PZTA42 TRANSISTOR (NPN)

SOT-223

1.BASE
2.COLLECTOR
3.EMITTER

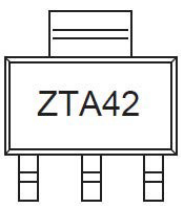
FEATURES

- High breakdown voltage
- Low collector-emitter saturation voltage
- Complementary type: PZTA92(PNP)

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

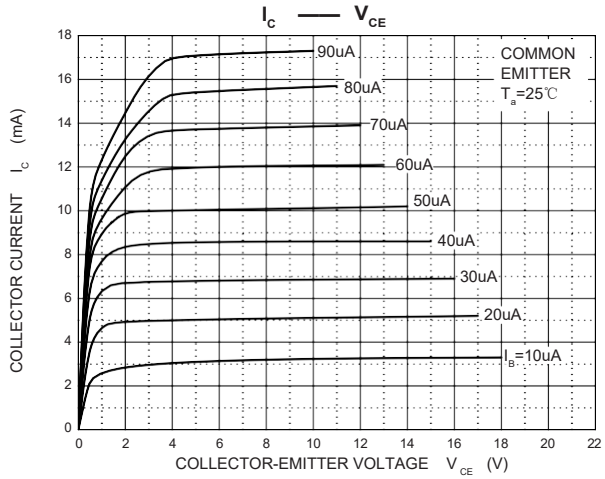
Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	300	V
V_{CEO}	Collector-Emitter Voltage	300	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current -Continuous	0.2	A
I_{CM}	Collector Current -Pulsed	0.5	A
P_C	Collector Power Dissipation	1	W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55~150	℃

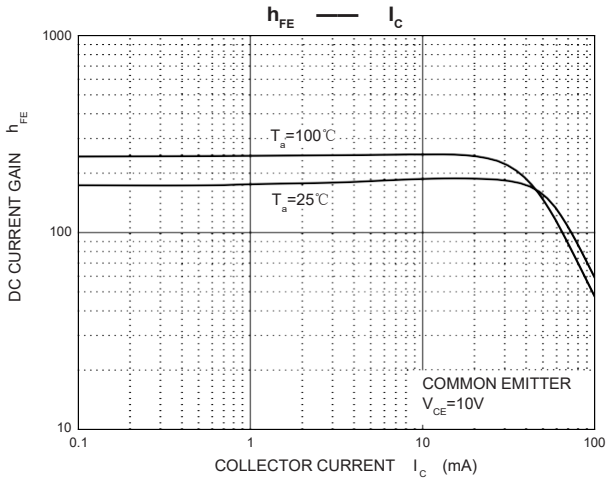
MARKING:

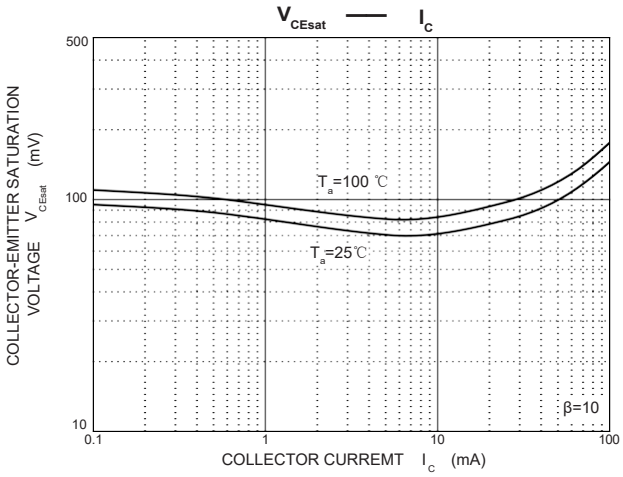


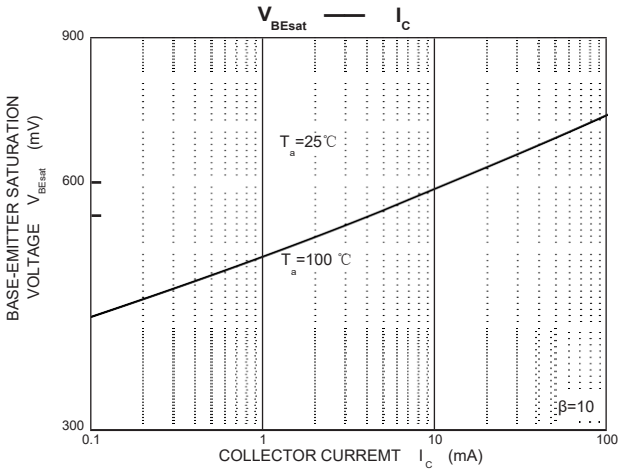
ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

