PXT2222A TRANSISTOR (NPN)

1.BASE
2.COLLECTOR
3.EMITTER

SOT-89

FEATURES

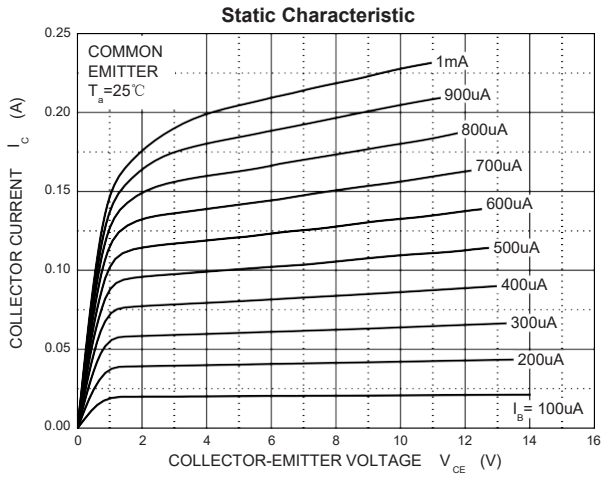
- Epitaxial planar die construction
- Complementary PNP Type available(PXT2907A)

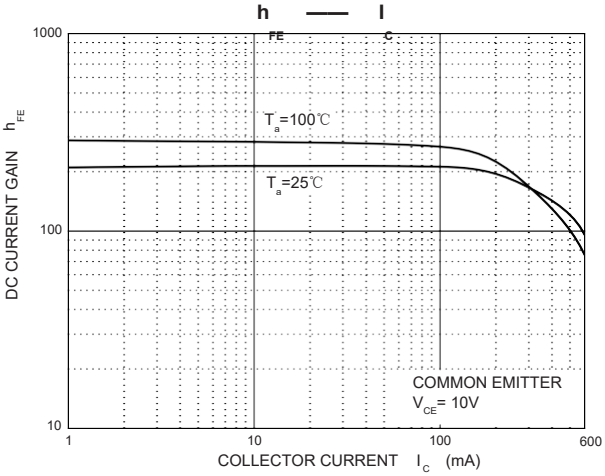
MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

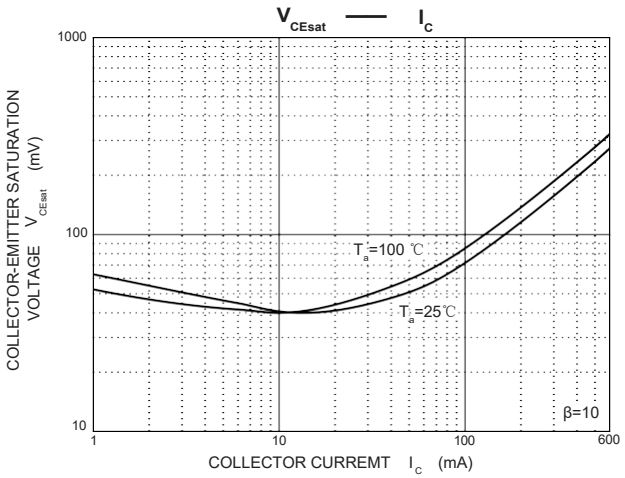
Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	75	V
V_{CEO}	Collector-Emitter Voltage	40	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current -Continuous	600	mA
P_C	Collector Power Dissipation	0.5	W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55 ~150	℃

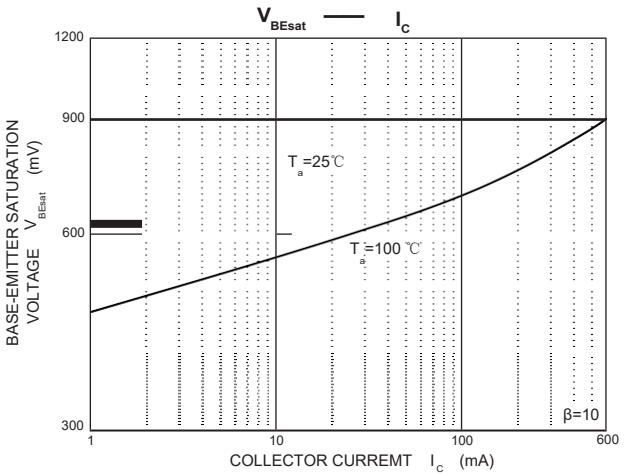
ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

