

MMBT5401

MMBT5401 SOT-23 Plastic-Encapsulate Transistors(PNP)

General description

SOT-23 Plastic-Encapsulate Transistors(PNP)

FEATURES

- Complementary to MMBT5551
- Power Dissipation of 300mW
- High Stability and High Reliability
- SOT-23 Small Outline Plastic Package
- Epoxy UL: 94V-0



DEVICE MARKING CODE:

Device Type	Device Marking
MMBT5401	2L

Maximum Ratings & Thermal Characteristics (Ratings at 25°C ambient temperature unless otherwise specified.)

Parameters	Symbol	Value	Unit
Collector-Base Voltage	V_{CB0}	-160	V
Collector-Emitter Voltage	V_{CE0}	-150	V
Emitter -Base Voltage	V_{EB0}	-5	V
Collector Current-Continuous	I_C	-600	mA
Collector Power Dissipation	P_C	300	mW
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55-+150	°C
Thermal resistance From junction to ambient	$R_{\theta JA}$	416	°C/W

Electrical Characteristics (Ratings at 25°C ambient temperature unless otherwise specified).

Parameter	Symbols	Test Condition	Limits		Unit
			Min	Max	
Collector-base breakdown voltage	$V_{(BR)CB0}$	$I_C = -100\mu A, I_E = 0$	-160		V
Collector-emitter breakdown voltage	$V_{(BR)CE0}^*$	$I_C = -1mA, I_B = 0$	-150		V
Emitter-base breakdown voltage	$V_{(BR)EB0}$	$I_E = -10\mu A, I_C = 0$	-5		V
Collector cut-off current	I_{CBO}	$V_{CB} = -120V, I_E = 0$		-100	nA
Emitter cut-off current	I_{EBO}	$V_{EB} = -4V, I_C = 0$		-100	nA
DC current gain	$h_{FE(1)}^*$	$V_{CE} = -5V, I_C = -1mA$	80		
	$h_{FE(2)}^*$	$V_{CE} = -5V, I_C = -10mA$	100	300	
	$h_{FE(3)}^*$	$V_{CE} = -5V, I_C = -50mA$	30		
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	$V_{BE(sat)1}^*$	$I_C = -10mA, I_B = -1mA$		-1.00	V
	$V_{BE(sat)2}^*$	$I_C = -50mA, I_B = -5mA$		-1.00	V
Transition frequency	f_T	$V_{CE} = -5V, I_C = 10mA, f = 30MHz$	100		MHz

