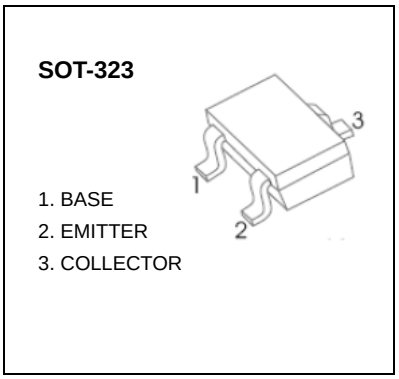
SOT-323 Plastic-Encapsulate Transistors



FEATURES

- **Epitaxial planar die construction**
- **Complementary PNP Type available(MMBT2907AW)**

MARKING: 1 P

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

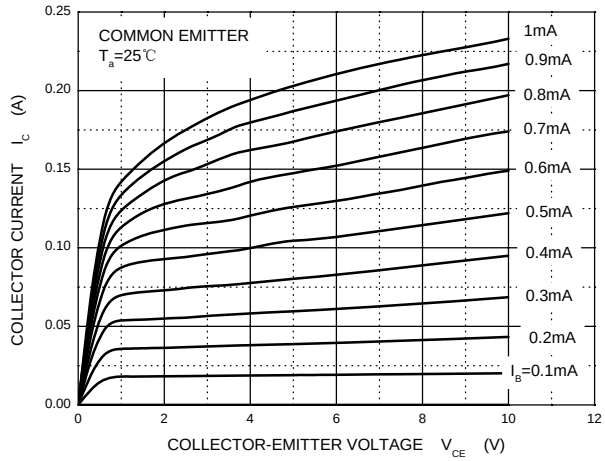
Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	75	V
V_{CEO}	Collector-Emitter Voltage	40	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current -Continuous	600	mA
P_C	Collector Dissipation	200	mW
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	℃

ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

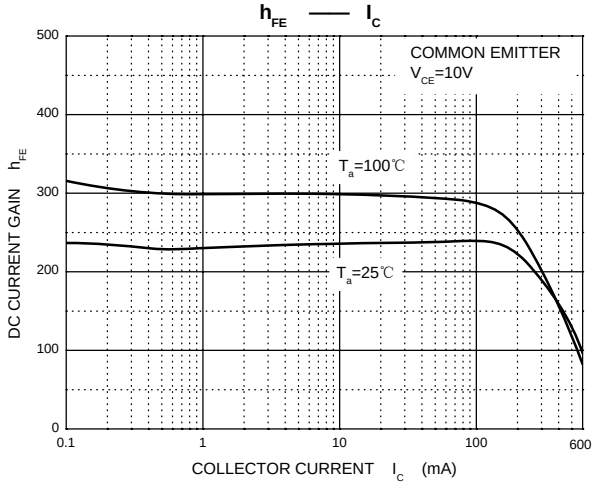
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C= 10μA, I_E=0	75			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C= 10mA, I_B=0	40			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=10μA, I_C=0	6			V
Collector cut-off current	I_{CBO}	V_{CB}=70 V, I_E=0			100	nA
Collector cut-off current	I_{CEO}	V_{CE}=35V , I_B=0			100	nA
Emitter cut-off current	I_{EBO}	V_{EB}= 3V , I_C=0			100	nA
DC current gain	$h_{FE(1)}$	V_{CE}=10V, I_C=0.1mA	35			
	$h_{FE(2)}$	V_{CE}=10V, I_C= 1mA	50			
	$h_{FE(3)}$	V_{CE}=10V, I_C= 10mA	75			
	$h_{FE(4)}$	V_{CE}=10V, I_C= 150mA	100		300	
	$h_{FE(5)}$	V_{CE}=10V, I_C= 500mA	40			
	$h_{FE(6)}$	V_{CE}=1V, I_C= 150mA	35			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=500 mA, I_B= 50mA I_C=150 mA, I_B=15mA			1 0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=500 mA, I_B= 50mA I_C=150 mA, I_B=15mA			2.0 1.2	V
Transition frequency	f_T	V_{CE}=20V, I_C= 20mA f=100MHz	300			MHz
Output Capacitance	C_{ob}	V_{CB}=10V, I_E= 0,f=1MHz			8	pF
Delay time	t_d	V_{CC}=30V, $V_{BE(off)}$=-0.5V			10	ns
Rise time	t_r	I_C=150mA , I_{B1}= 15mA			25	ns
Storage time	t_S	V_{CC}=30V, I_C=150mA			225	ns
Fall time	t_f	I_{B1}=-I_{B2}=15mA			60	ns

