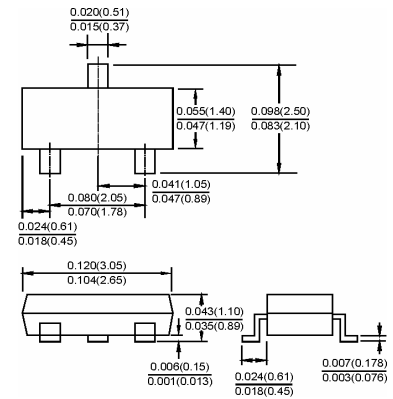


SOT-23



1. BASE
2. EMITTER
3. COLLECTOR



Features

- ✧ Epitaxial planar die construction
- ✧ Complementary PNP Type available(MMBT2907A)

MARKING: 1P

Dimensions in inches and (millimeters)

MAXIMUM RATINGS ($T_A=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	75	V
V_{CEO}	Collector-Emitter Voltage	40	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current -Continuous	600	mA
P_C	Collector Power Dissipation	350	mW
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55to+150	$^\circ\text{C}$

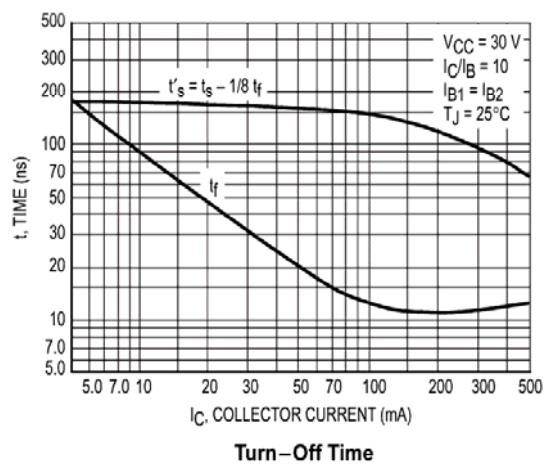
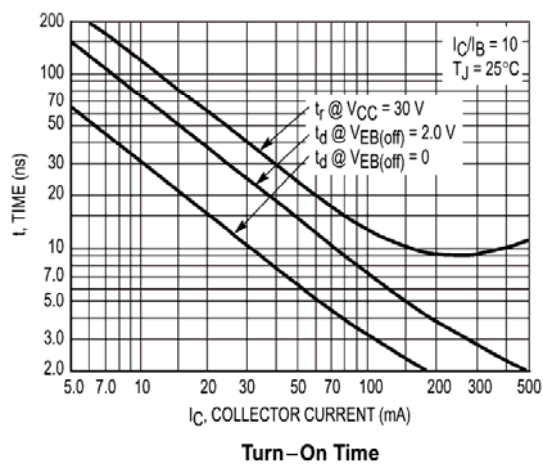
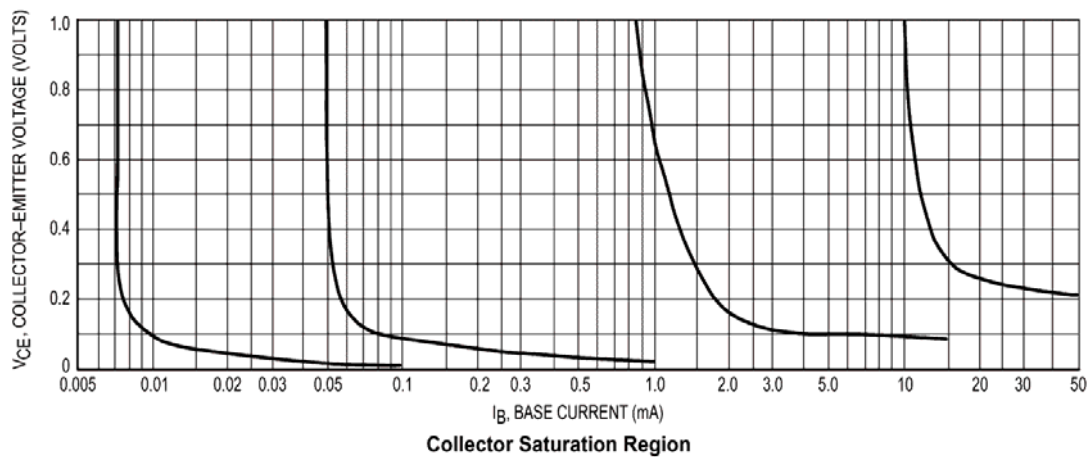
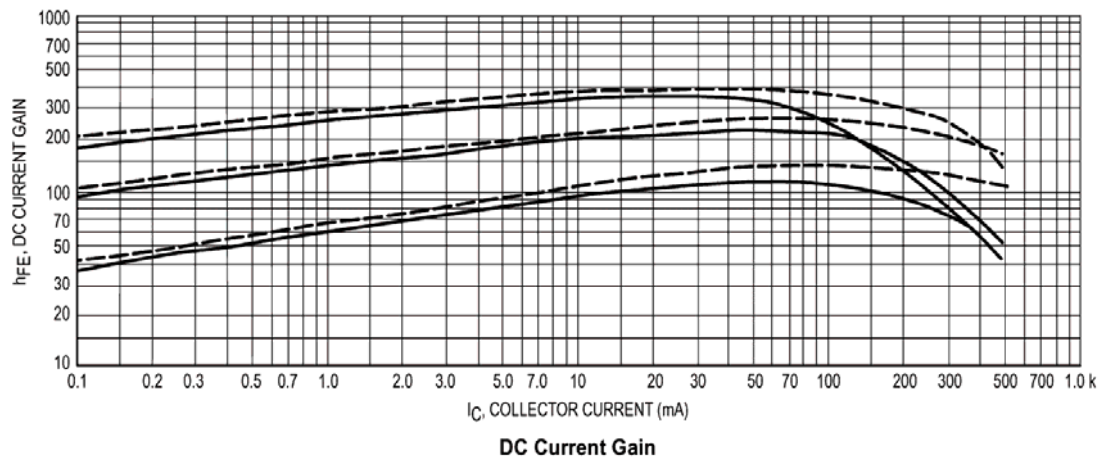
ELECTRICAL CHARACTERISTICS ($T_{amb}=25^\circ\text{C}$ unless otherwise specified)

