

SOT-23 Plastic-Encapsulate Transistors

MMBT5401 TRANSISTOR (PNP)

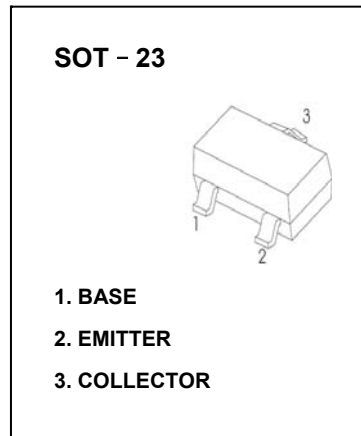
FEATURES

- Complementary to MMBT5551
- Ideal for Medium Power Amplification and Switching

MARKING: 2L

MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V _{CB0}	Collector-Base Voltage	-160	V
V _{CE0}	Collector-Emitter Voltage	-150	V
V _{EBO}	Emitter-Base Voltage	-5	V
I _C	Collector Current	-0.6	A
P _C	Collector Power Dissipation	0.3	W
R _{θJA}	Thermal Resistance from Junction to Ambient	416	°C/W
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55~+150	°C



ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise specified)

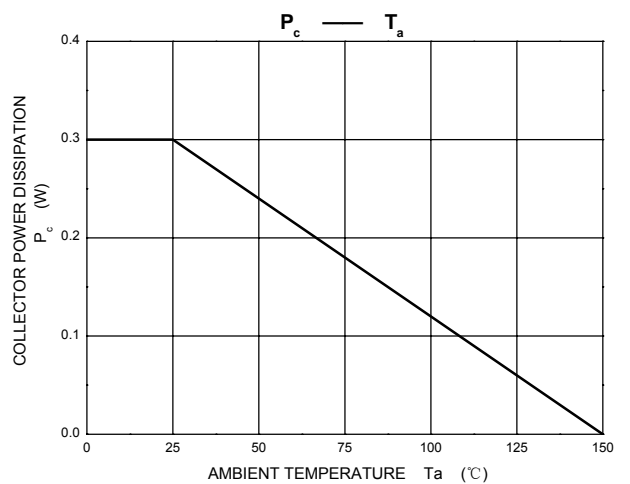
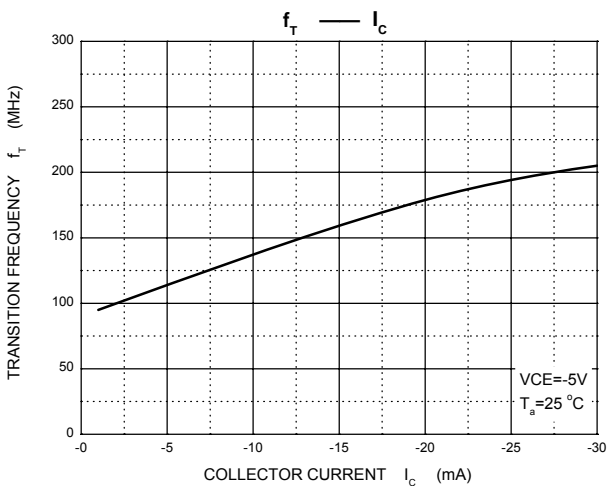
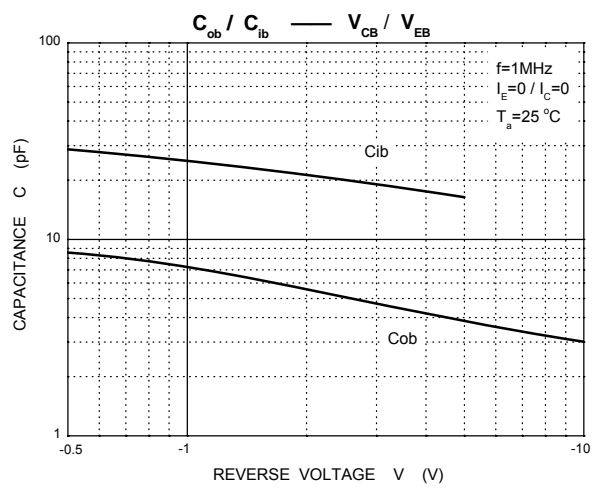
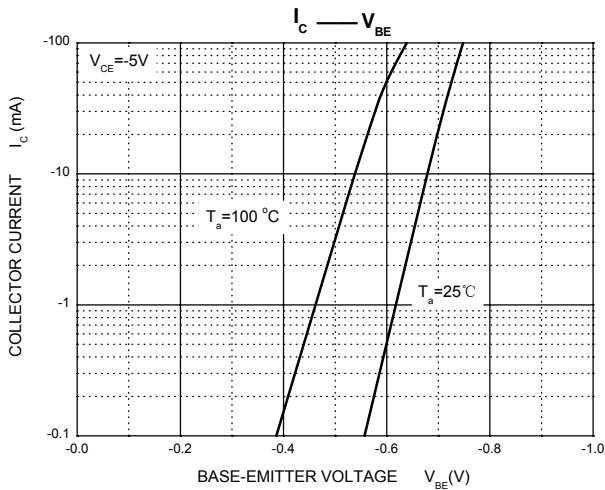
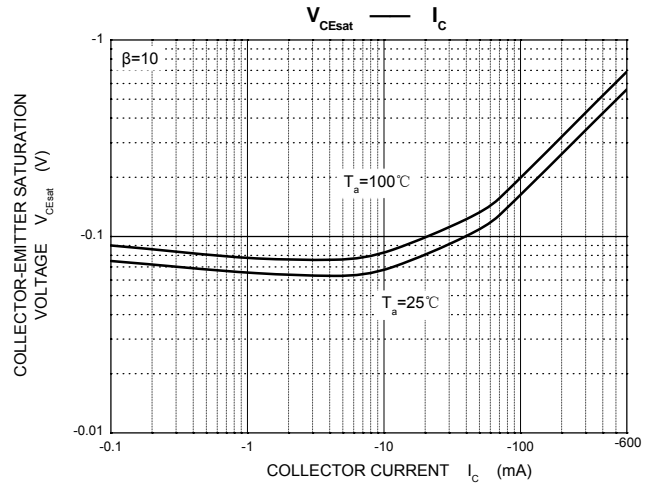
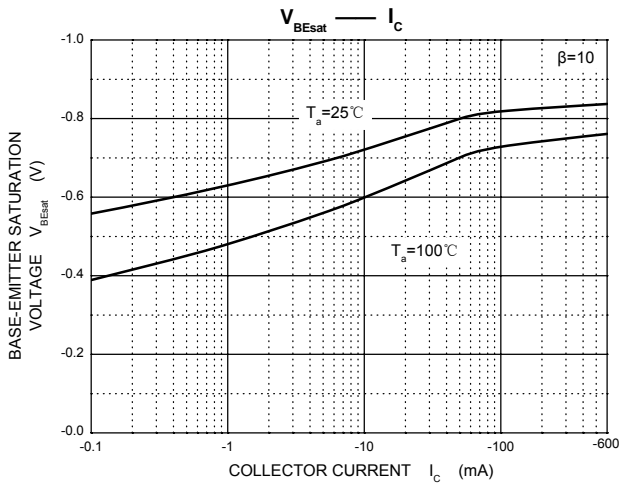
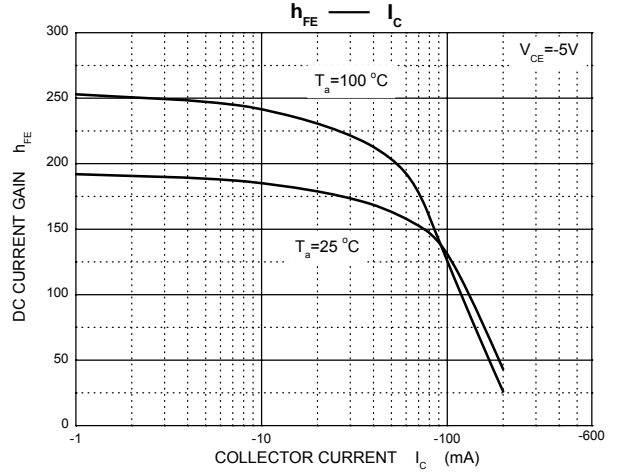
