

PNP General Purpose Amplifier

MMBT2907A

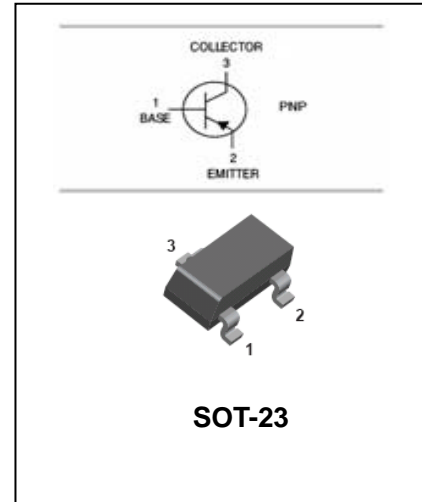
FEATURES

- Epitaxial planar die construction.
- Complementary NPN type available MMBT2222A.
- Ideal for medium power amplification and switching.
- MSL 1



APPLICATIONS

- This device is designed as a general purpose amplifier and switching.
- The useful dynamic range extends to 600mA as a switch and to 100MHz as a amplifier.



ORDERING INFORMATION

Type No.	Marking	Package Code
MMBT2907A□	2F	SOT-23

□: none is for Lead Free package;
“G” is for Halogen Free package.

MAXIMUM RATING @ Ta=25°C unless otherwise specified

Symbol	Parameter	Value	Unit
V _{CBO}	Collector-Base Voltage	-60	V
V _{CEO}	Collector-Emitter Voltage	-60	V
V _{EBO}	Emitter-Base Voltage	-5	V
I _c	Collector Current -Continuous	-600	mA
P _D	Total Device Dissipation	300	mW
R _{θJA}	Thermal Resistance Junction to Ambient	357	°C/W
T _j , T _{stg}	Junction and Storage Temperature	-55 to +150	°C

PNP General Purpose Amplifier

MMBT2907A

ESD RATING

Characteristic	Symbol	Value	Unit	JEDEC Class
Electrostatic Discharge - Human Body Model	ESD HBM	4,000	V	3A
Electrostatic Discharge - Machine Model	ESD MM	400	V	C

ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -10\mu A$ $I_E = 0$	-60		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -10mA$ $I_B = 0$	-60		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -10\mu A$ $I_C = 0$	-5		V
Collector cut-off current	I_{CBO}	$V_{CB} = -50V$ $I_E = 0$ $V_{CB} = -50V$ $I_E = 0$ $T_A = 125^\circ C$		-10 -10	nA μA
Collector cut-off current	I_{CEX}	$V_{CE} = -30V$, $V_{BE(OFF)} = -0.5V$		-50	nA
Base cut-off current	I_{BL}	$V_{CE} = -30V$, $V_{BE(OFF)} = -0.5V$		-50	nA
DC current gain	h_{FE}	$V_{CE} = -10V$ $I_C = -100\mu A$ $V_{CE} = -10V$ $I_C = -1mA$ $V_{CE} = -10V$ $I_C = -10mA$ $V_{CE} = -10V$ $I_C = -150mA$ $V_{CE} = -10V$ $I_C = -500mA$	75 100 100 100 50	- - - 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
Transition frequency	f_T	$V_{CE} = -20V$ $I_C = -50mA$ $f = 100MHz$	200		MHz
Output Capacitance	C_{obo}	$V_{CB} = -10V$ $f = 100kHz$ $I_E = 0$	-	8.0	pF
Input Capacitance	C_{ibo}	$V_{EB} = -2V$ $f = 100kHz$ $I_C = 0$	-	30	pF
Delay time	t_d	$V_{CE} = -30V$, $I_C = -150mA$, $I_{B1} = -15mA$		10	ns
Rise time	t_r			40	ns
Storage time	t_s	$V_{CE} = -6V$, $I_C = -150mA$ $I_{B1} = -I_{B2} = -15mA$		80	ns
Fall time	t_f			30	ns

