



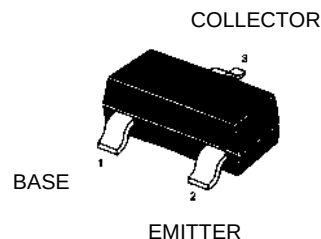
MMBT5401 TRANSISTOR (PNP)

FEATURES

Complementary to MMBT5551

Ideal for medium power amplification and switching

MARKING: 2L



SOT-23

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

Symbol	Parameter	Value	Units
V_{CB0}	Collector-Base Voltage	-160	V
V_{CEO}	Collector-Emitter Voltage	-150	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current -Continuous	-0.6	A
P_C	Collector Power Dissipation	0.3	W
T_j	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55-150	$^{\circ}\text{C}$

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

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -100\mu\text{A}$, $I_E = 0$	-160		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -1\text{mA}$, $I_B = 0$	-150		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -10\mu\text{A}$, $I_C = 0$	-5		V
Collector cut-off current	I_{CBO}	$V_{CB} = -120\text{V}$, $I_E = 0$		-0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -4\text{V}$, $I_C = 0$		-0.1	μA
DC current gain	h_{FE1}	$V_{CE} = -5\text{V}$, $I_C = -1\text{mA}$	80		
	h_{FE2}	$V_{CE} = -5\text{V}$, $I_C = -10\text{mA}$	100	300	
	h_{FE3}	$V_{CE} = -5\text{V}$, $I_C = -50\text{mA}$	50		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -50\text{mA}$, $I_B = -5\text{mA}$		-0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -50\text{mA}$, $I_B = -5\text{mA}$		-1	V
Transition frequency	f_T	$V_{CE} = -5\text{V}$, $I_C = -10\text{mA}$	100		MHz



