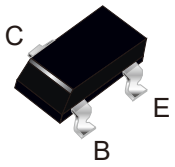
PNP Plastic-Encapsulate Transistors

FEATURES

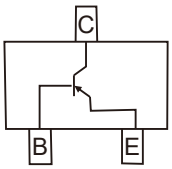
- Epoxy meets UL-94 V-0 flammability rating
- Complementary to MMBTA44
- Power Dissipation of 350mW
- High Stability and High Reliability

SOT-23



MECHANICAL DATA

- Case:SOT-23(TO-236)
- Terminals:Plated solderable per MIL-STD-750,method 2026
- Mounting Position: Any
- Marking:4D



MAXIMUM RATINGS(T_A=25°C Unless otherwise specified)

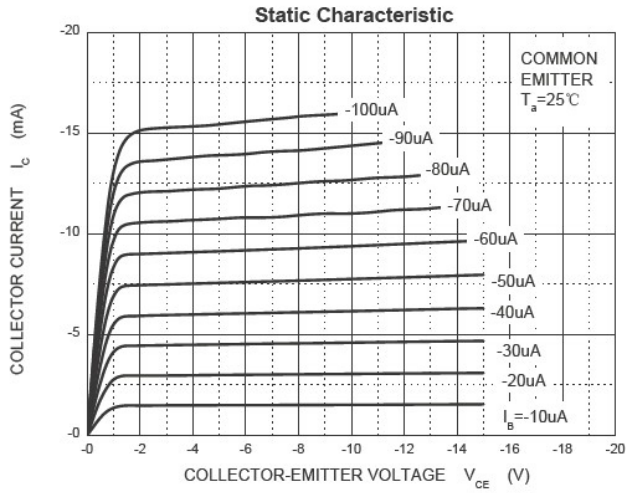
Parameter	Symbol	Unit	Value
Collector-Emitter Voltage	V_{CEO}	V	-400
Collector-Base Voltage	V_{CBO}	V	-400
Emitter-Base Voltage	V_{EBO}	V	-5.0
Collector Current, Continuous	I_C	mA	-200
Power Dissipation	P_D	mW	350
Operation Junction Temperature	T_J	℃	-55 to +150
Storage Temperature	T_{STG}	℃	-55 to +150
Thermal resistance From junction to ambient	$R_{\theta JA}$	℃/W	357

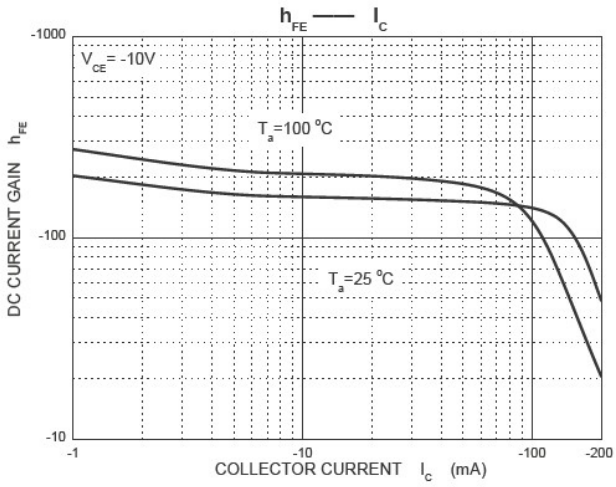
ELECTRICAL CHARACTERISTICS(T_A=25°C Unless otherwise specified)