Typical Characteristics

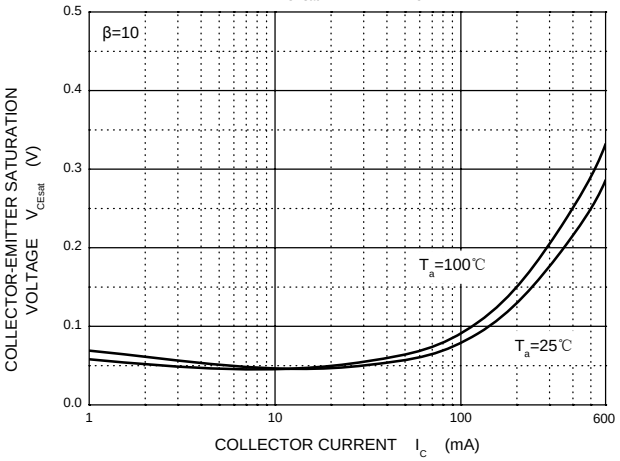
Static Characteristic



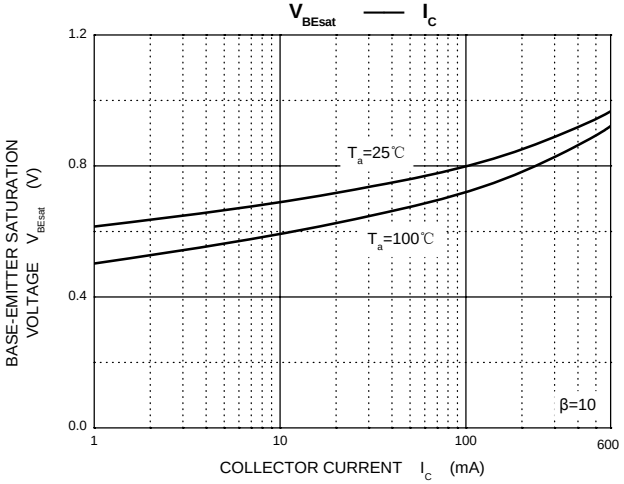
h_{FE} —— I_C



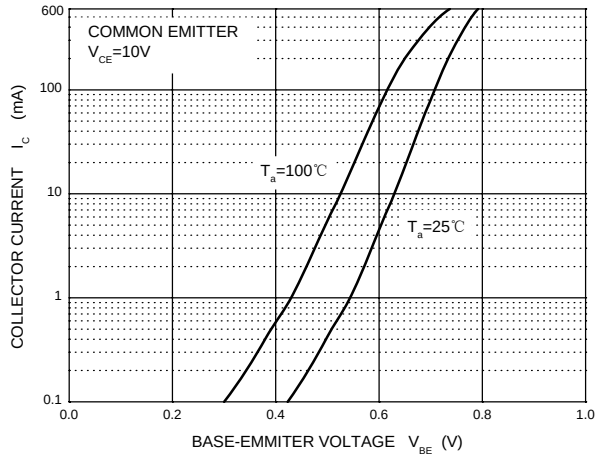
V_{CEsat} —— I_C



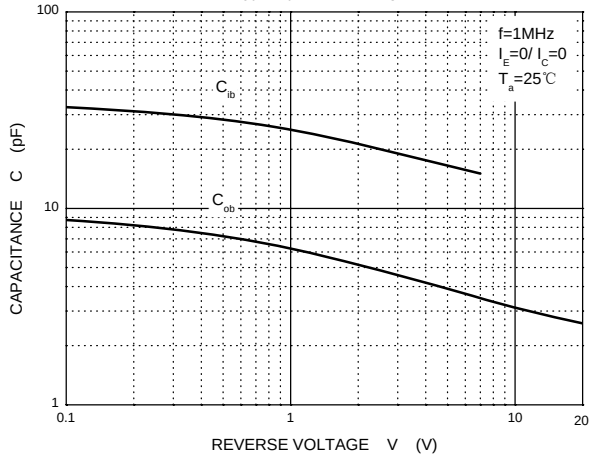
V_{BEsat} —— I_C



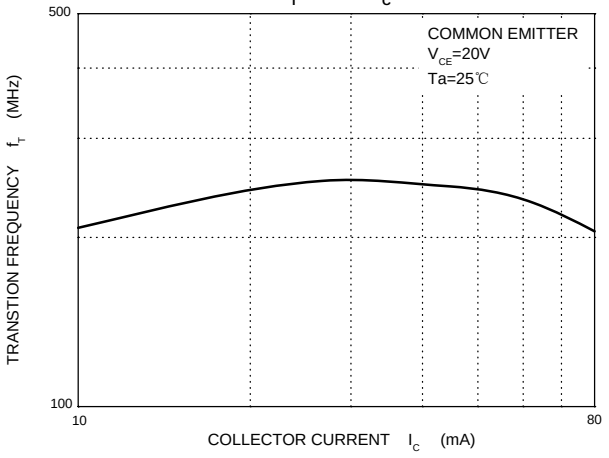
I_C —— V_{BE}



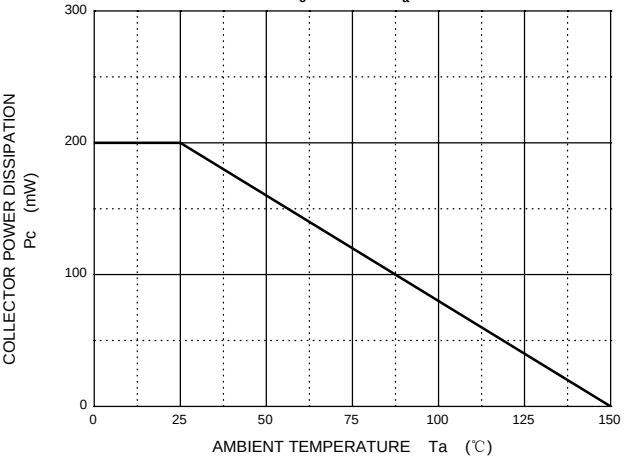
