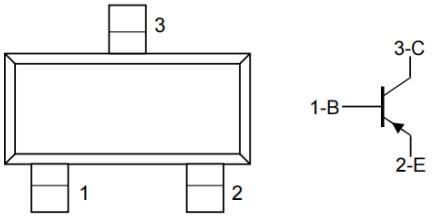
MMBT5401W

PNP SMALL SIGNAL SURFACE MOUNT TRANSISTOR

SOT-323



PIN1:Base PIN2:Emitter PIN3:Collector

Features

- Epitaxial Planar Die Construction
- Complementary NPN Type Available (MMBT5551W)
- Ideal for Low Power Amplification and Switching
- Marking Code:K4M

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

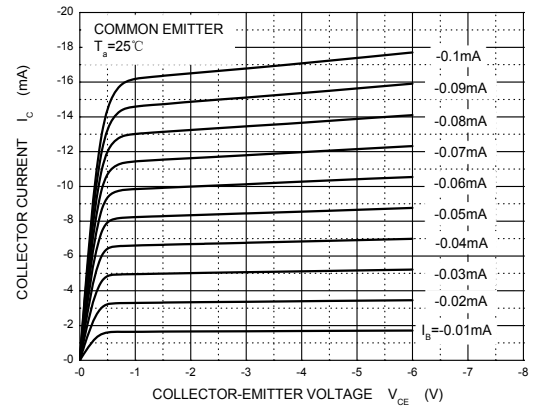
Parameter	Symbol	Value	Unit
Collector Base Voltage	$-V_{CBO}$	160	V
Collector Emitter Voltage	$-V_{CEO}$	150	V
Emitter Base Voltage	$-V_{EBO}$	5	V
Collector Current Continuous	$-I_C$	600	mA
Power Dissipation	P_{tot}	200	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	- 55 to + 150	°C

ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

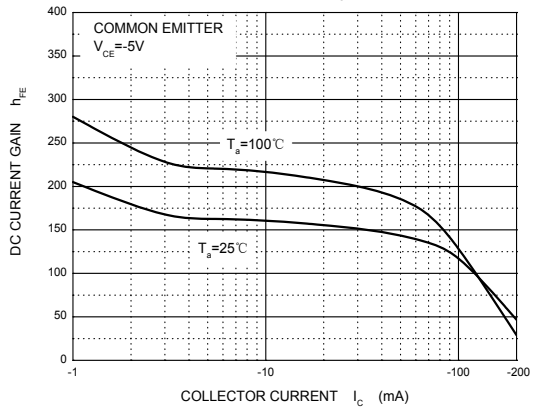
Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at $-V_{CE}$ = 5 V, $-I_C$ = 1 mA at $-V_{CE}$ = 5 V, $-I_C$ = 10 mA at $-V_{CE}$ = 5 V, $-I_C$ = 50 mA	 h_{FE} h_{FE} h_{FE}	 50 60 50	 - 240 -	 - - -
Collector Base Cutoff Current at $-V_{CB}$ = 120 V	$-I_{CBO}$	-	50	nA
Emitter Base Cutoff Current at $-V_{EB}$ = 3 V	$-I_{EBO}$	-	50	nA
Collector Base Breakdown Voltage at $-I_C$ = 100 µA	$-V_{(BR)CBO}$	160	-	V
Collector Emitter Breakdown Voltage at $-I_C$ = 1 mA	$-V_{(BR)CEO}$	150	-	V
Emitter Base Breakdown Voltage at $-I_E$ = 10 µA	$-V_{(BR)EBO}$	5	-	V
Collector Emitter Saturation Voltage at $-I_C$ = 10 mA, $-I_B$ = 1 mA at $-I_C$ = 50 mA, $-I_B$ = 5 mA	$-V_{CE(sat)}$	 -	0.2 0.5	V
Base Emitter Saturation Voltage at $-I_C$ = 10 mA, $-I_B$ = 1 mA at $-I_C$ = 50 mA, $-I_B$ = 5 mA	$-V_{BE(sat)}$	 -	1 1	V
Gain Bandwidth Product at $-V_{CE}$ = 10 V, $-I_C$ = 10 mA, f = 100 MHz	f_T	100	300	MHz
Output Capacitance at $-V_{CB}$=10 V, f = 1 MHz	C_{obo}	-	6	pF

