PZTA06 TRANSISTOR (NPN)

1.BASE
2.COLLECTOR
3.EMITTER

SOT-223

FEATURES

- Low Voltage and High Current
- General Purpose Amplifier Applications

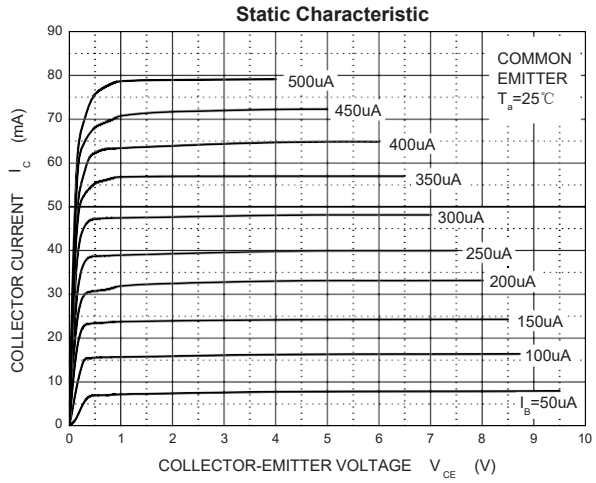
MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

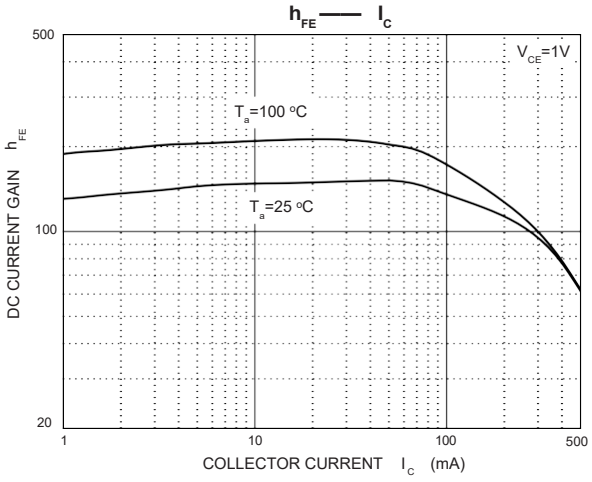
Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	80	V
V_{CEO}	Collector-Emitter Voltage	80	V
V_{EBO}	Emitter-Base Voltage	4	V
I_C	Collector Current	500	mA
P_C	Collector Power Dissipation	1	W
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	125	℃/W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	℃

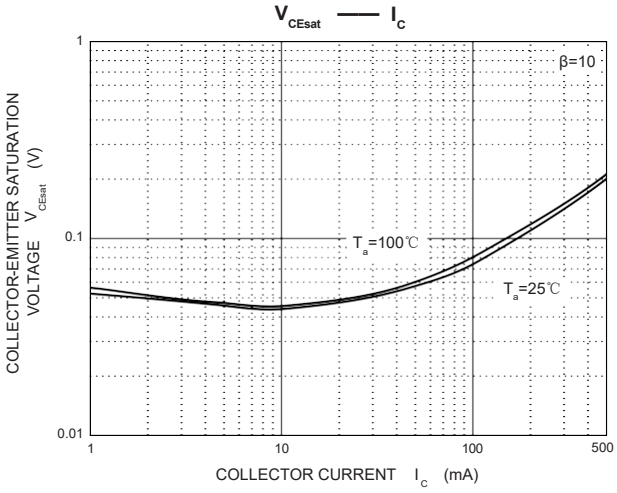
ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

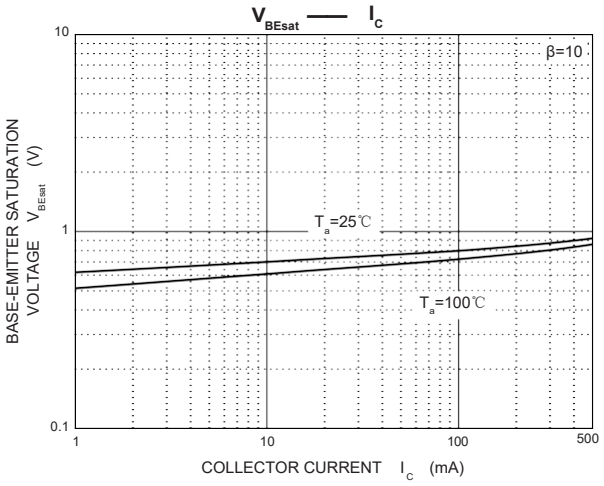
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=0.1mA,I_E=0	80			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$*	I_C=1mA,I_B=0	80			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=0.1mA,I_C=0	4			V
Collector cut-off current	I_{CBO}	V_{CB}=80V,I_E=0			100	nA
Collector cut-off current	I_{CEO}	V_{CE}=60V,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}=1V, I_C=10mA	100			
	$h_{FE(2)}$	V_{CE}=1V, I_C=100mA	100			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=100mA,I_B=10mA			0.25	V
Base-emitter voltage	V_{BE}	V_{CE}=1V, I_C=100mA			1.2	V
Transition frequency	f_T	V_{CE}=2V,I_C=10mA, f=100MHz	100			MHz