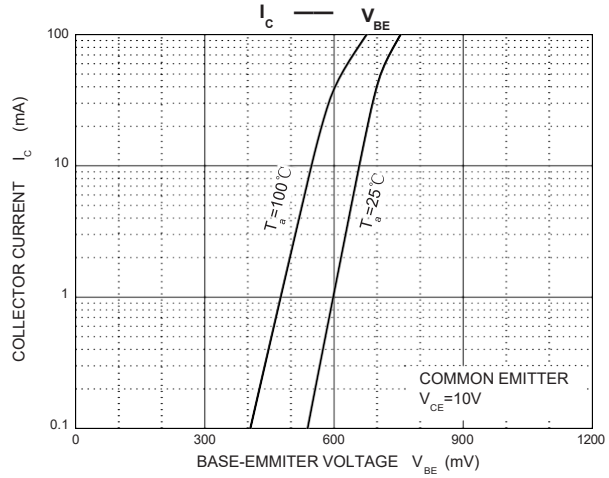
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=100μA,I_E=0	300			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=1mA,I_B=0	300			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=100μA,I_C=0	6			V
Collector cut-off current	I_{CBO}	V_{CB}=200V,I_E=0			0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}=6V,I_C=0			0.1	μA
DC current gain	$h_{FE(1)}$	V_{CE}=10V,I_C=1mA	25			
	$h_{FE(2)}$	V_{CE}=10V,I_C=10mA	40			
	$h_{FE(3)}$	V_{CE}=10V,I_C=30mA	40			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=20mA,I_B=2mA			0.5	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=100MHz	50			MHz
Collector output capacitance	C_{ob}	V_{CB}=20V,I_E=0,f=1MHz			3	pF

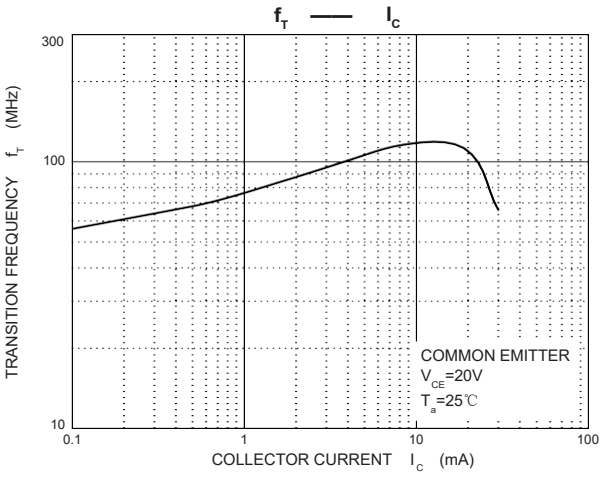

I_C —— V_{CE}
COMMON EMITTER
T_a=25℃
90uA
80uA
70uA
60uA
50uA
40uA
30uA
20uA
I_B=10uA
COLLECTOR CURRENT I_C (mA)
COLLECTOR-EMITTER VOLTAGE V_{CE} (V)

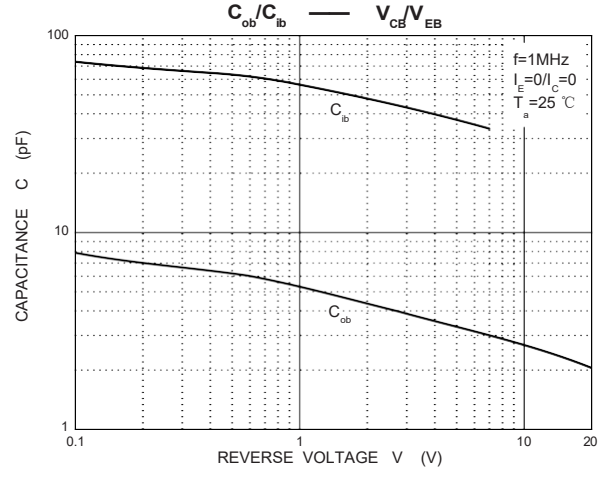

h_{FE} —— I_C
T_a=100℃
T_a=25℃
COMMON EMITTER
V_{CE}=10V
DC CURRENT GAIN h_{FE}
COLLECTOR CURRENT I_C (mA)

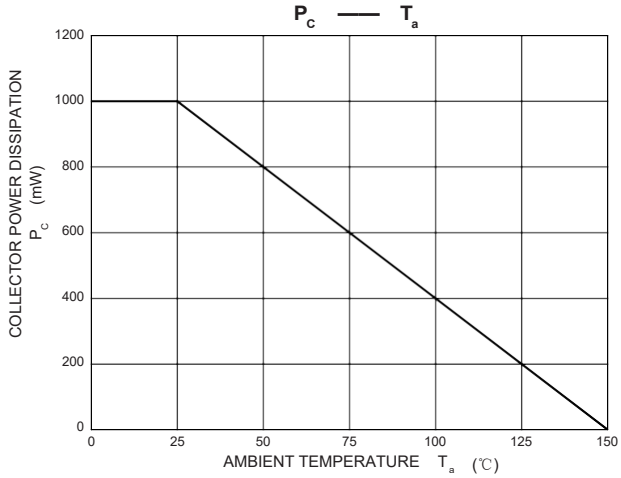

V_{CEsat} —— I_C
T_a=100 ℃
T_a=25℃
β=10
COLLECTOR-EMITTER SATURATION VOLTAGE V_{CEsat} (mV)
COLLECTOR CURREMT I_C (mA)


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 (℃)