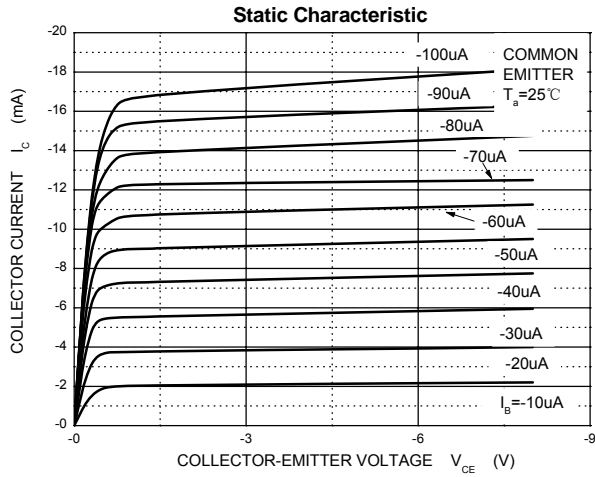
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =-100μA, I _E =0	-160			V
Collector-emitter breakdown voltage	V _{(BR)CEO} *	I _C =-1mA, I _B =0	-150			V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E =-10μA, I _C =0	-5			V
Collector cut-off current	I _{CB0}	V _{CB} =-120V, I _E =0			-0.1	μA
Emitter cut-off current	I _{EBO}	V _{EB} =-4V, I _C =0			-0.1	μA
DC current gain	h _{FE(1)} *	V _{CE} =-5V, I _C =-1mA	80			
	h _{FE(2)} *	V _{CE} =-5V, I _C =-10mA	100		300	
	h _{FE(3)} *	V _{CE} =-5V, I _C =-50mA	50			
Collector-emitter saturation voltage	V _{CE(sat)1} *	I _C =-10mA, I _B =-1mA			-0.2	V
	V _{CE(sat)2} *	I _C =-50mA, I _B =-5mA			-0.5	V
Base-emitter saturation voltage	V _{BE(sat)1} *	I _C =-10mA, I _B =-1mA			-1	V
	V _{BE(sat)2} *	I _C =-50mA, I _B =-5mA			-1	V
Transition frequency	f _T	V _{CE} =-5V, I _C =-10mA, f=30MHz	100			MHz