PNP General Purpose Amplifier

MMBT2907A

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

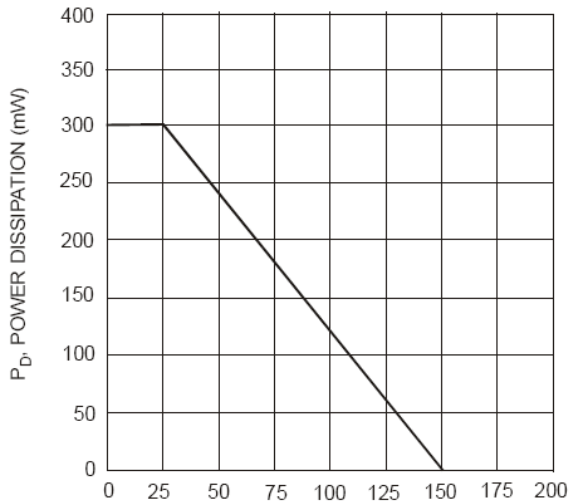


Fig. 1, Max Power Dissipation vs Ambient Temperature

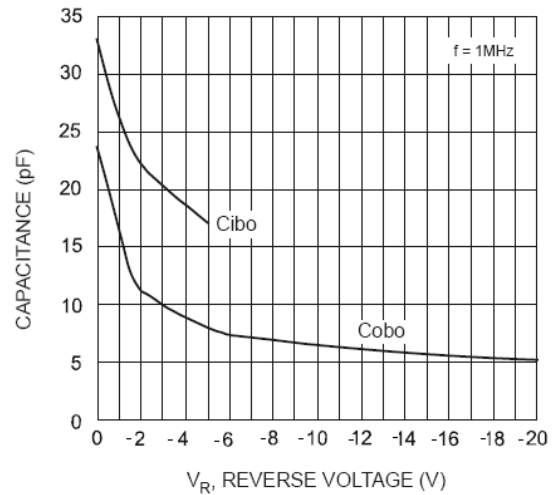


Fig. 2, Typical Capacitance Characteristics

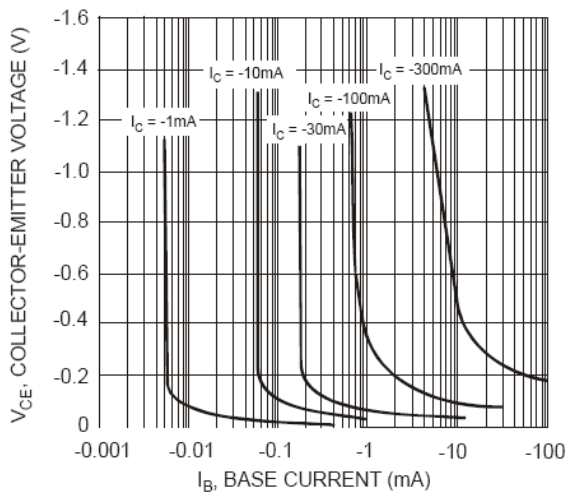


Fig. 3, Typical Collector Saturation Region

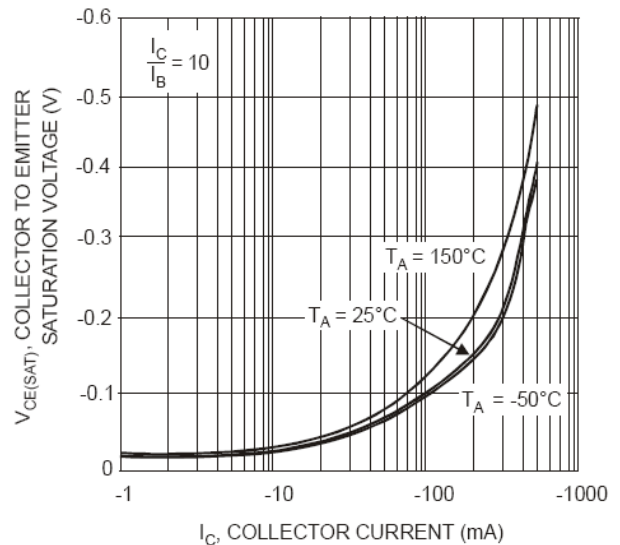
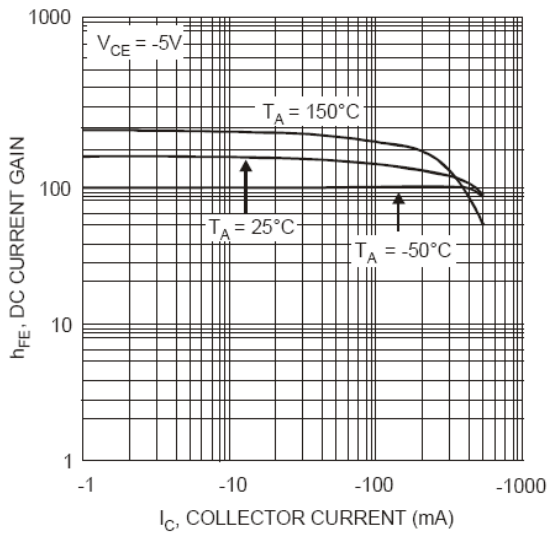


