



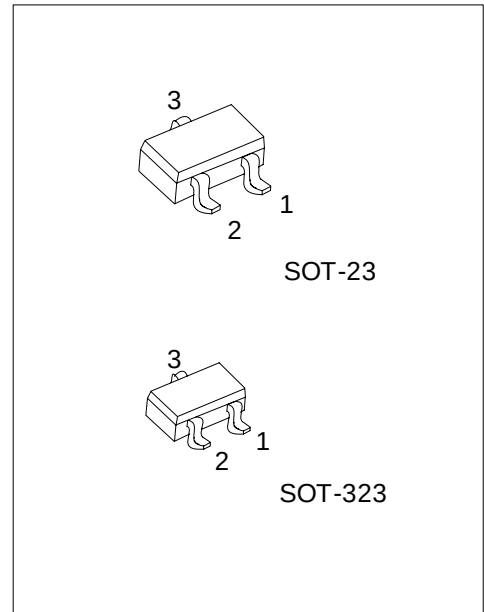
MMBT3906

PNP PLANAR TRANSISTOR

GENERAL PURPOSE APPLICATION

■ FEATURES

- * Collector-Emitter Voltage: $V_{CEO}=40V$
- * Collector Dissipation: $P_{C(MAX)}=350mW$
- * Complementary to MMBT3904



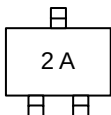
*Pb-free plating product number: MMBT3906L

■ ORDERING INFORMATION

Order Number		Package	Pin Assignment			Packing
Normal	Lead Free Plating		1	2	3	
MMBT3906-AE3-R	MMBT3906L-AE3-R	SOT-23	E	B	C	Tape Reel
MMBT3906-AL3-R	MMBT3906L-AL3-R	SOT-323	E	B	C	Tape Reel

MMBT3906L-AE3-R	(1)Packing Type (2)Package Type (3)Lead Plating	(1) R: Tape Reel (2) AE3: SOT-23, AL3: SOT-323 (3) L: Lead Free Plating, Blank: Pb/Sn
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■ MARKING



■ ABSOLUTE MAXIMUM RATING (Ta=25°C, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-base voltage	V_{CBO}	-40	V
Collector-emitter voltage	V_{CEO}	-40	V
Emitter-base voltage	V_{EBO}	-5	V
Collector current	I_C	-200	mA
Base Current	I_B	-50	mA
Collector dissipation	P_C	350	mW
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-55 ~ +150	°C

