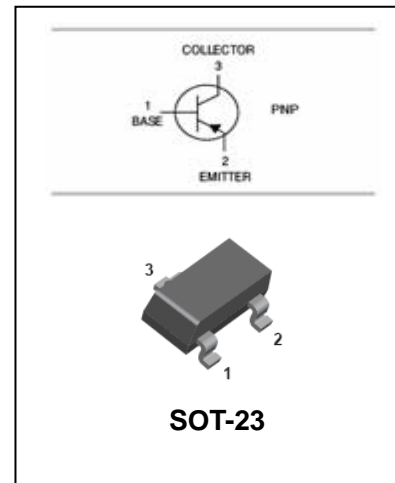


PNP General Purpose Amplifier

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			μV
Collector cut-off current	I_{CBO}	$V_{CB}=-50V$ $I_E=0$			-0.02	μA
Collector cut-off current	I_{CEX}	$V_{CE}=-30V$ $V_{BE(OFF)}=-0.5V$			-0.05	μA
DC current gain	h_{FE}	$V_{CE}=-10V$ $I_C=-150mA$ $V_{CE}=-10V$ $I_C=-0.1mA$ $V_{CE}=-10V$ $I_C=-1mA$ $V_{CE}=-10V$ $I_C=-10mA$ $V_{CE}=-10V$ $I_C=-500mA$	100 35 50 75 30		300	
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}	$V_{EB}=10V, f=1.0MHz$			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