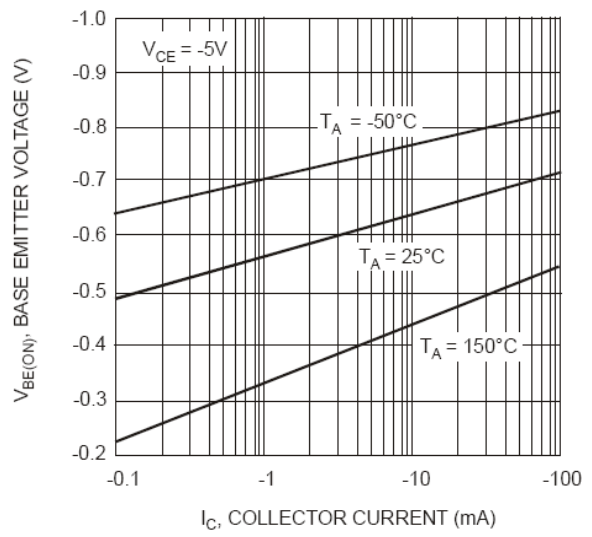
Fig. 4, Collector-Emitter Saturation Voltage vs. Collector Current

PNP General Purpose Amplifier

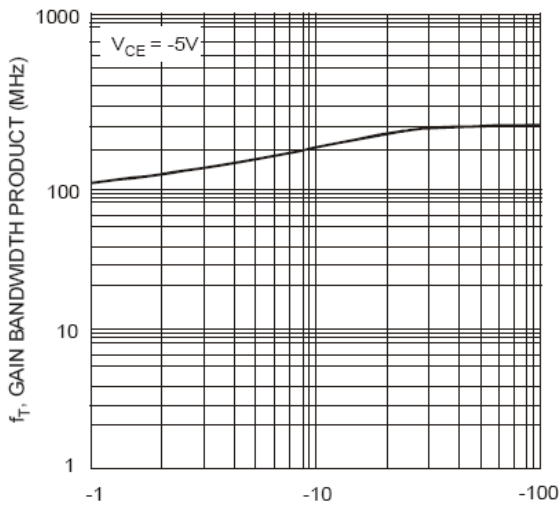
MMBT2907A



I_C , COLLECTOR CURRENT (mA)
 Fig. 5, DC Current Gain vs Collector Current



I_C , COLLECTOR CURRENT (mA)
 Fig. 6, Base-Emitter Voltage vs. Collector Current



I_C , COLLECTOR CURRENT (mA)
 Fig. 7, Gain Bandwidth Product vs. Collector Current