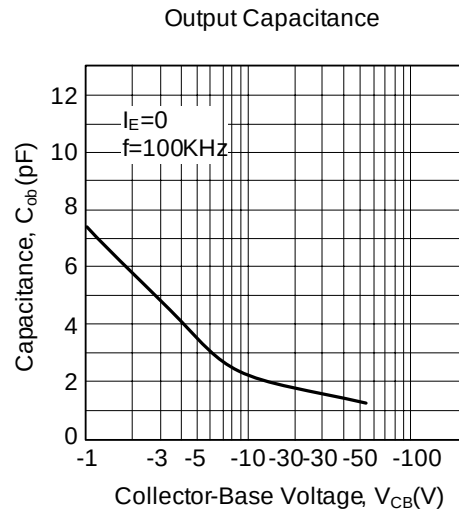
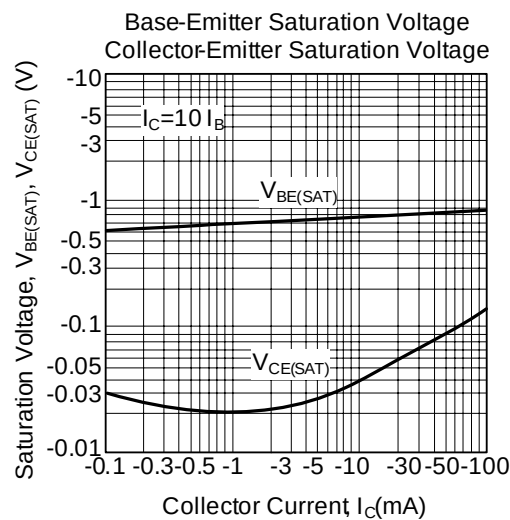
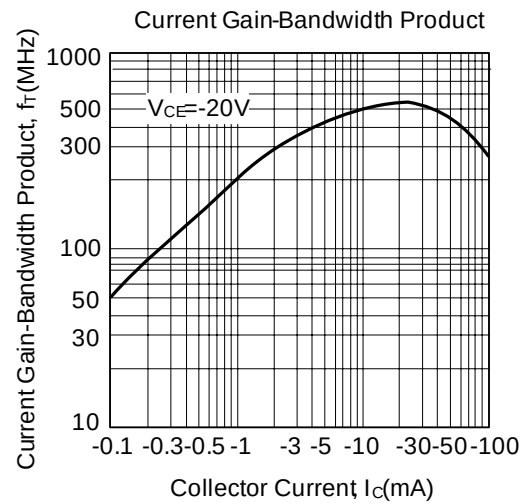
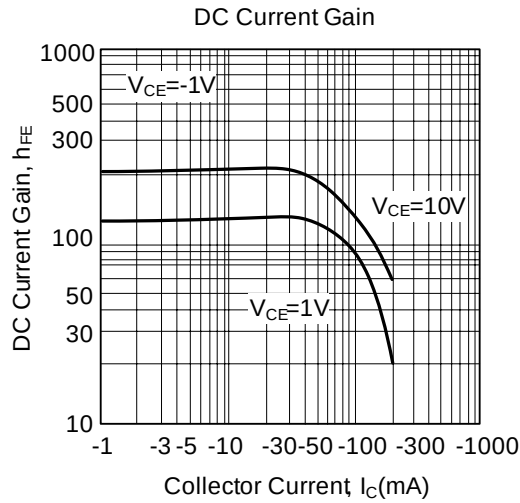
Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS (Ta=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector Cut-off Current	I_{CEX}	$V_{CE}=-30V, V_{EB}=-3V$			-50	nA
Base Cut-off Current	I_{BL}	$V_{CE}=-30V, V_{EB}=-3V$			-50	nA
Collector-Base Breakdown Voltage	V_{CBO}	$I_C=-10\mu A, I_E=0$	-40			V
Collector-Emitter Breakdown Voltage (Note)	V_{CEO}	$I_C=-1mA, I_B=0$	-40			V
Emitter-Base Breakdown Voltage	V_{EBO}	$I_E=-10\mu A, I_C=0$	-6			V
DC Current Gain (Note)	h_{FE1}	$V_{CE}=-1V, I_C=-0.1mA$	60			
	h_{FE2}	$V_{CE}=-1V, I_C=-1mA$	80			
	h_{FE3}	$V_{CE}=-1V, I_C=-10mA$	100		300	
	h_{FE4}	$V_{CE}=-1V, I_C=-50mA$	60			
	h_{FE5}	$V_{CE}=-1V, I_C=-100mA$	30			
Collector-Emitter Saturation Voltage (Note)	$V_{CE(SAT)1}$	$I_C=-10mA, I_B=-1mA$			-0.25	V
	$V_{CE(SAT)2}$	$I_C=-50mA, I_B=-5mA$			-0.4	V
Base-Emitter Saturation Voltage	$V_{BE(SAT)1}$	$I_C=-10mA, I_B=-1mA$	-0.65		-0.85	V
	$V_{BE(SAT)2}$	$I_C=-50mA, I_B=-5mA$			-0.95	V
Transition Voltage	f_T	$V_{CE}=-20V, I_C=-10mA, f=100MHz$	250			MHz
Output Capacitance	C_{ob}	$V_{CB}=-5V, I_E=0, f=1MHz$			4.5	pF
Turn on Time	t_{ON}	$V_{CC}=-3V, V_{BE}=-0.5V, I_C=-10mA, I_{B1}=-1mA$			70	ns
Turn off Time	t_{OFF}	$I_{B1}=I_{B2}=-1mA$			300	ns

Note: Pulse test: $PW \leq 300\mu s$, Duty Cycle $\leq 2\%$

■ TYPICAL CHARACTERISTICS



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