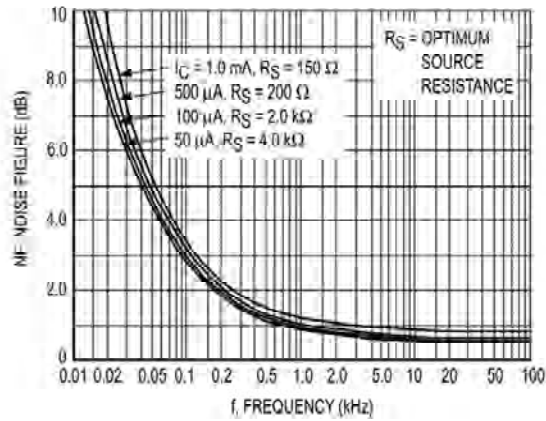
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=10\mu\text{A}$, $I_E=0$	75			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=10\text{mA}$, $I_B=0$	40			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu\text{A}$, $I_C=0$	6			V
Collector cut-off current	I_{CBO}	$V_{CB}=60\text{V}$, $I_E=0$			10	nA
Collector cut-off current	I_{CEX}	$V_{CE}=60\text{V}$, $V_{BE(off)}=3\text{V}$			10	nA
Emitter cut-off current	I_{EBO}	$V_{EB}=3\text{V}$, $I_C=0$			0.1	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=10\text{V}$, $I_C=150\text{mA}$	100		300	
	$h_{FE(2)}$	$V_{CE}=10\text{V}$, $I_C=0.1\text{mA}$	40			
	$h_{FE(3)}$	$V_{CE}=10\text{V}$, $I_C=500\text{mA}$	42			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=500\text{mA}$, $I_B=50\text{mA}$ $I_C=150\text{mA}$, $I_B=15\text{mA}$			1 0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=500\text{mA}$, $I_B=50\text{mA}$ $I_C=150\text{mA}$, $I_B=15\text{mA}$	0.6		2.0 1.2	V
Transition frequency	f_T	$V_{CE}=20\text{V}$, $I_C=20\text{mA}$ $f=100\text{MHz}$	300			MHz
Delay time	t_d	$V_{CC}=30\text{V}$, $V_{BE(off)}=-0.5\text{V}$ $I_C=150\text{mA}$, $I_{B1}=15\text{mA}$			10	nS
Rise time	t_r				25	nS
Storage time	t_S	$V_{CC}=30\text{V}$, $I_C=150\text{mA}$			225	nS
Fall time	t_f	$I_{B1}=I_{B2}=15\text{mA}$			60	nS