Typical Characteristics

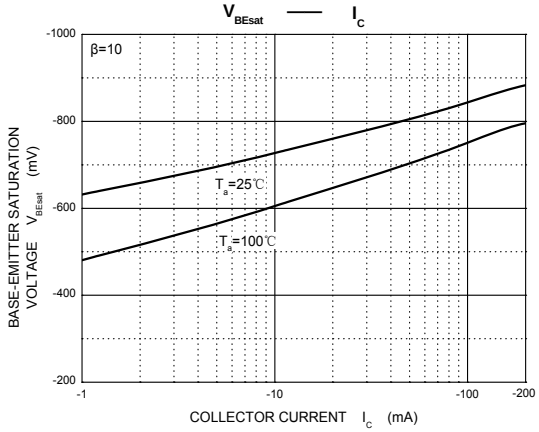
Static Characteristic



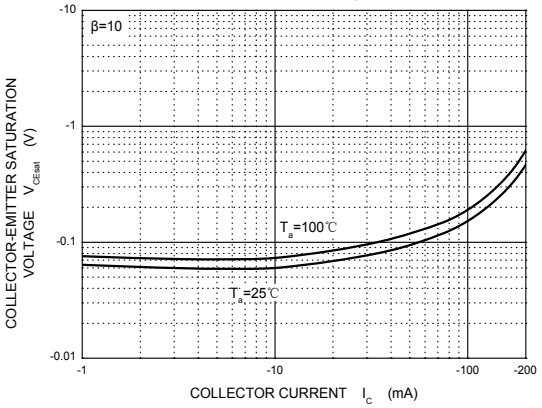
h_{FE} — I_C



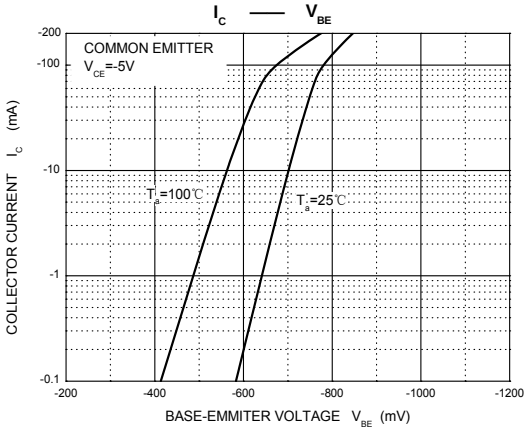
V_{BEsat} — I_C



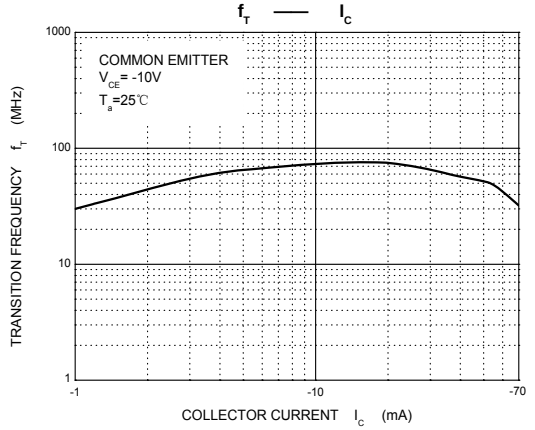
V_{CEsat} — I_C



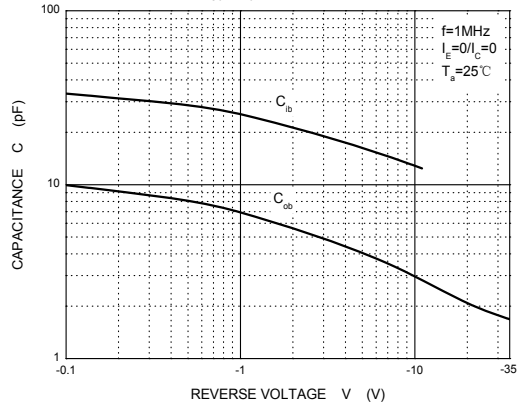
I_C — V_{BE}



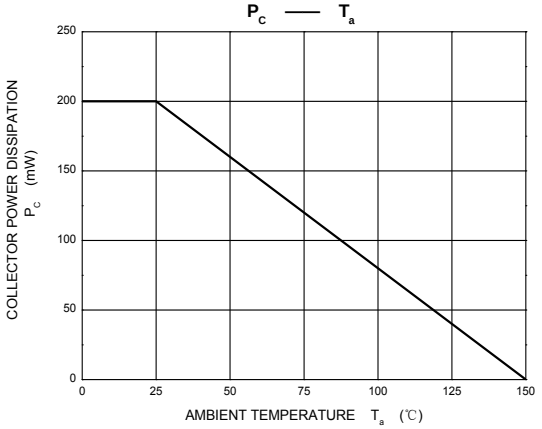
f_T — I_C



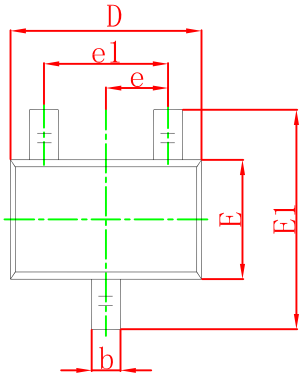
C_{ob} / C_{ib} — V_{CB} / V_{EB}

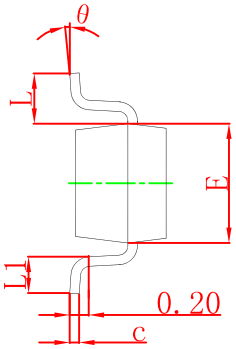


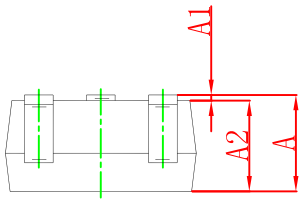
P_C — T_a



SOT-323 Package Outline Dimensions

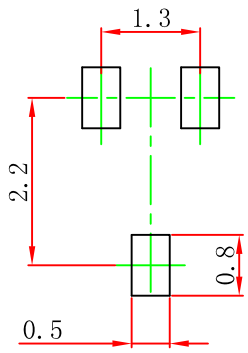






Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP		0.026 TYP	
e1	1.200	1.400	0.047	0.055
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

SOT-323 Suggested Pad Layout



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