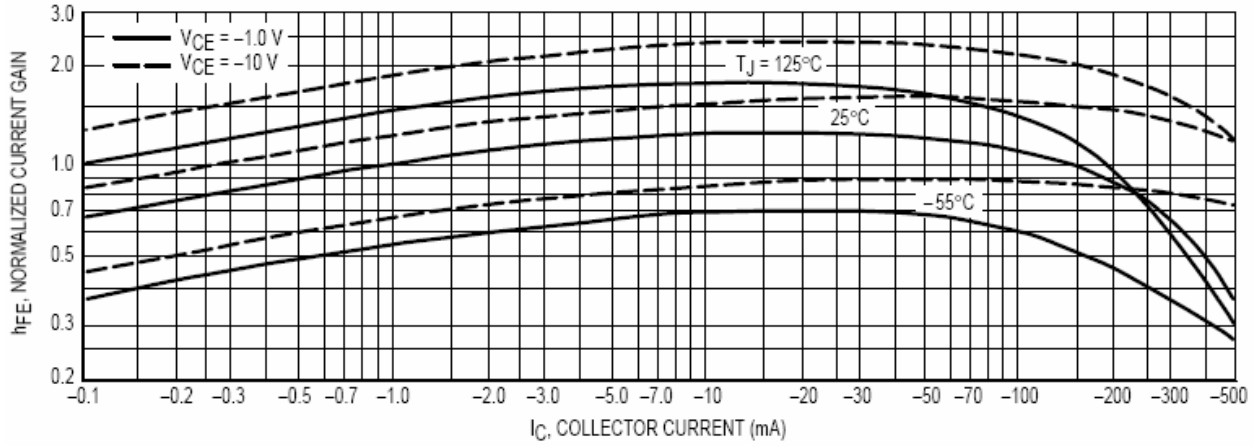


Figure 1. DC Current Gain

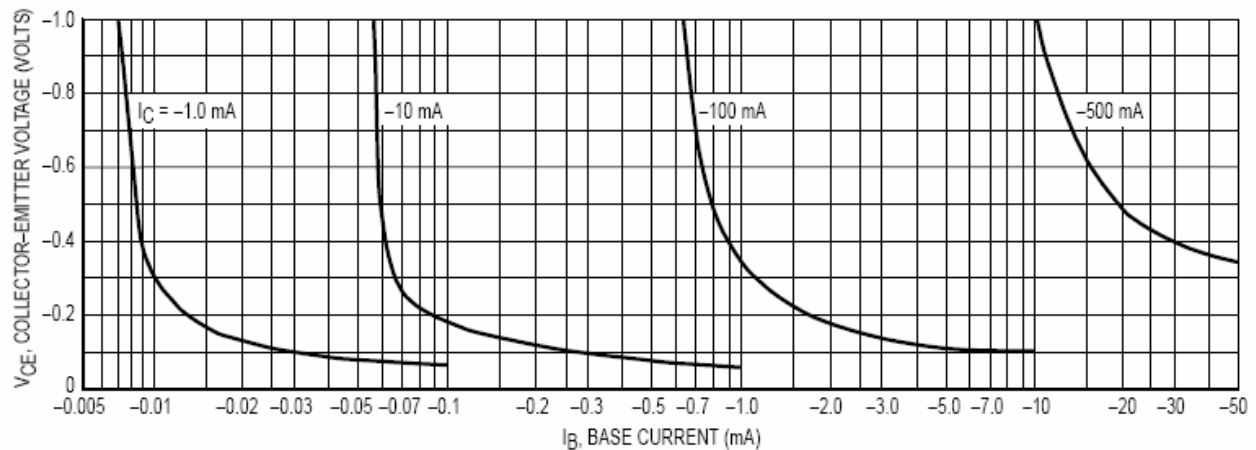


Figure 2. Collector Saturation Region

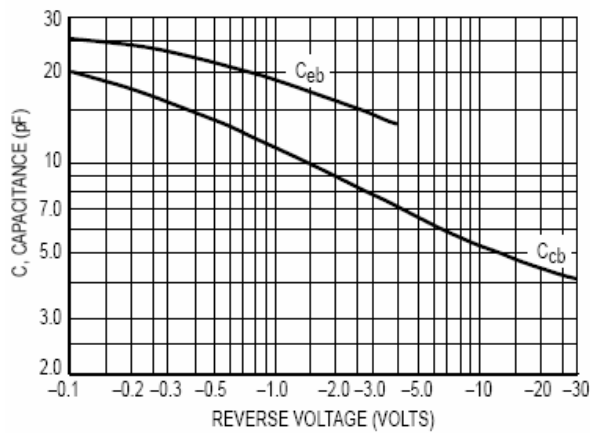


Figure 3. Capacitances

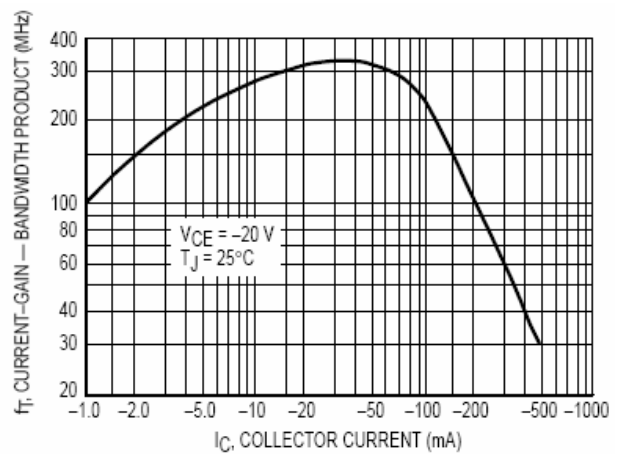


Figure 4. Current-Gain — Bandwidth Product

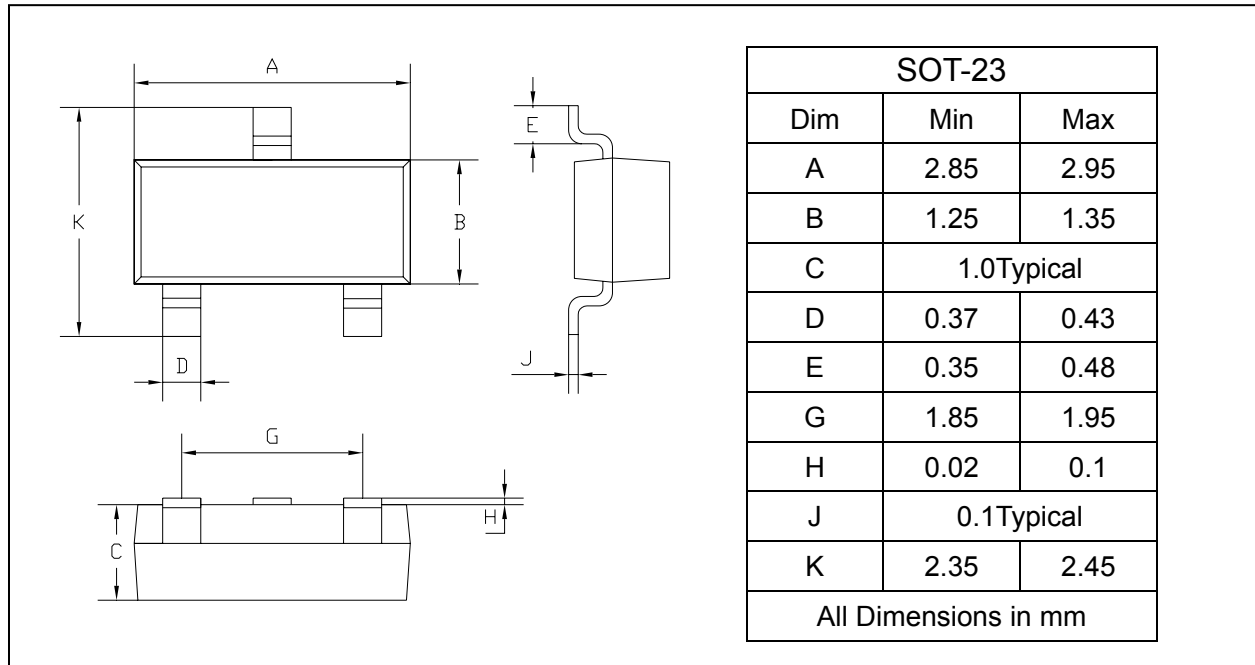
PNP General Purpose Amplifier

MMBT2907

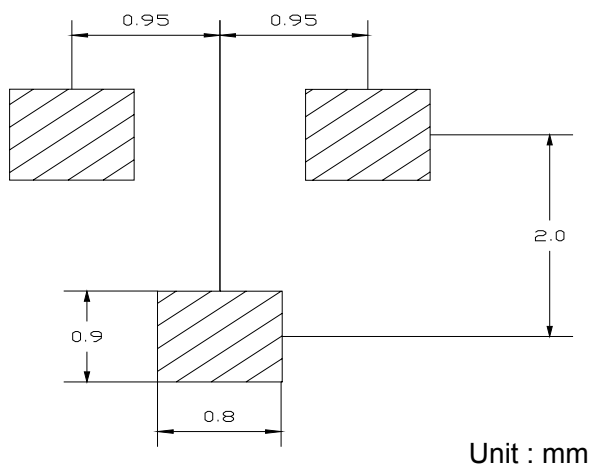
PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



SOLDERING FOOTPRINT



PACKAGE INFORMATION

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

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