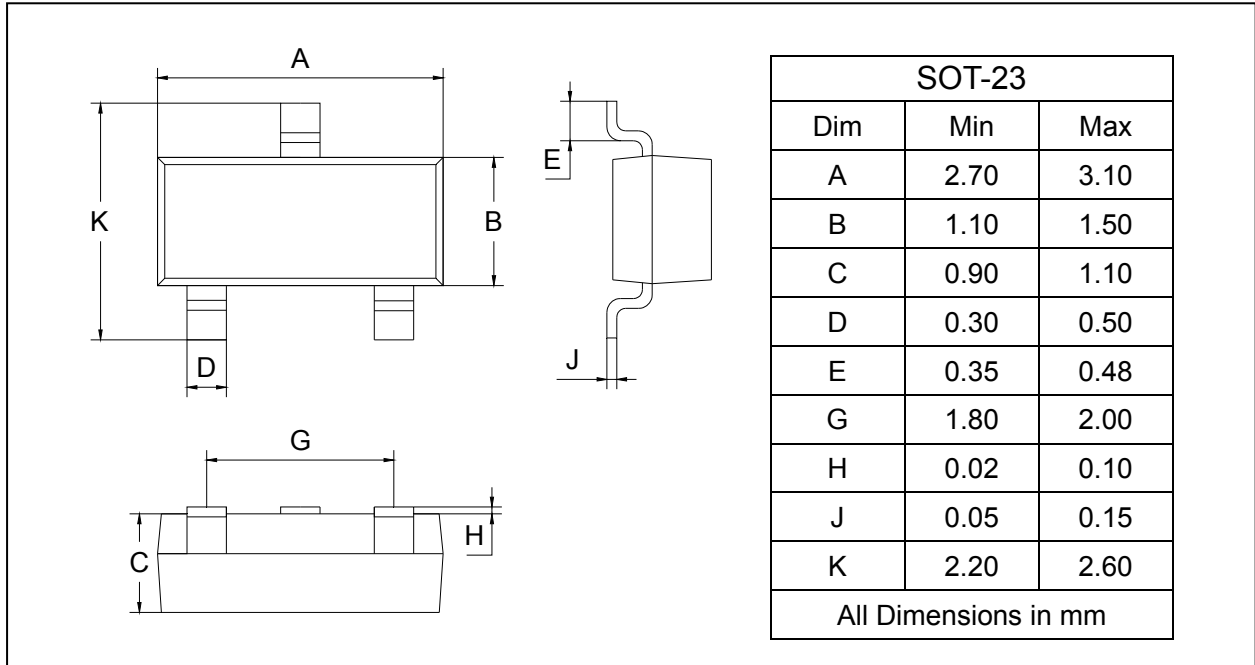
PNP General Purpose Amplifier

MMBT2907A

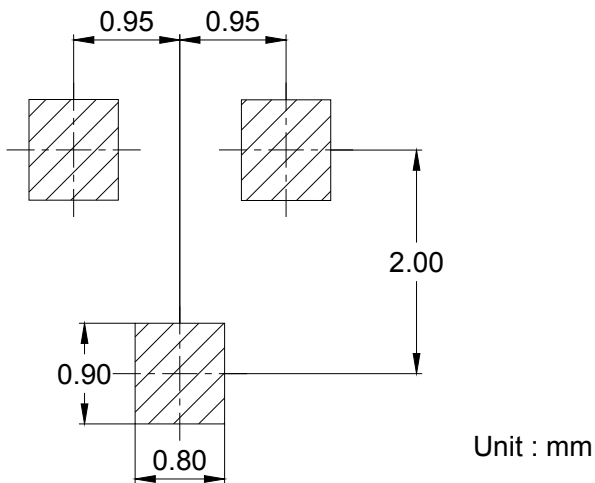
PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
MMBT2907A	SOT-23	3000/Tape&Reel

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Bipolar Transistors - BJT category](#):

Click to view products by [Galaxy manufacturer](#):

Other Similar products are found below :

[619691C](#) [MCH4017-TL-H](#) [MJ15024/WS](#) [MJ15025/WS](#) [BC546/116](#) [BC556/FSC](#) [BC557/116](#) [BSW67A](#) [HN7G01FU-A\(T5L,F,T](#)
[NJVMJD148T4G](#) [NSVMMBT6520LT1G](#) [NTE187A](#) [NTE195A](#) [NTE2302](#) [NTE2330](#) [NTE2353](#) [NTE316](#) [IMX9T110](#) [NTE63](#) [NTE65](#)
[C4460](#) [SBC846BLT3G](#) [2SA1419T-TD-H](#) [2SA1721-O\(TE85L,F\)](#) [2SA1727TLP](#) [2SA2126-E](#) [2SB1202T-TL-E](#) [2SB1204S-TL-E](#) [2SC5488A-](#)
[TL-H](#) [2SD2150T100R](#) [SP000011176](#) [FMC5AT148](#) [2N2369ADCSM](#) [2SB1202S-TL-E](#) [2SC2412KT146S](#) [2SC4618TLN](#) [2SC5490A-TL-H](#)
[2SD1816S-TL-E](#) [2SD1816T-TL-E](#) [CMXT2207 TR](#) [CPH6501-TL-E](#) [MCH4021-TL-E](#) [BC557B](#) [TTC012\(Q\)](#) [BULD128DT4](#) [JANTX2N3810](#)
[Jantx2N5416](#) [US6T6TR](#) [KSF350](#) [068071B](#)