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℃ ambient temperature unless otherwise specified.)

Parameters	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-160	V
Collector-Emitter Voltage	V_{CEO}	-150	V
Emitter -Base Voltage	V_{EBO}	-5	V
Collector Current-Continuous	I_C	-600	mA
Collector Power Dissipation	P_C	300	mW
Junction Temperature	T_j	150	℃
Storage Temperature	Tstg	-55-+150	℃
Thermal resistance From junction to ambient	$R_{\theta JA}$	416	℃/W

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

Parameter	Symbols	Test Condition	Limits		Unit
			Min	Max	
Collector-base breakdown voltage	**$V_{(BR)CBO}$**	IC=-100uA, IE=0	-160		V
Collector-emitter breakdown voltage	**$V_{(BR)CEO}$** *	IC=-1mA, IB=0	-150		V
Emitter-base breakdown voltage	**$V_{(BR)EBO}$**	IE=-10uA, IC=0	-5		V
Collector cut-off current	**I_{CBO}**	VCB=-120V, IE=0		-100	nA
Emitter cut-off current	**I_{EBO}**	VEB=-4V, IC=0		-100	nA
DC current gain	$h_{FE(1)}$ *	VCE=-5V, IC=-1mA	80		
	$h_{FE(2)}$ *	VCE=-5V, IC=-10mA	100	300	
	$h_{FE(3)}$ *	VCE=-5V, IC=-50mA	30		
Collector-emitter saturation voltage	**$V_{CE(sat)1}$** *	IC=-10mA, IB=-1mA		-0.2	V
	$V_{CE(sat)2}$ *	IC=-50mA, IB=-5mA		-0.5	V
Base -emitter saturation voltage	**$V_{BE(sat)1}$** *	IC=-10mA, IB=-1mA		-1.00	V
	$V_{BE(sat)2}$ *	IC=-50mA, IB=-5mA		-1.00	V
Transition frequency	**f_T**	VCE=-5V, IC=10mA,f=30MHz	100		MHz

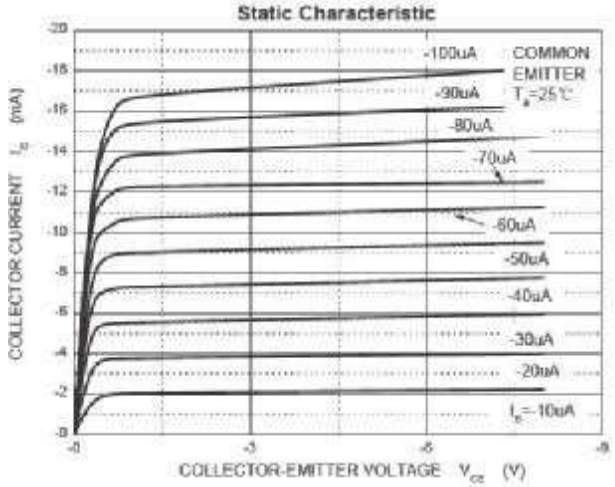
*Pulse test: pulse width≤300us, duty cycle≤2.0%