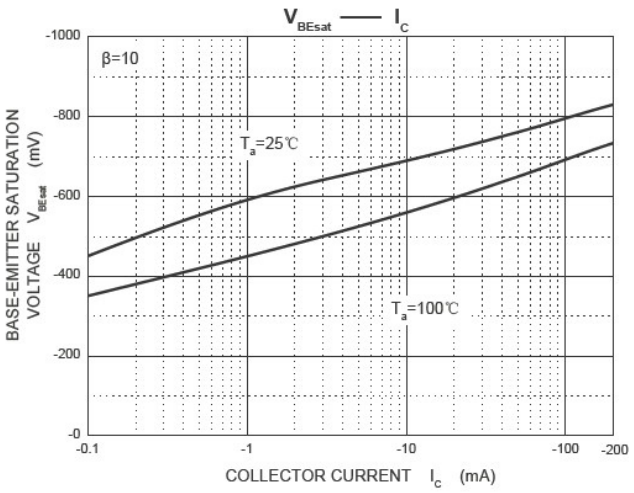
Parameter	Symbol	Unit	Conditions	Min	Max
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	V	I_C=-1mA,I_B=0	-400	---
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	V	I_C=-100μA,I_E=0	-400	---
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	V	I_E=-100μA,I_C=0	-5.0	---
Collector cut-off Current	I_{CBO}	nA	V_{CB}=-400V,I_E=0	---	-100
Collector cut-off Current	I_{CEO}	μA	V_{CE}=-400V,I_B=0	---	-5
Emitter cut-off Current	I_{EBO}	nA	V_{EB}=-4V,Ic=0	---	-100
DC Current Gain	$h_{FE(1)}$		I_C=-10mA,V_{CE}=-10V	80	300
	$h_{FE(2)}$		I_C=-1mA,V_{CE}=-10V	70	---
	$h_{FE(3)}$		I_C=-50mA,V_{CE}=-10V	40	---
	$h_{FE(4)}$		I_C=-100mA,V_{CE}=-10V	40	---
Collector-Emitter Saturation Voltage	VCE(set)	V	I_C=-10mA,I_B=-1mA	---	-0.20
			I_C=-50mA,I_B=-5mA	---	-0.30
Base-Emitter Saturation Voltage	VBE(set)	V	I_C=-10mA,I_B=-1mA	---	-0.75
Current Gain-Bandwidth Product	f_T	MHZ	I_C=-10mA,V_{CE}=-20V f=30MHZ	50	---

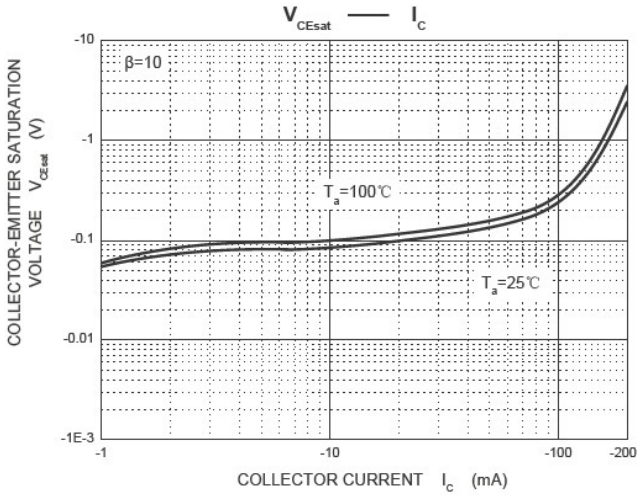
AVAILABALE PACK INFORMATION

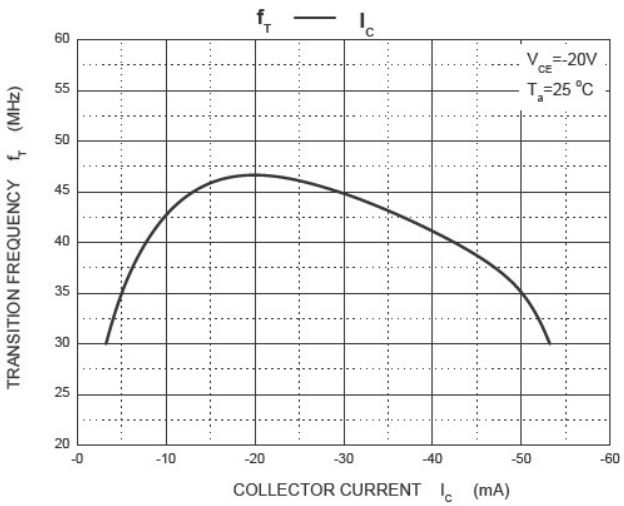
Product code	Pack	Reel Size (mm)	Quantity (Pcs/reel)	Quantity (pcs/box)	Quantity (pcs/carton)
MMBTA94	T/R	Φ180	3K	30K	120K