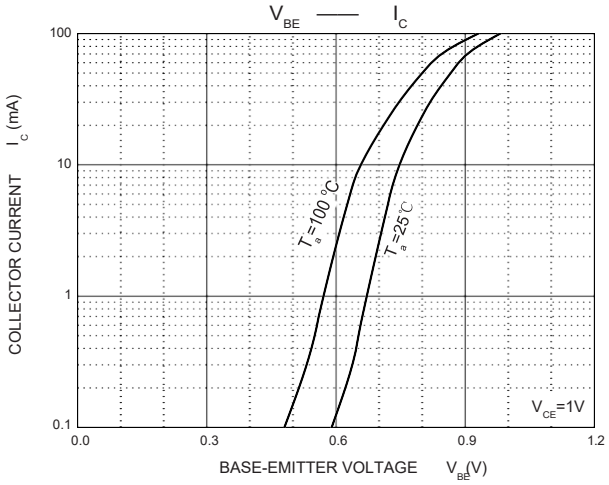
*Pulse test: pulse width ≤300μs, duty cycle≤ 2.0%.

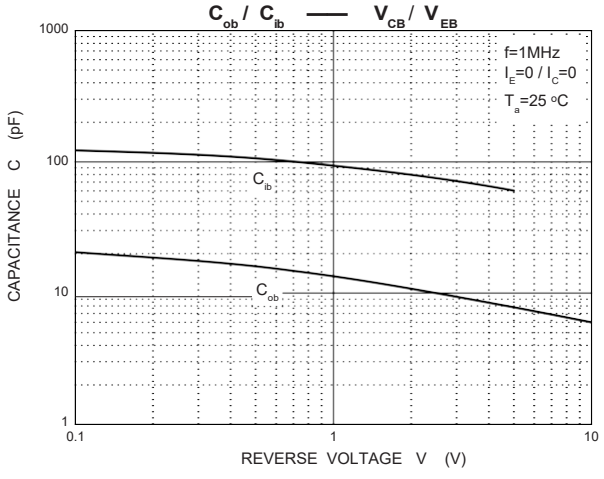

Static Characteristic
COMMON EMITTER
Ta=25℃
500uA
450uA
400uA
350uA
300uA
250uA
200uA
150uA
100uA
IB=50uA
COLLECTOR CURRENT IC (mA)
COLLECTOR-EMITTER VOLTAGE VCE (V)

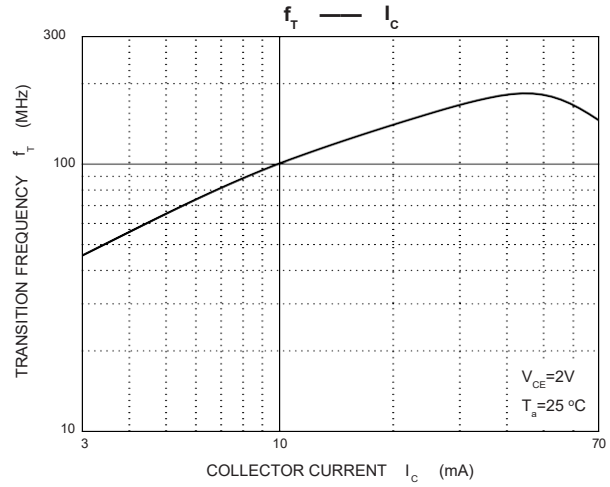

hFE —— IC
VCE=1V
Ta=100 °C
Ta=25 °C
DC CURRENT GAIN hFE
COLLECTOR CURRENT IC (mA)

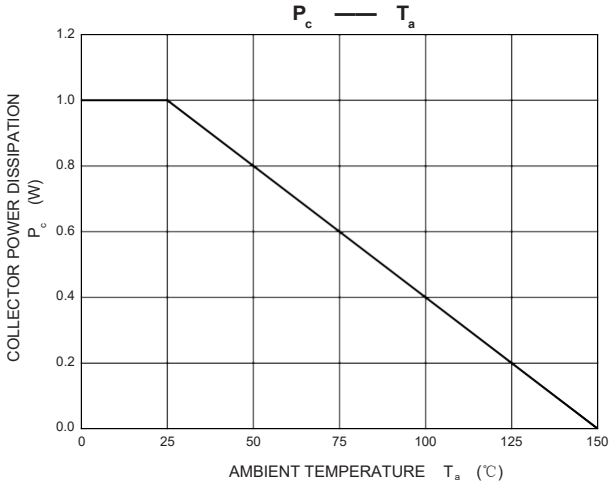

VCEsat —— IC
β=10
Ta=100℃
Ta=25℃
COLLECTOR-EMITTER SATURATION VOLTAGE VCEsat (V)
COLLECTOR CURRENT IC (mA)


VBEsat —— IC
β=10
Ta=25℃
Ta=100℃
BASE-EMITTER SATURATION VOLTAGE VBEsat (V)
COLLECTOR CURRENT IC (mA)


VBE —— IC
Ta=100 °C
Ta=25℃
VCE=1V
COLLECTOR CURRENT IC (mA)
BASE-EMITTER VOLTAGE VBE(V)


Cob / Cib —— VCB / VEB
f=1MHz
IE=0 / IC=0
Ta=25 °C
Cib
Cob
CAPACITANCE C (pF)
REVERSE VOLTAGE V (V)


fT —— IC
VCE=2V
Ta=25 °C
TRANSITION FREQUENCY fT (MHz)
COLLECTOR CURRENT IC (mA)


Pc —— Ta
COLLECTOR POWER DISSIPATION Pc (W)
AMBIENT TEMPERATURE Ta (℃)