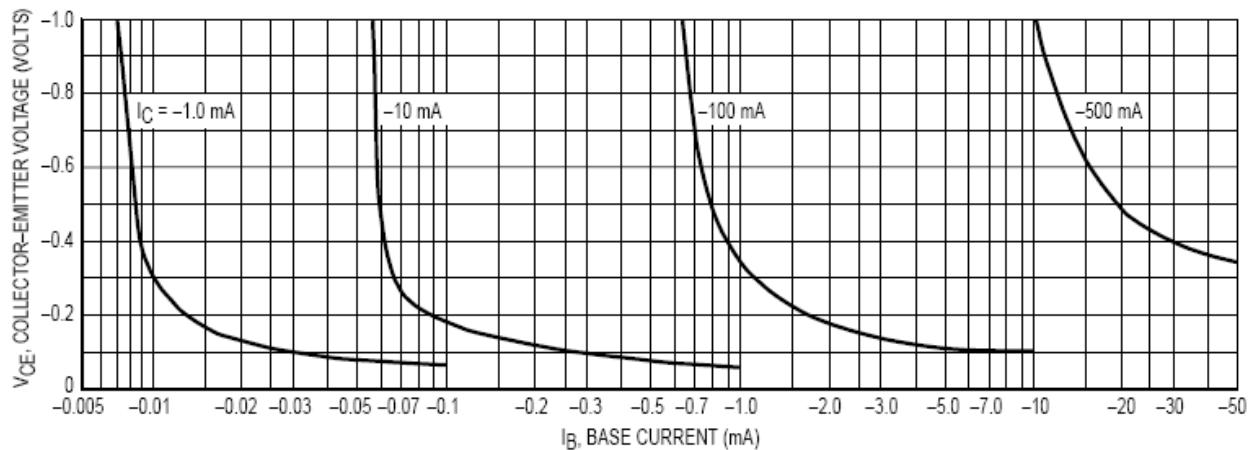


Figure 2. Collector Saturation Region

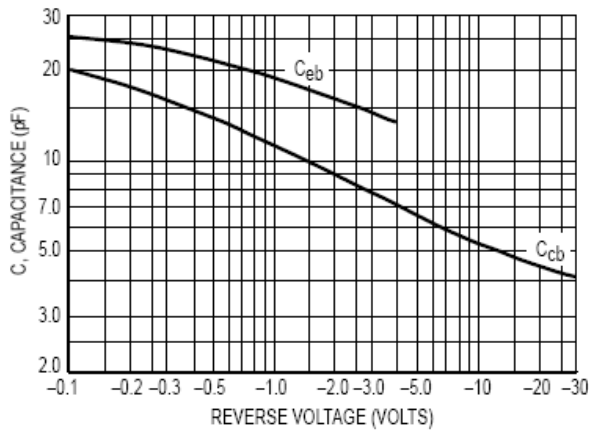


Figure 3. Capacitances

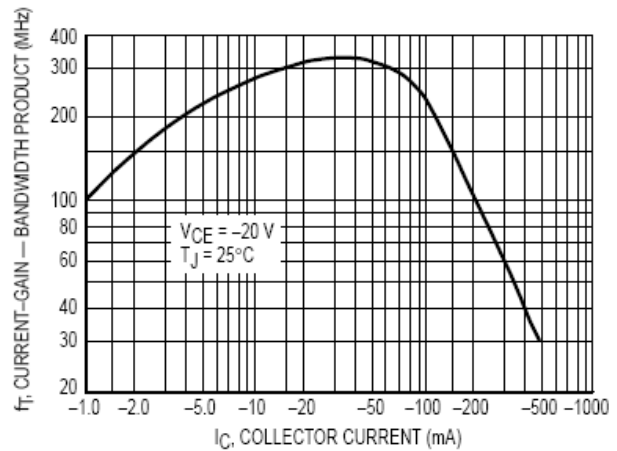


Figure 4. Current-Gain — Bandwidth Product



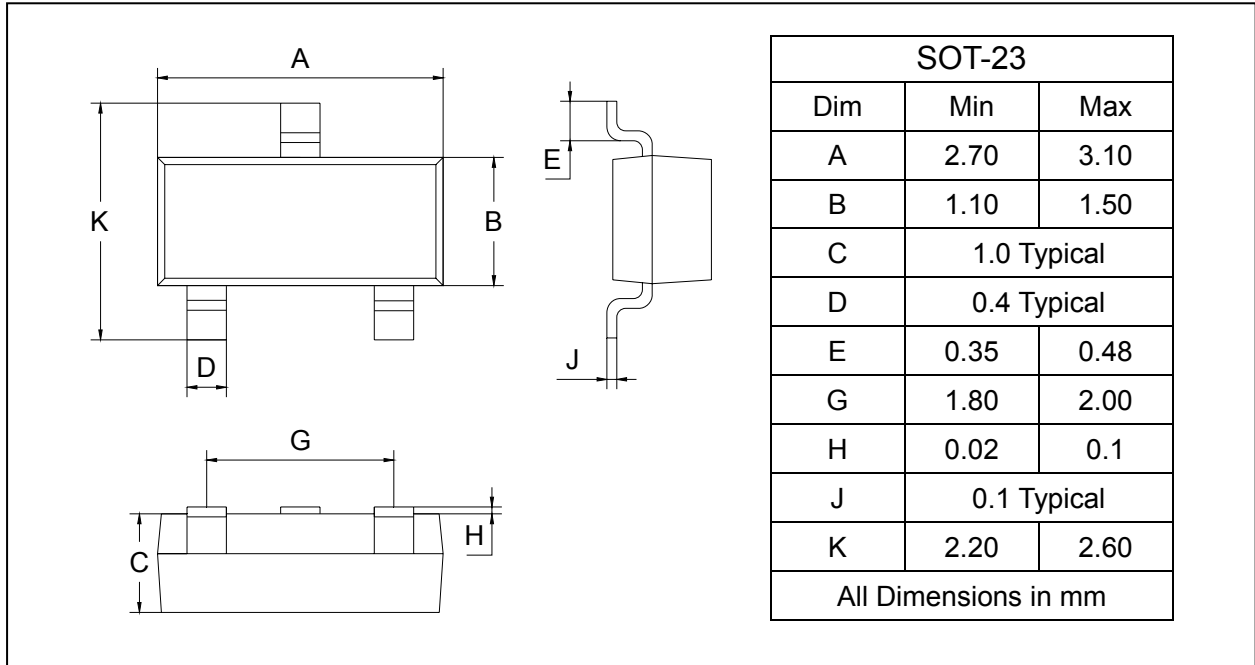