*Pulse test: pulse width $\leq 300\mu s$, duty cycle $\leq 2.0\%$

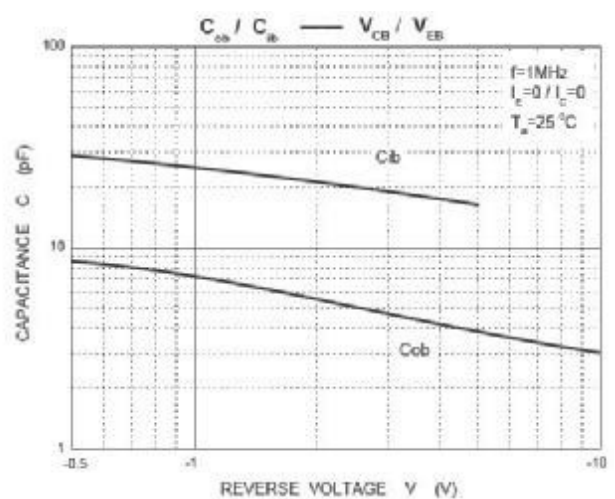
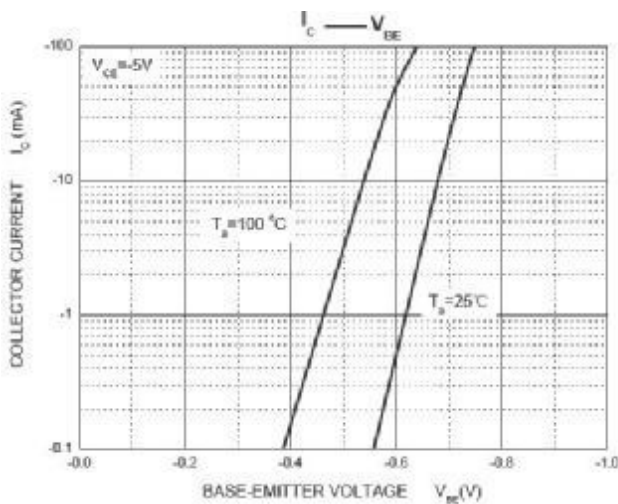
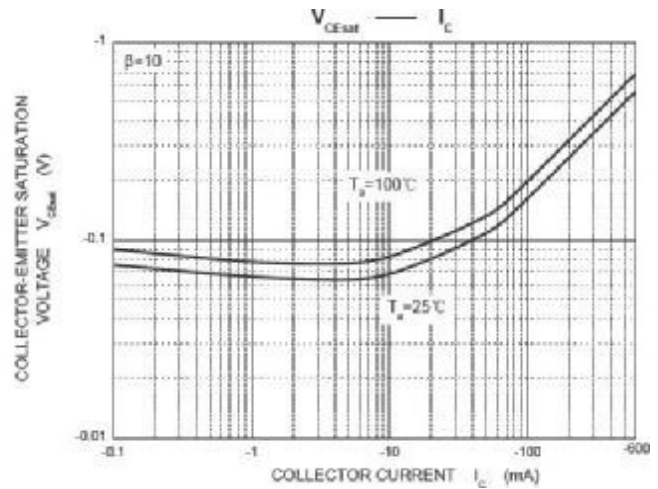
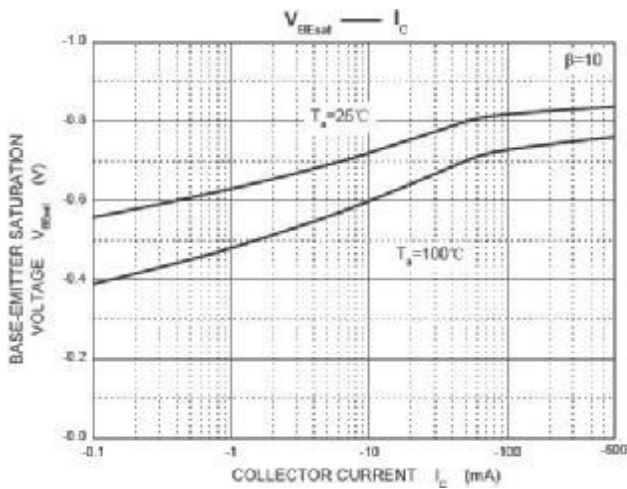
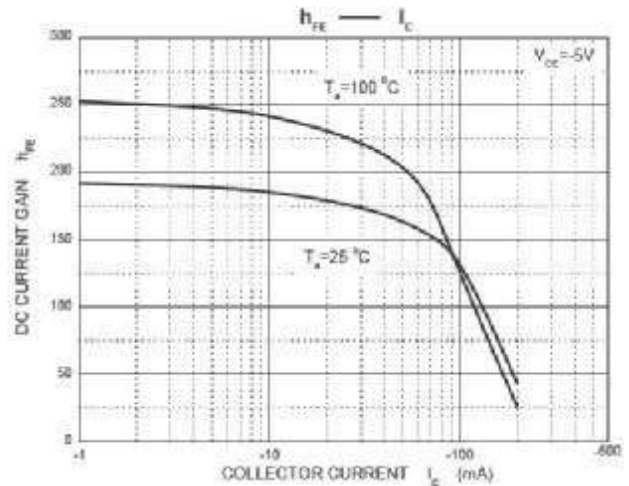
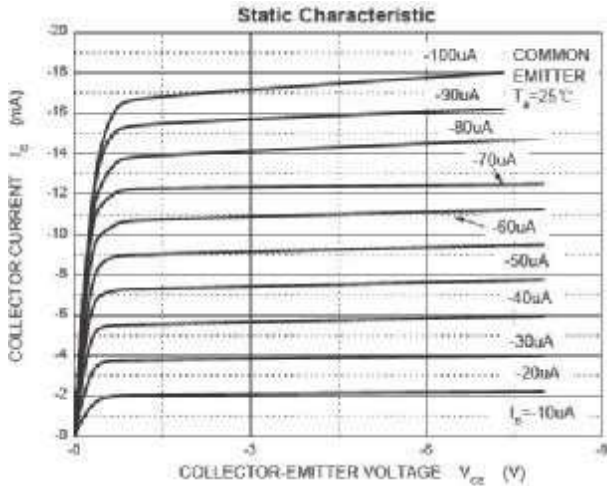


