TKMMBTA94

TRANSISTOR (PNP)

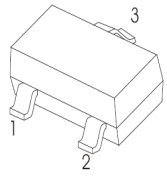
SOT-23 Plastic-Encapsulate Transistors

FEATURES

- High Breakdown Voltage

MARKING:4D

SOT－23



1. BASE
2. EMITTER
3. COLLECTOR

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

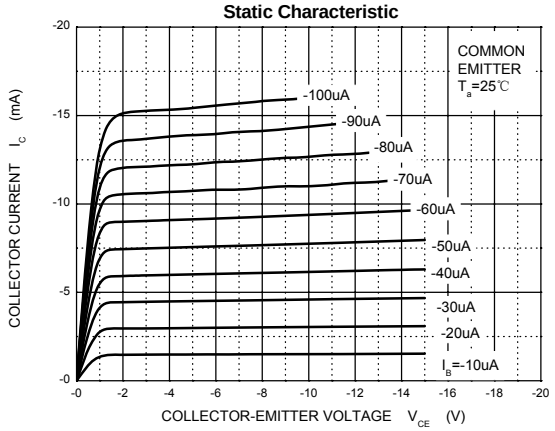
Symbol	Parameter	Value	Unit	
V_{CBO}	Collector-Base Voltage	-400	V	
V_{CEO}	Collector-Emitter Voltage	-400	V	
V_{EBO}	Emitter-Base Voltage	-5	V	
I_C	Collector Current -Continuous	-200	mA	
I_{CM}	Collector Current -Pulsed	-300	mA	
P_C	Collector Power Dissipation	350	mW	
$R_{\Theta JA}$	Thermal Resistance From Junction To Ambient	357	℃/W	
T_j	Junction Temperature	150	℃	
T_{stg}	Storage Temperature	-55～+150	℃	

ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

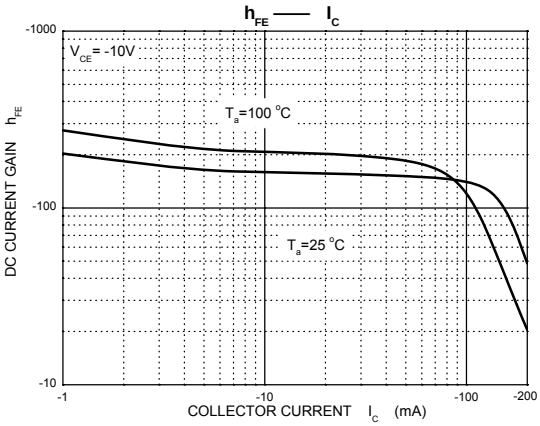
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=-100μA, I_E=0	-400			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=-1mA, I_B=0	-400			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=-100μA, I_C=0	-5			V
Collector cut-off current	I_{CBO}	V_{CB}=-400V, I_E=0			-0.1	μA
Collector cut-off current	I_{CEO}	V_{CE}=-400V, I_B=0			-5	μA
Emitter cut-off current	I_{EBO}	V_{EB}=-4V, I_C=0			-0.1	μA
DC current gain	$h_{FE(1)}$	V_{CE}=-10V, I_C=-10mA	80		300	
	$h_{FE(2)}$	V_{CE}=-10V, I_C=-1mA	70			
	$h_{FE(3)}$	V_{CE}=-10V, I_C=-100mA	40			
	$h_{FE(4)}$	V_{CE}=-10V, I_C=-50mA	40			
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			-0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=-10mA, I_B=-1mA			-0.75	V
Transition frequency	f_T	V_{CE}=-20V,I_C=-10mA, f=30MHz	50			MHz