CLASSIFICATION OF $h_{FE(1)}$

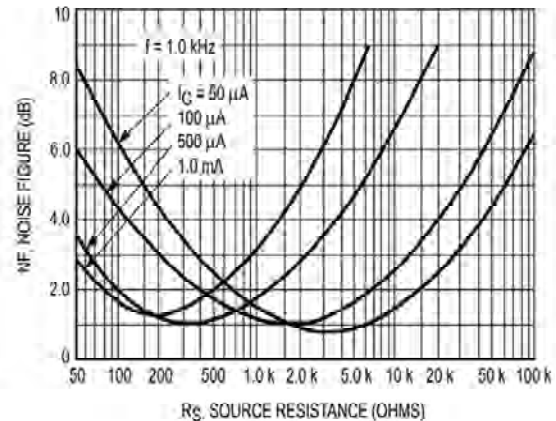
Rank	L	H
Range	100-200	200-300

Typical Characteristics

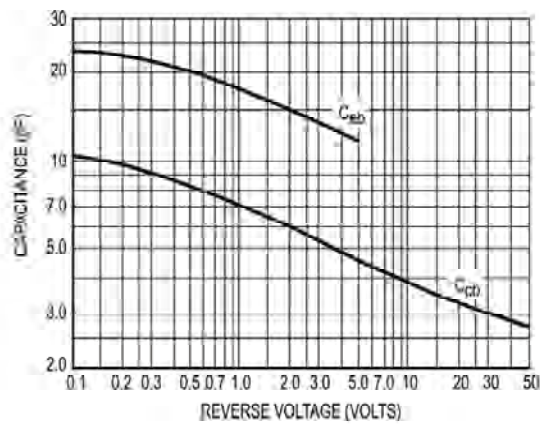




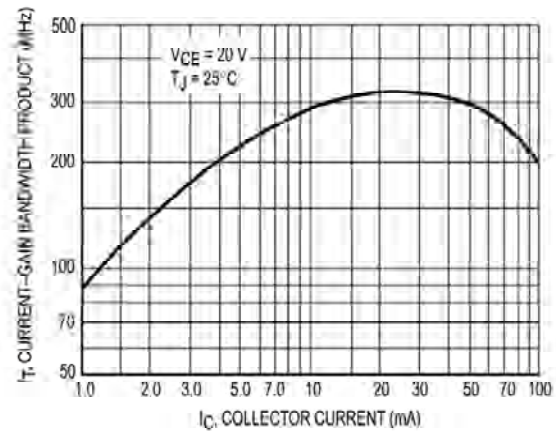
Frequency Effects



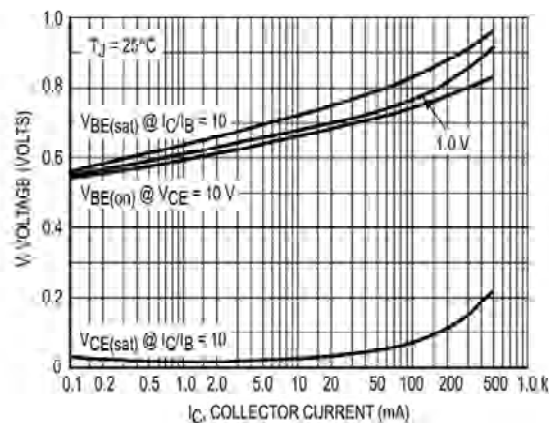
Source Resistance Effects



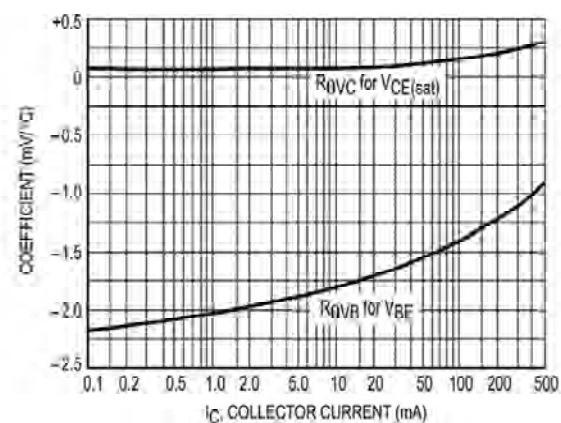
Capacitances



Current-Gain Bandwidth Product



"On" Voltages



Temperature Coefficients