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CLASSIFICATION OF hFE(1)

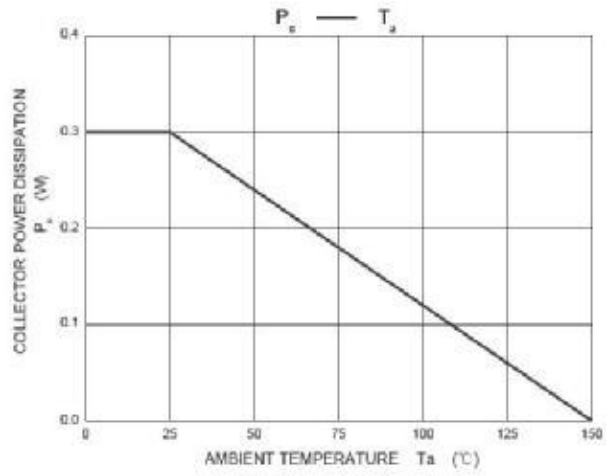
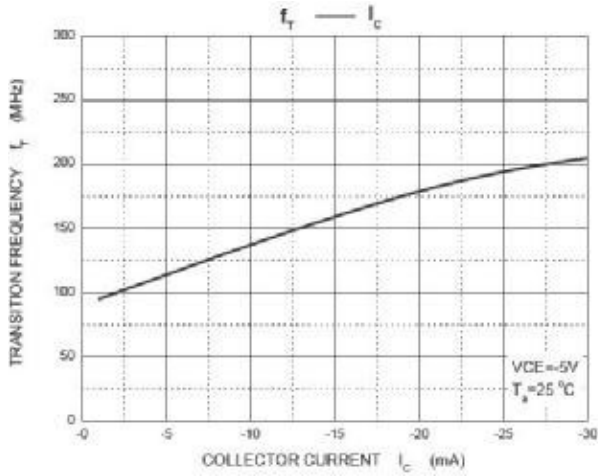
HFE	100-300	
RANK	L	H
RANGE	100-200	200-300

RATING AND CHARACTERISTIC CURVES

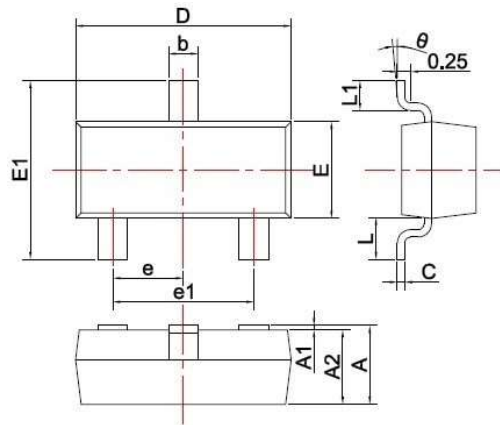




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SOT-23 PACKAGE OUTLINE Plastic surface mounted package

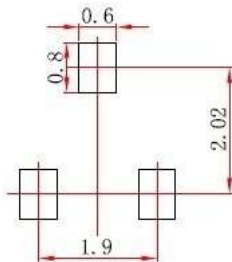


SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
θ	0 $^\circ$	8 $^\circ$

Unit: mm

Precautions: PCB Design

Recommended land dimensions for SOT-23 diode. Electrode patterns for PCBs



Note:

1. Controlling dimension: In millimeters.
2. General tolerance: ± 0.05 mm.
3. The pad layout is for reference purposes only.

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