Typical Characteristics

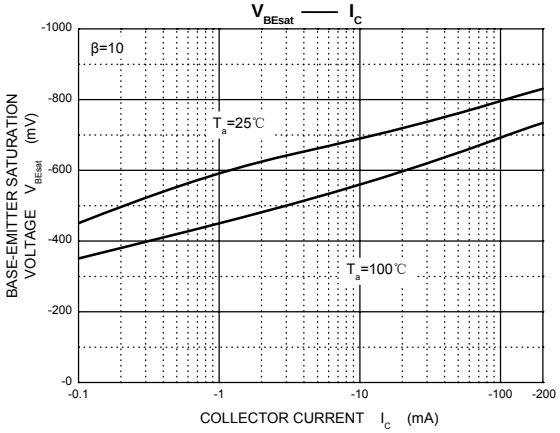
Static Characteristic



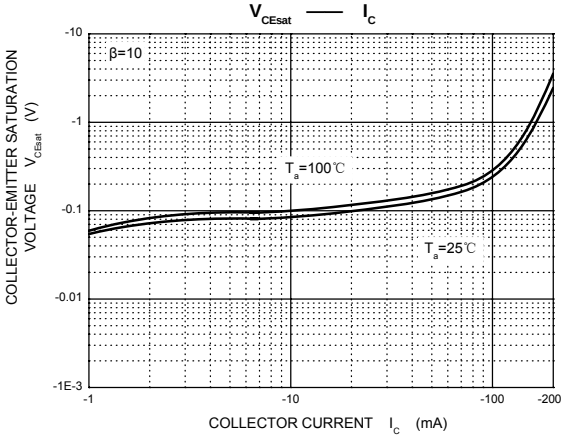
h_{FE} —— I_C



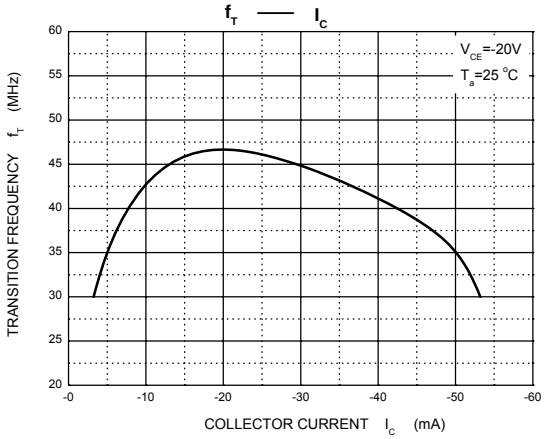
V_{BEsat} —— I_C



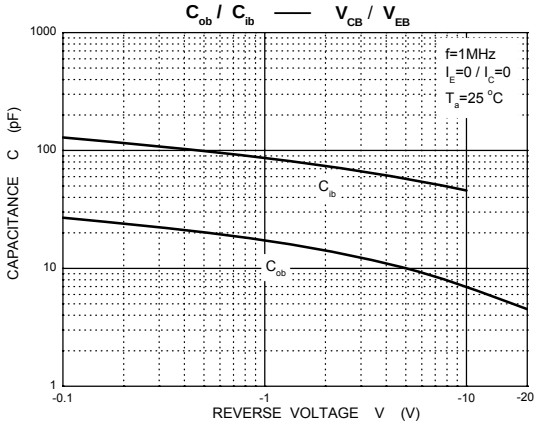
V_{CEsat} —— I_C



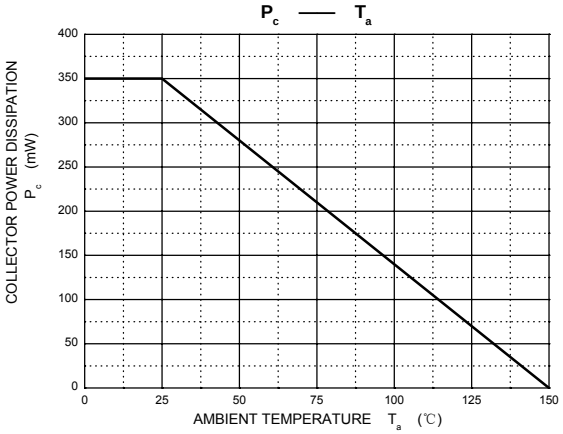
f_T —— I_C

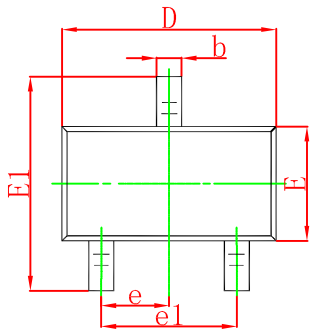


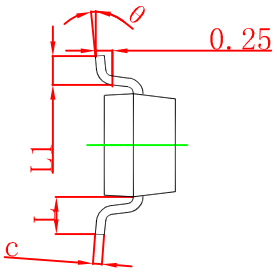
C_{ob} / C_{ib} —— V_{CB} / V_{EB}

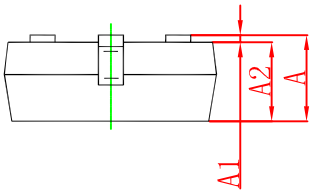


P_c —— T_a



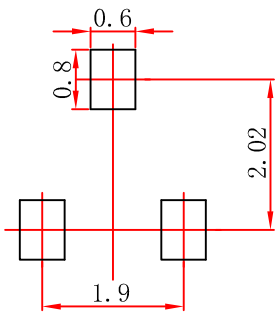






Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 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°

SOT-23 Suggested Pad Layout



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