*Pulse test: pulse width ≤300μs, duty cycles ≤ 2.0%.

CLASSIFICATION OF h_{FE(2)}

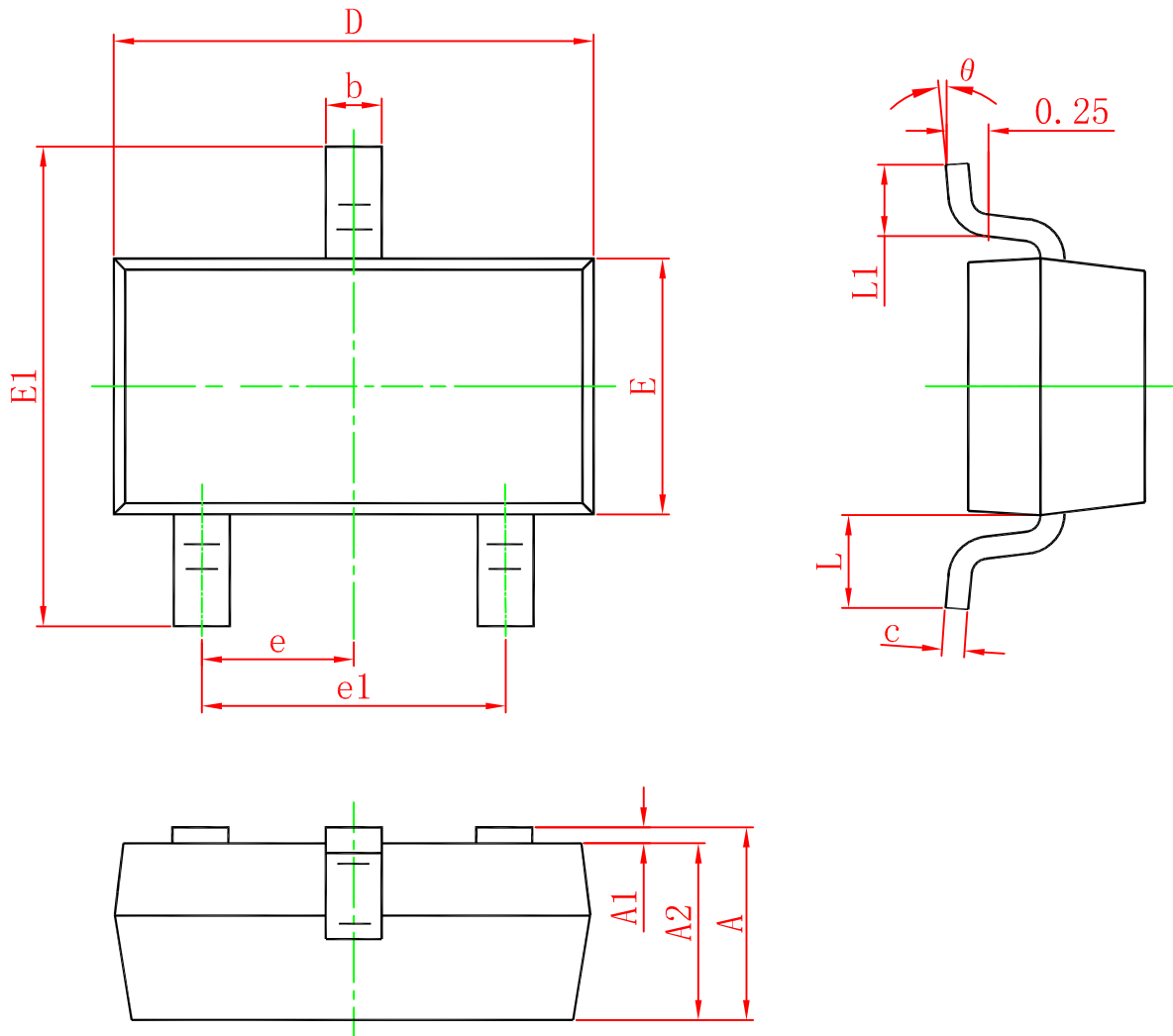
RANK	L	H
RANGE	100-200	200-300

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SOT-23 PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP.		0.037 TYP.	
e1	1.800	2.000	0.071	0.079
L	0.550 REF.		0.022 REF.	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°