MMBTA92 TRANSISTOR (PNP)

1.BASE
2.COLLECTOR
3.EMITTER

SOT-23-3

FEATURES

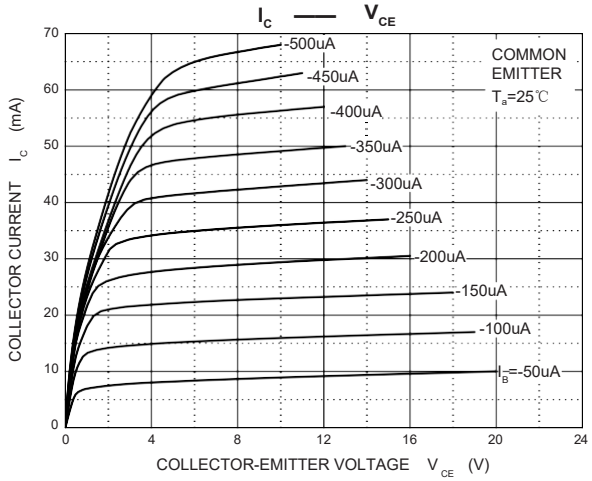
High voltage transistor

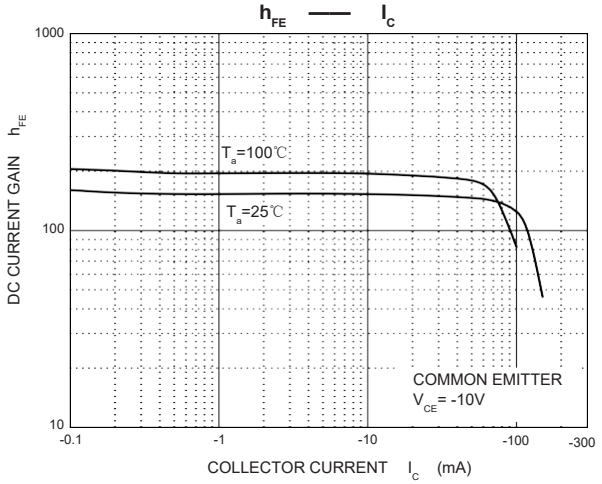
MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

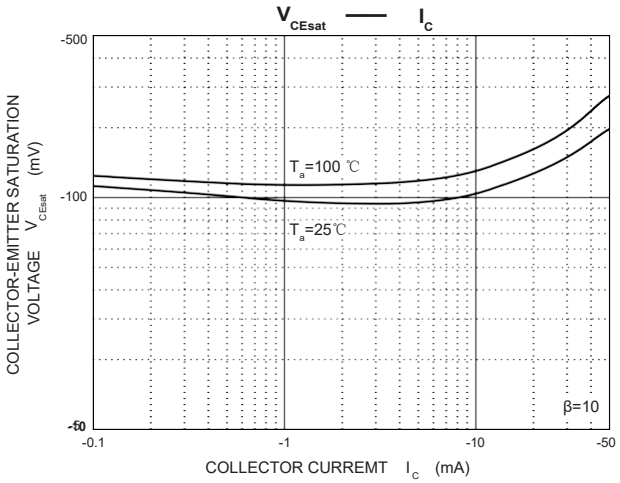
Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-300	V
V_{CEO}	Collector-Emitter Voltage	-300	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current -Continuous	-200	mA
I_{CM}	Collector Current -Pulsed	-500	mA
P_C	Collector Power Dissipation	300	mW
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55-150	℃
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	417	℃/W

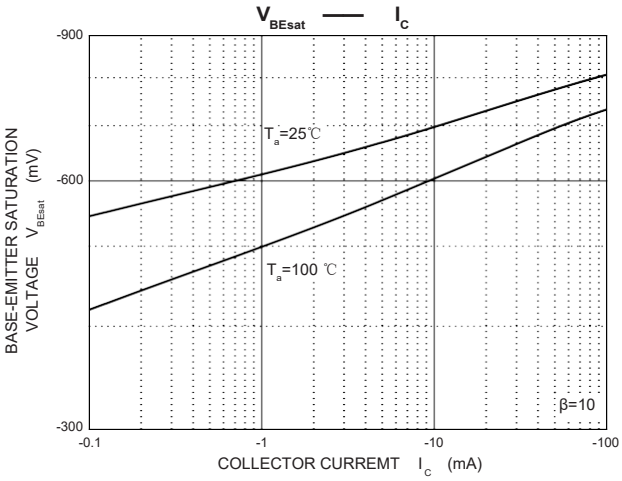
ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