**PNP General Purpose Amplifier**

**MMBT2907**

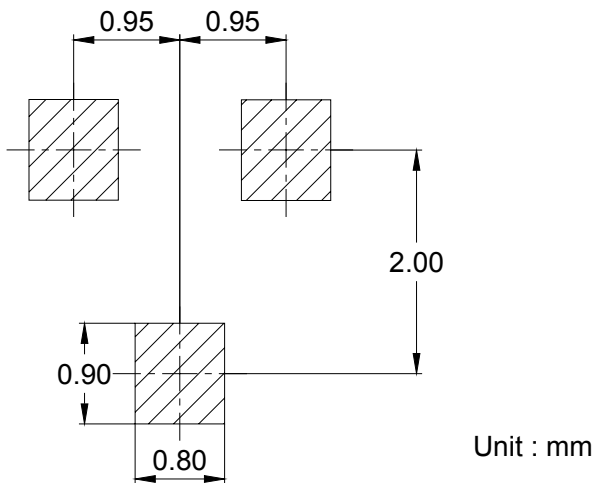
**PACKAGE OUTLINE**

Plastic surface mounted package

SOT-23



**SOLDERING FOOTPRINT**



**PACKAGE INFORMATION**

Device	Package	Shipping
MMBT2907	SOT-23	3000/Tape&Reel