C_{ob}/ C_{ib} —— V_{CB}/ V_{EB}

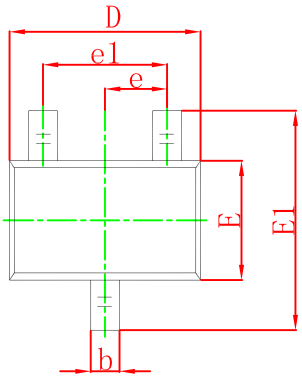


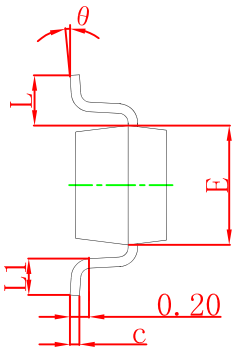
f_T —— I_C

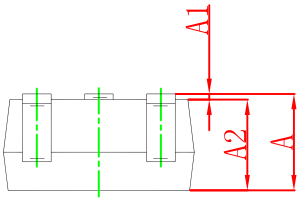


P_c —— T_a



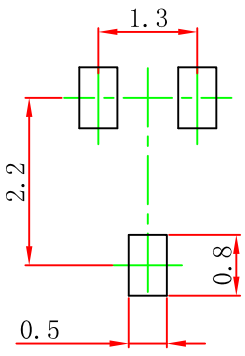






Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP		0.026 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.