Typical Characteristics

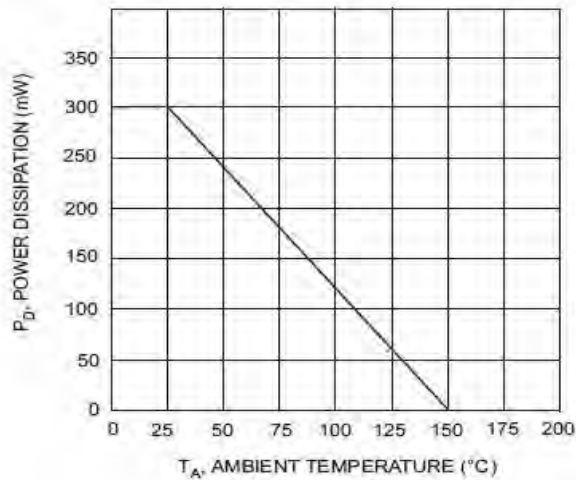


Fig. 1, Max Power Dissipation vs Ambient Temperature

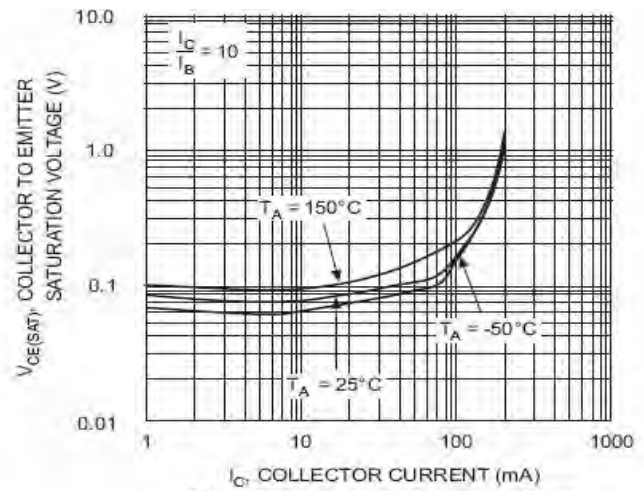


Fig. 2, Collector-Emitter Saturation Voltage vs. Collector Current

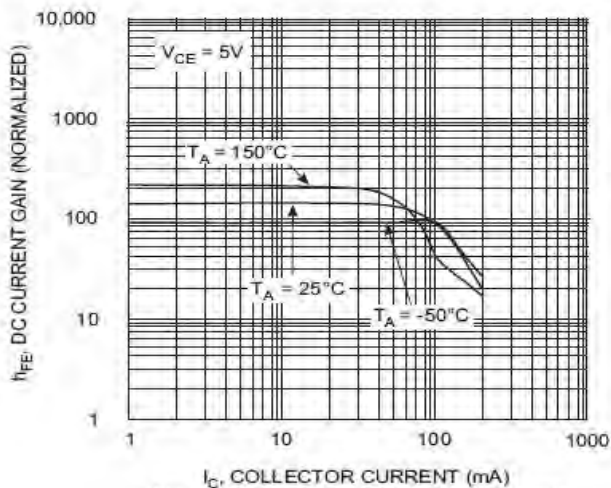


Fig. 3, DC Current Gain vs. Collector Current

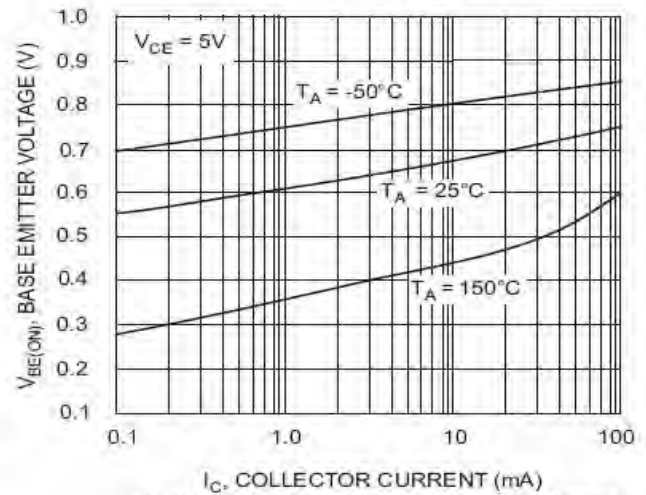


Fig. 4, Base-Emitter Voltage vs. Collector Current

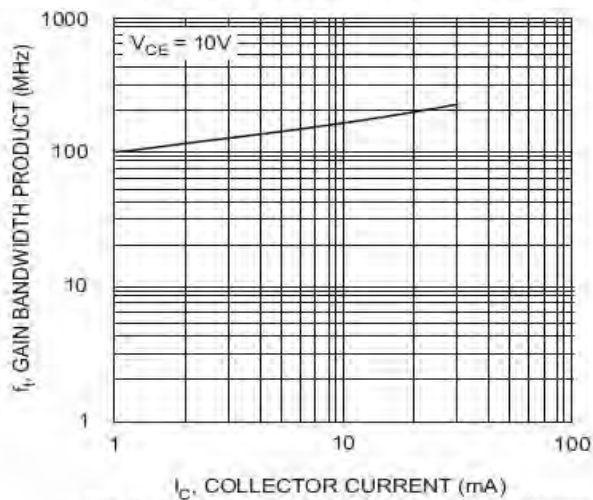
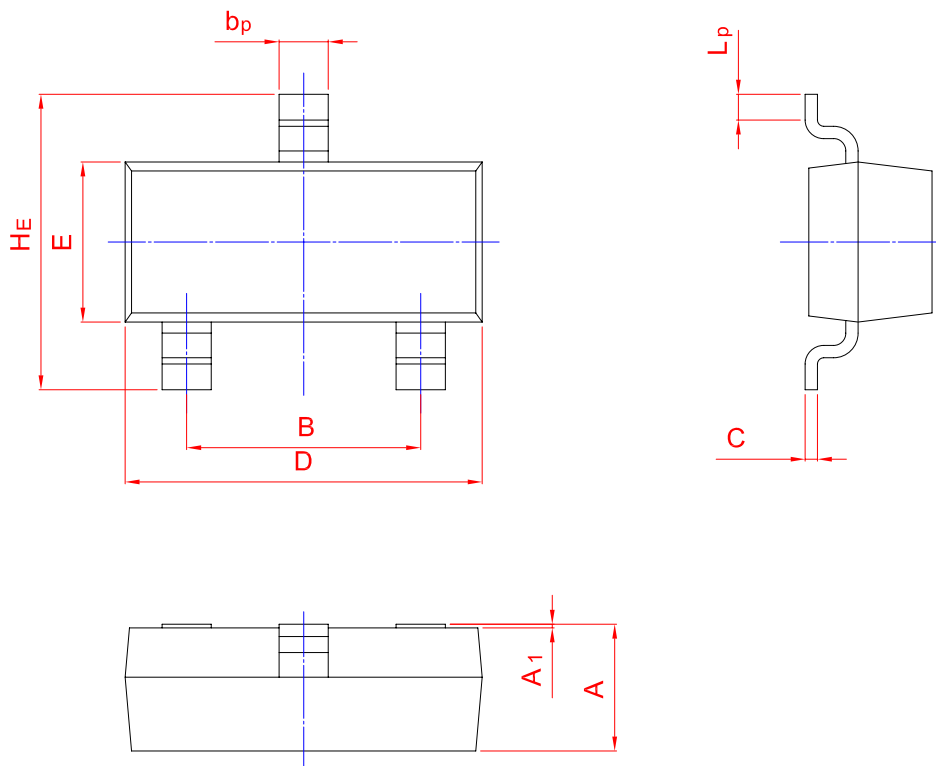
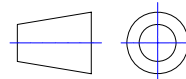


Fig. 5, Gain Bandwidth Product vs Collector Current



PACKAGE OUTLINE

SOT-23



UNIT	A	B	bp	C	D	E	HE	A1	Lp
mm	1.40 0.95	2.04 1.78	0.50 0.35	0.19 0.08	3.10 2.70	1.65 1.20	3.00 2.20	0.100 0.013	0.50 0.20