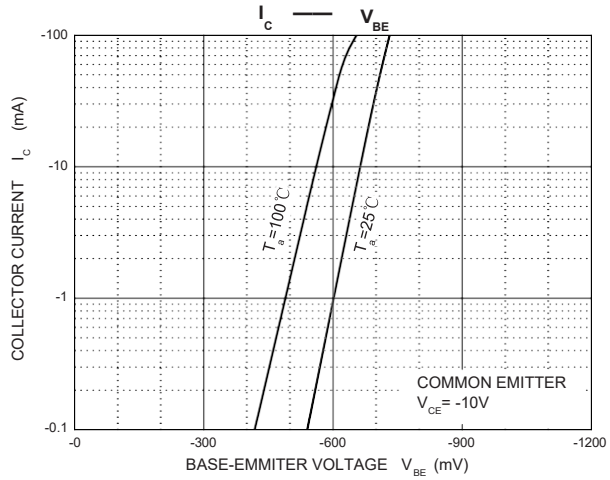
Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C= -100μA, I_E=0	-300		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C= -1mA, I_B=0	-300		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E= -100μA, I_C=0	-5		V
Collector cut-off current	I_{CBO}	V_{CB}=-200V, I_E=0		-0.25	μA
Emitter cut-off current	I_{EBO}	V_{EB}= -5V, I_C=0		-0.1	μA
DC current gain	$h_{FE(1)}$	V_{CE}= -10V, I_C= -1mA	60		
	$h_{FE(2)}$	V_{CE}= -10V, I_C=-10mA	100	200	
	$h_{FE(3)}$	V_{CE}= -10V, I_C=-30mA	60		
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=-20mA, I_B= -2mA		-0.2	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C= -20mA, I_B= -2mA		-0.9	V
Transition frequency	f_T	V_{CE}=-20V, I_C= -10mA f=30MHz	50		MHz

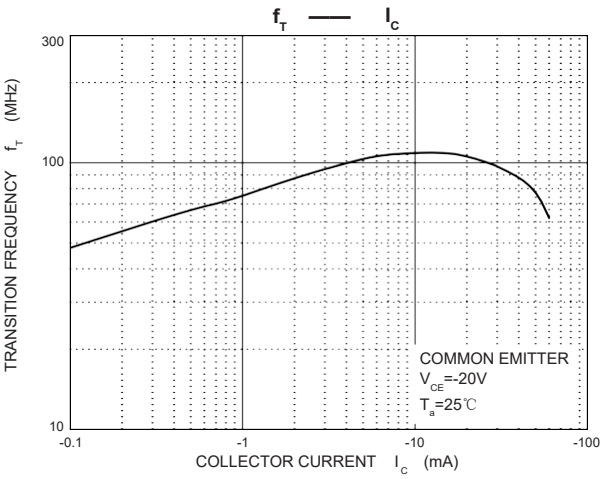

I_C — V_{CE}
COMMON EMITTER
T_a=25℃
-500uA
-450uA
-400uA
-350uA
-300uA
-250uA
-200uA
-150uA
-100uA
I_B=-50uA
COLLECTOR CURRENT I_C (mA)
COLLECTOR-EMITTER VOLTAGE V_{CE} (V)

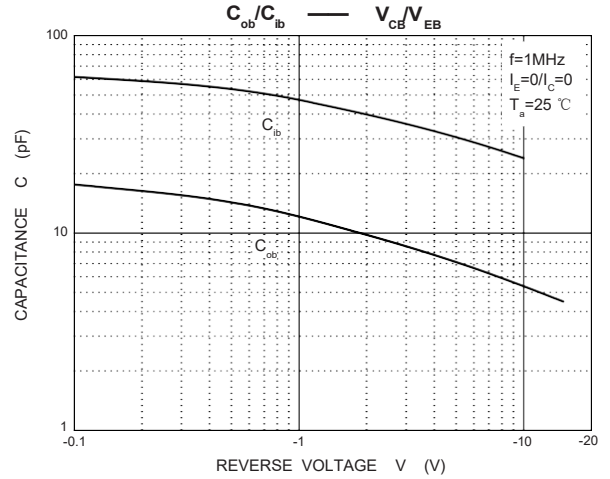

h_{FE} — I_C
T_a=100℃
T_a=25℃
COMMON EMITTER
V_{CE}= -10V
DC CURRENT GAIN h_{FE}
COLLECTOR CURRENT I_C (mA)

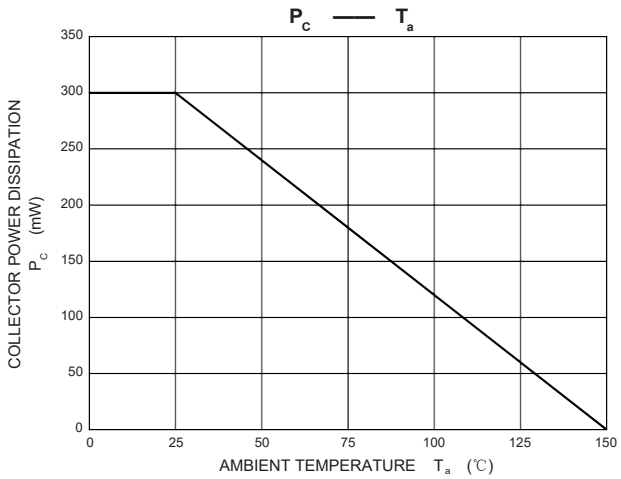

V_{CEsat} — I_C
T_a=100 ℃
T_a=25℃
β=10
COLLECTOR-EMITTER SATURATION VOLTAGE V_{CEsat} (mV)
COLLECTOR CURREMT I_C (mA)


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


I_C — V_{BE}
T_a=100℃
T_a=25℃
COMMON EMITTER
V_{CE}= -10V
COLLECTOR CURRENT I_C (mA)
BASE-EMMITER VOLTAGE V_{BE} (mV)


f_T — I_C
COMMON EMITTER
V_{CE}=-20V
T_a=25℃
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_{ib}
C_{ob}
CAPACITANCE C (pF)
REVERSE VOLTAGE V (V)


P_C — T_a
COLLECTOR POWER DISSIPATION P_C (mW)
AMBIENT TEMPERATURE T_a (℃)