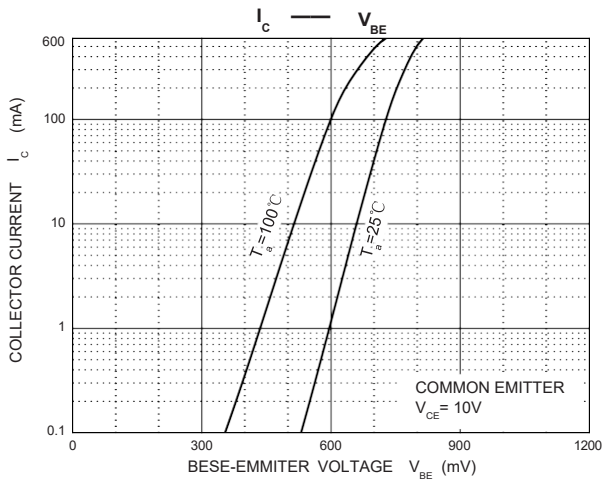
Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C= 10μ A,I_E=0	75		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C= 10mA, I_B=0	40		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=10μA, I_C=0	6		V
Collector cut-off current	I_{CBO}	V_{CB}=60V, I_E=0		0. 01	μA
Emitter cut-off current	I_{EBO}	V_{EB}= 5V , I_C=0		0. 01	μA
DC current gain	$h_{FE(1)}$	V_{CE}=10V, I_C= 0.1mA	35		
	$h_{FE(2)}$	V_{CE}=10V, I_C= 1mA	50		
	$h_{FE(3)}$	V_{CE}=10V, I_C= 10mA	75		
	$h_{FE(4)}$	V_{CE}=10V, I_C= 150mA	100	300	
	$h_{FE(5)}$	V_{CE}=1V, I_C= 150mA	50		
	$h_{FE(6)}$	V_{CE}=10V, I_C= 500mA	40		
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=500mA, I_B= 50mA		1	V
	$V_{CE(sat)}$	I_C=150mA, I_B=15mA		0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=500mA, I_B=50mA		2.0	V
	$V_{BE(sat)}$	I_C=150mA, I_B=15mA	0.6	1.2	V
Transition frequency	f_T	V_{CE}=10V, I_C=20mA f=100MHz	300		MHz
Output Capacitance	C_{ob}	V_{CB}=10V, I_E= 0,f=1MHz		8	pF
Delay time	t_d	V_{CC}=30V, I_C=150mA $V_{BE(off)}$=0.5V,I_{B1}=15mA		10	ns
Rise time	t_r			25	ns
Storage time	t_S	V_{CC}=30V, I_C=150mA I_{B1}=- I_{B2}= 15mA		225	ns
Fall time	t_f			60	ns

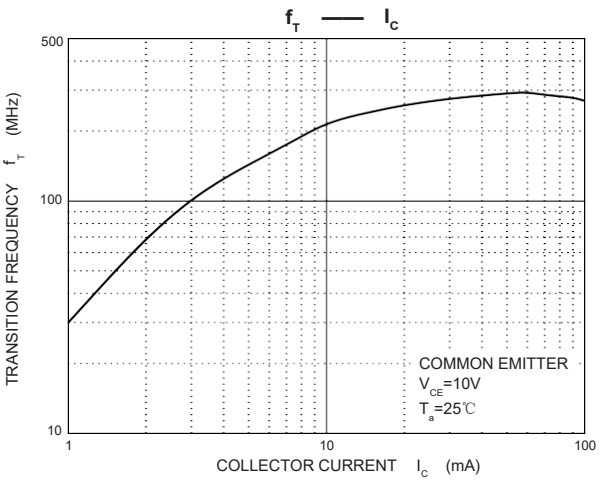

Static Characteristic
COMMON EMITTER
T_a=25℃
1mA
900uA
800uA
700uA
600uA
500uA
400uA
300uA
200uA
I_B= 100uA
COLLECTOR CURRENT I_C (A)
COLLECTOR-EMITTER VOLTAGE V_{CE} (V)

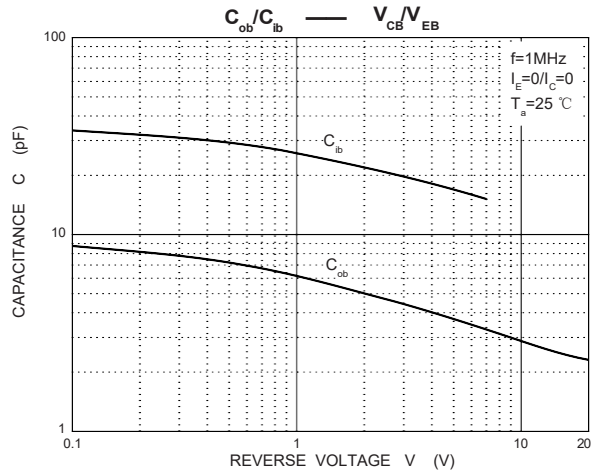

h FE — I C
T_a=100℃
T_a=25℃
COMMON EMITTER
V_{CE}= 10V
DC CURRENT GAIN h_{FE}
COLLECTOR CURRENT I_C (mA)

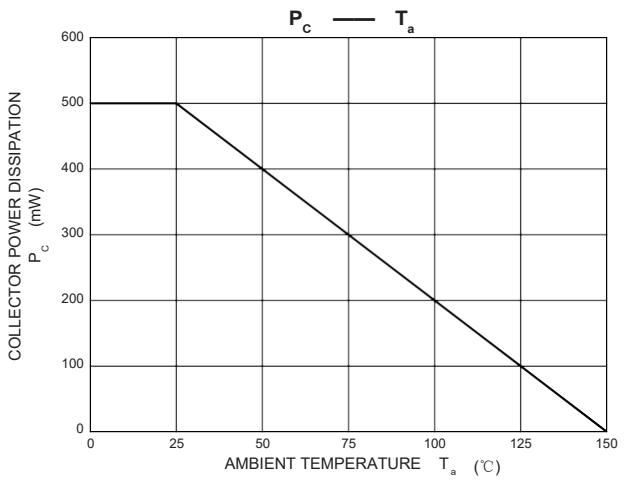

V_{CEsat} — I_C
T_a=100 ℃
T_a=25℃
β=10
COLLECTOR-EMITTER SATURATION VOLTAGE V_{CEsat} (mV)
COLLECTOR CURREMT I_C (mA)


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)
BESE-EMMITER VOLTAGE V_{BE} (mV)


f_T — I_C
COMMON EMITTER
V_{CE}=10V
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 (℃)