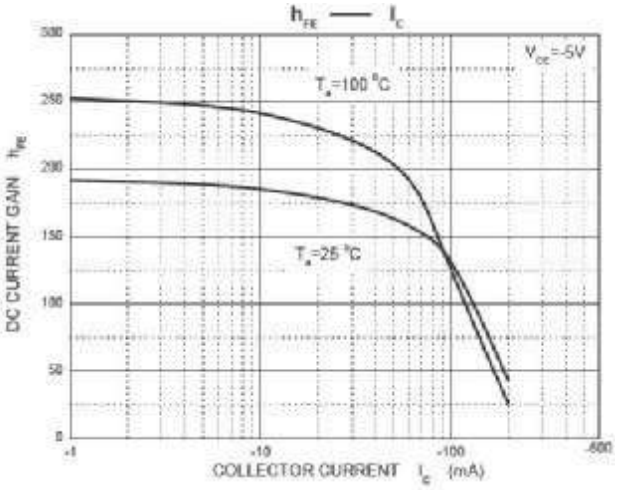
MMBT5401

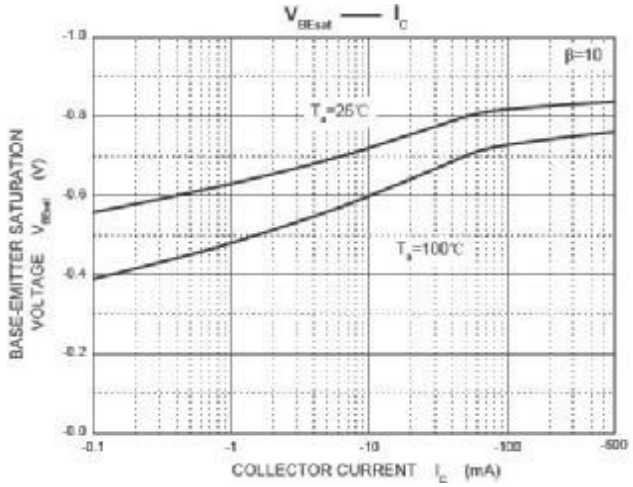
CLASSIFICATION OF hFE(1)

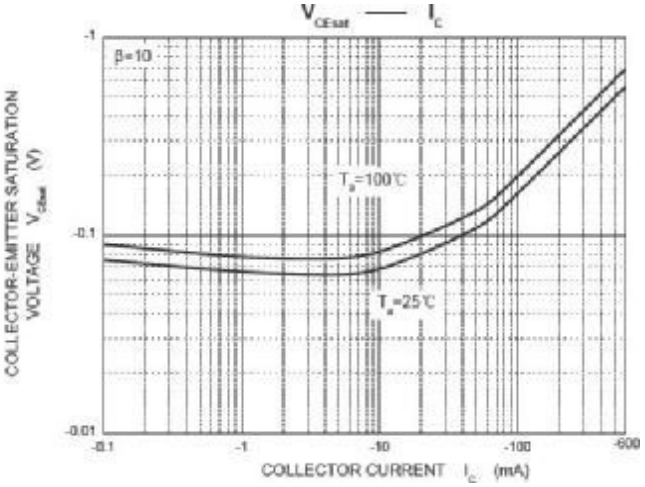
HFE	100-300	
RANK	L	H
RANGE	100-200	200-300