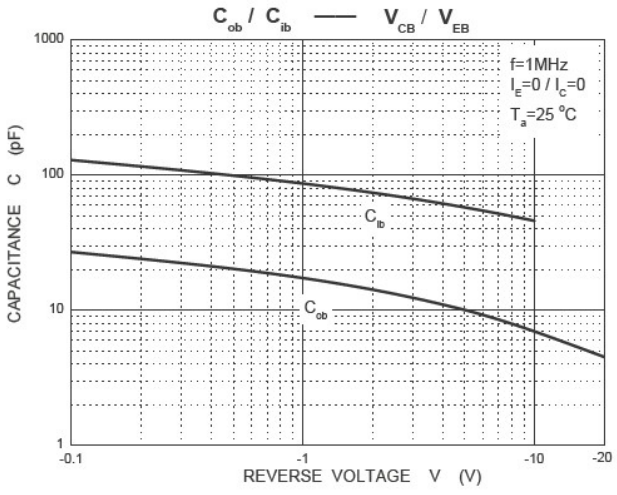

Static Characteristic
COMMON EMITTER
T_a=25℃
-100uA
-90uA
-80uA
-70uA
-60uA
-50uA
-40uA
-30uA
-20uA
I_B=-10uA
COLLECTOR CURRENT I_C (mA)
COLLECTOR-EMITTER VOLTAGE V_{CE} (V)

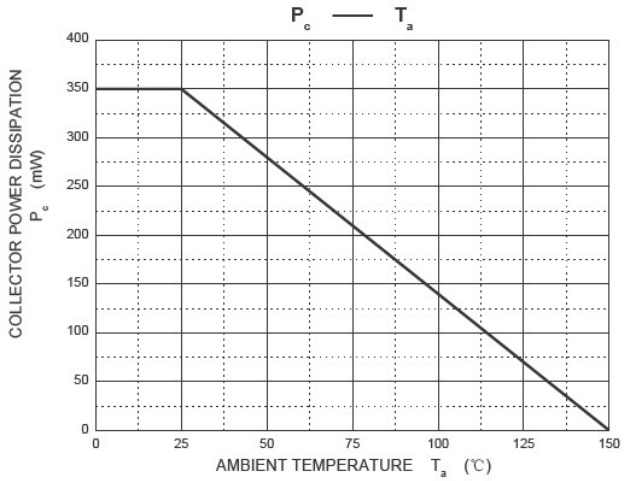

h_{FE} — I_C
V_{CE}= -10V
T_a=100 °C
T_a=25 °C
DC CURRENT GAIN h_{FE}
COLLECTOR CURRENT I_C (mA)


V_{BEsat} — I_C
β=10
T_a=25℃
T_a=100℃
BASE-EMITTER SATURATION VOLTAGE V_{BEsat} (mV)
COLLECTOR CURRENT I_C (mA)


V_{CEsat} — I_C
β=10
T_a=100℃
T_a=25℃
COLLECTOR-EMITTER SATURATION VOLTAGE V_{CEsat} (V)
COLLECTOR CURRENT I_C (mA)

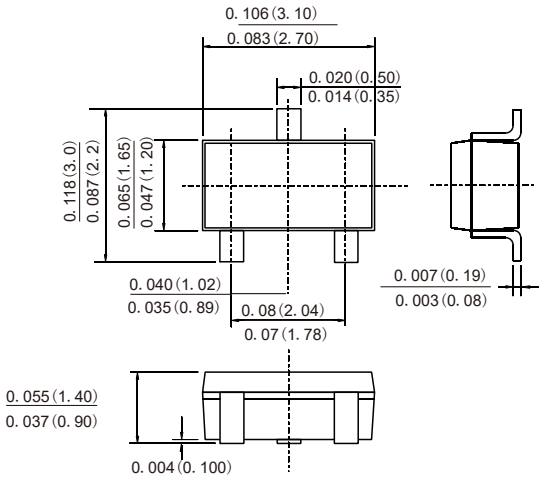

f_T — I_C
V_{CE}=-20V
T_a=25 °C
TRANSITION FREQUENCY f_T (MHz)
COLLECTOR CURRENT I_C (mA)


C_{ob} / C_{ib} — V_{CB} / V_{EB}
f=1MHz
I_E=0 / I_C=0
T_a=25 °C
C_{ib}
C_{ob}
CAPACITANCE C (pF)
REVERSE VOLTAGE V (V)



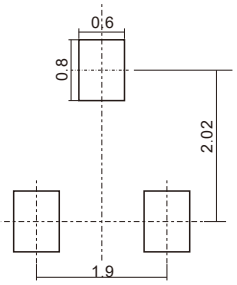
Outline Dimensions

SOT-23



Dimensions in inches and (millimetrers)

Suggested pad layout



Dimensions in millimetrers