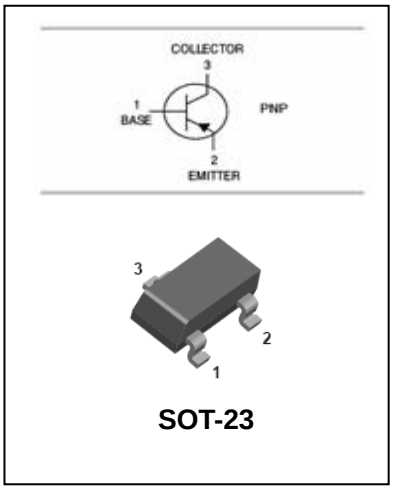
PNP General Purpose Amplifier MMBT2907

FEATURES

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

Lead-free



SOT-23

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℃ 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	℃/W
T_j, T_{stg}	Junction and Storage Temperature	-55 to +150	℃

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ELECTRICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=-10μA 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=-10μA 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}=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}=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

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TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

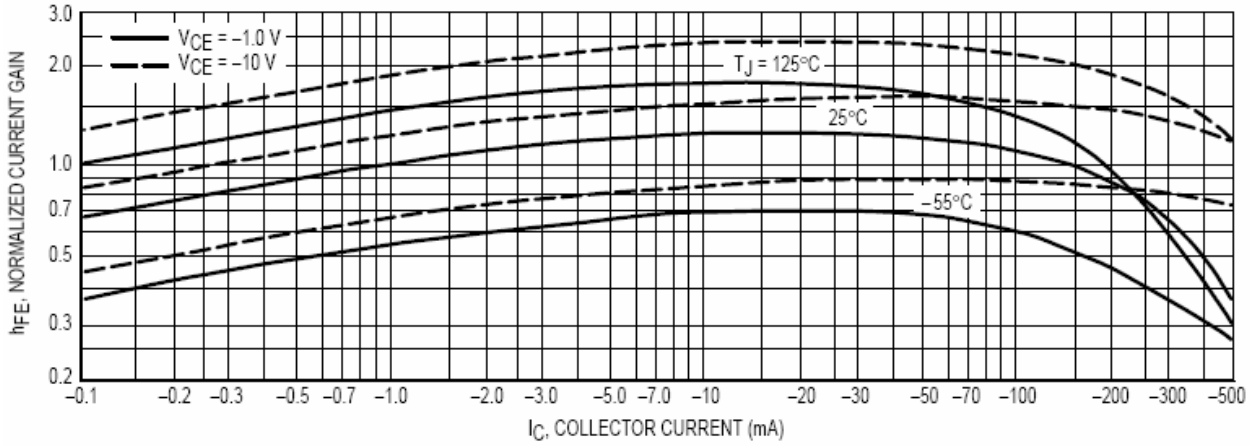

Figure 1. DC Current Gain

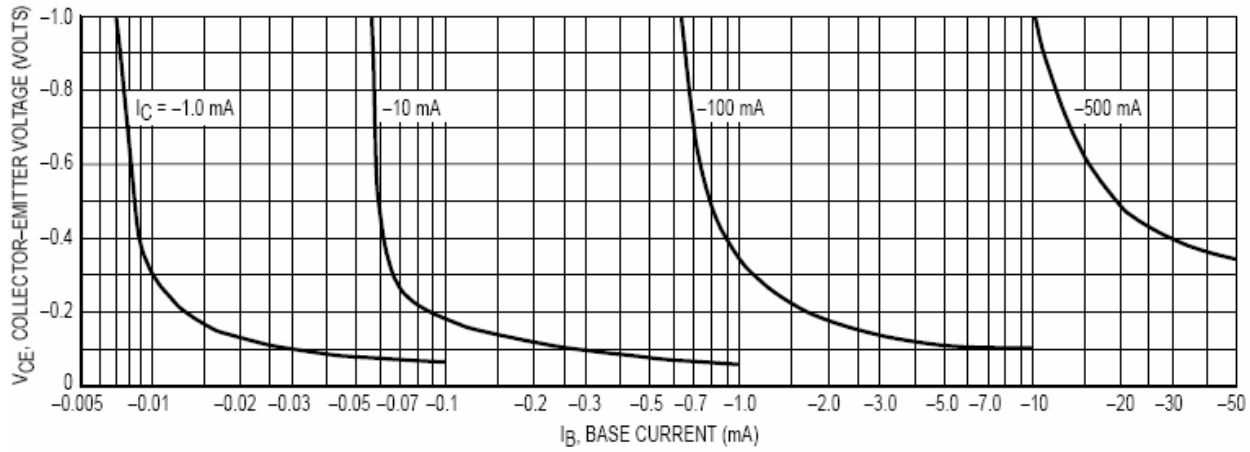

Figure 2. Collector Saturation Region

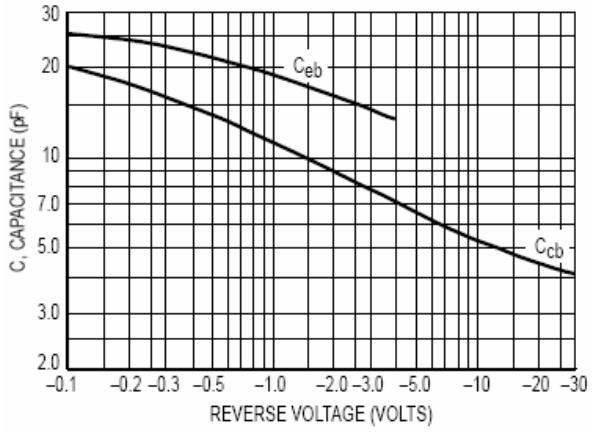

Figure 3. Capacitances

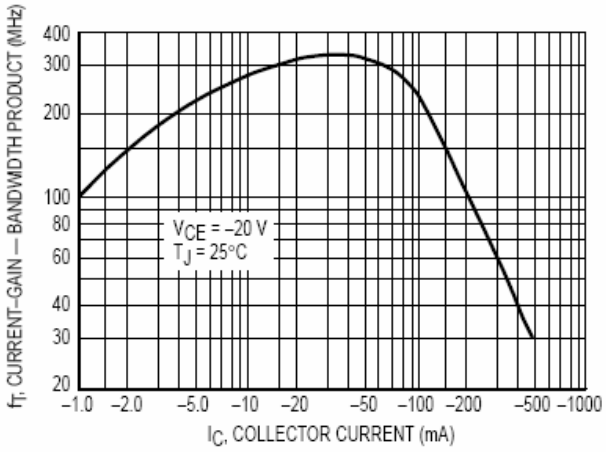

Figure 4. Current−Gain — Bandwidth Product

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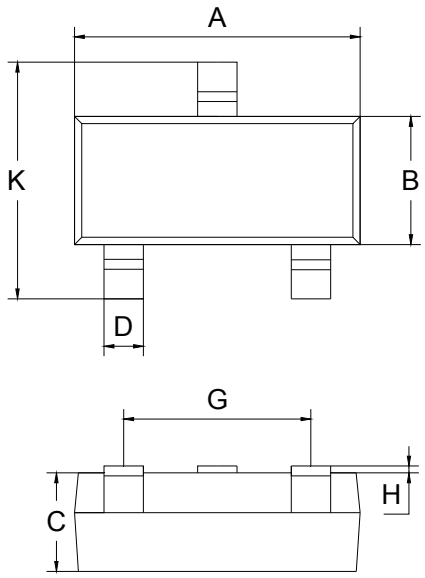
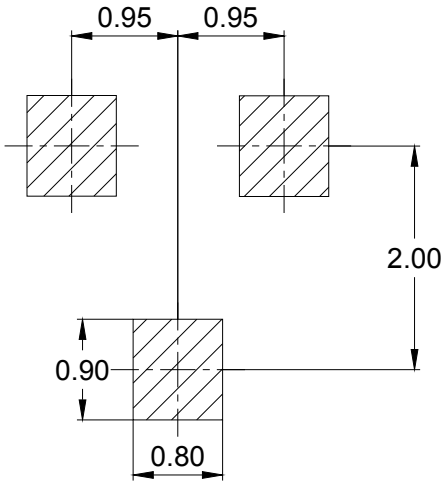
PACKAGE OUTLINE

Plastic surface mounted package SOT-23



SOT-23		
Dim	Min	Max
A	2.70	3.10
B	1.10	1.50
C	1.0 Typical	
D	0.4 Typical	
E	0.35	0.48
G	1.80	2.00
H	0.02	0.1
J	0.1 Typical	
K	2.20	2.60
All Dimensions in mm		

SOLDERING FOOTPRINT



Unit : mm

PACKAGE INFORMATION

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