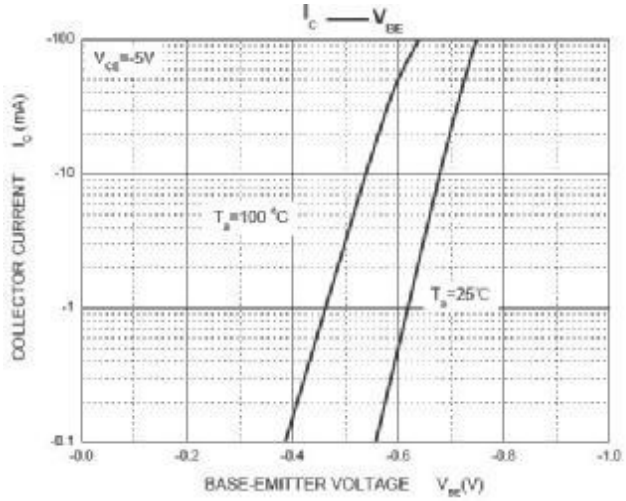
RATING AND CHARACTERISTIC CURVES

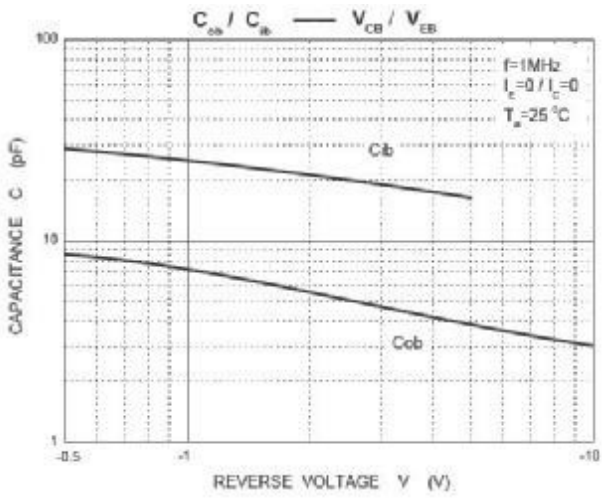


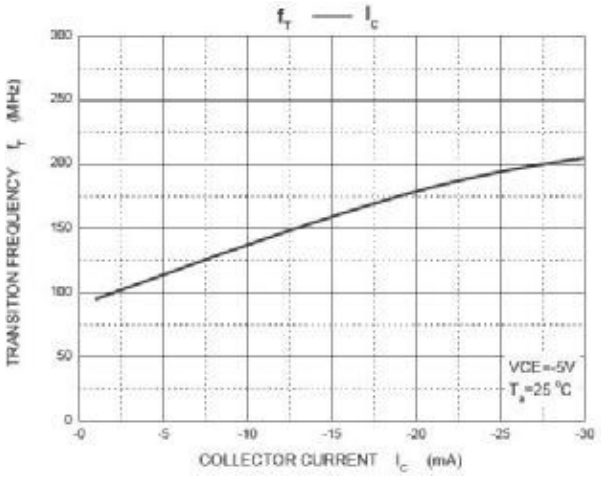


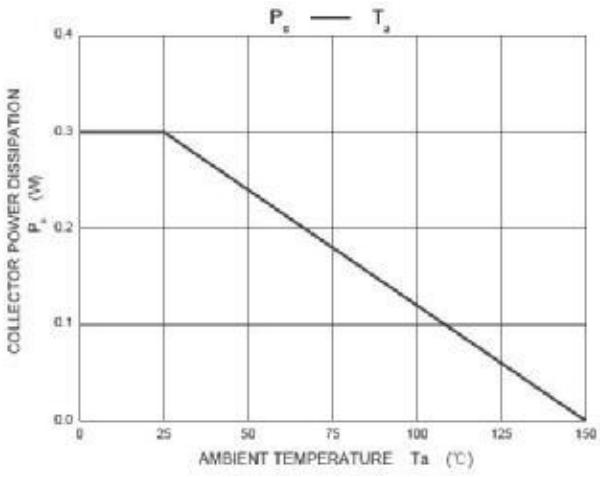




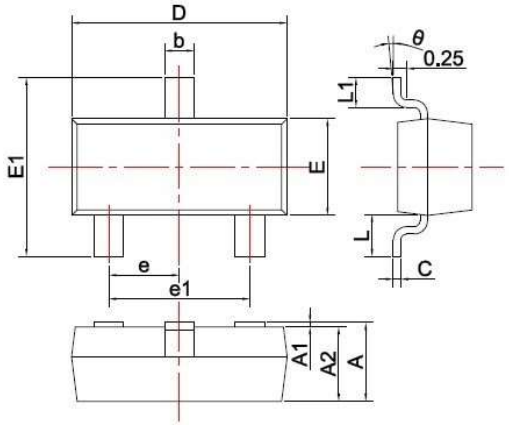








SOT-23 PACKAGE OUTLINE Plastic surface mounted package

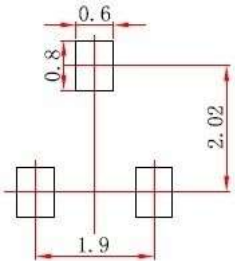


SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
θ	0°	8°

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:± 0.05mm.
3.The pad layout is for reference purposes only.

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