2SB1132 TRANSISTOR (PNP)

1.BASE
2.COLLECTOR
3.EMITTER

SOT-89

FEATURES

- **Low $V_{CE(sat)}$**
- **Compliments 2SD1664**

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-40	V
V_{CEO}	Collector-Emitter Voltage	-32	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Continuous Collector Current	-1	A
I_{CP}*	Pulsed Collector Current	-2	A
P_C	Collector Power Dissipation	500	mW
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55~150	℃

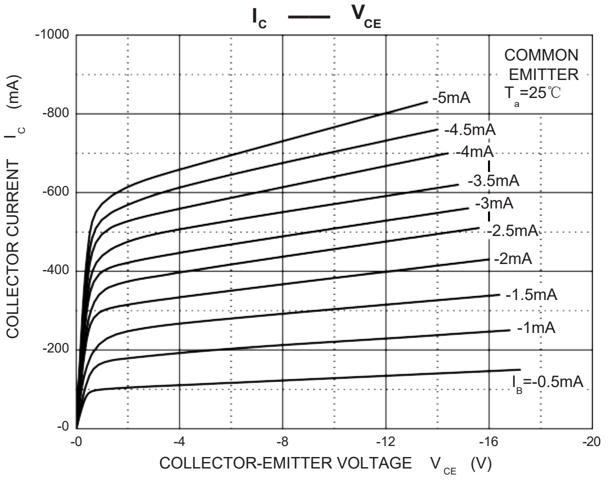
*Single pulse, Pw=100ms

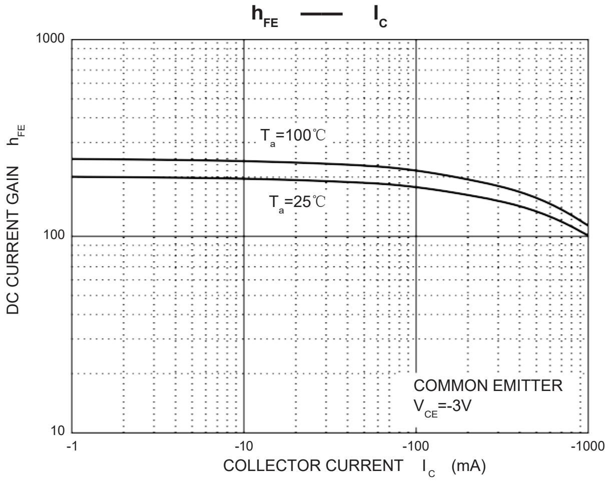
ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

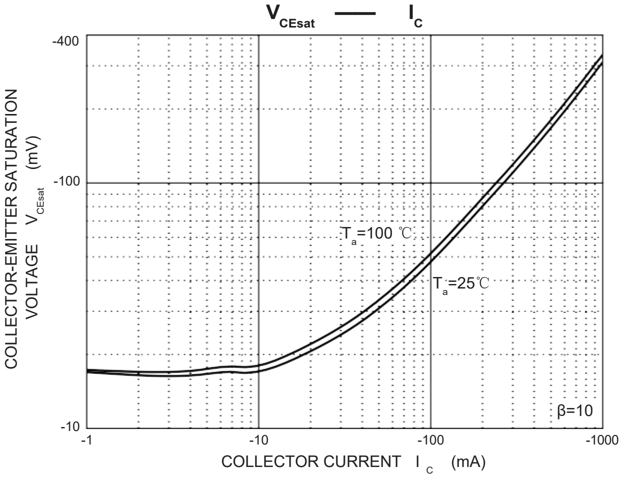
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=-50μA,I_E=0	-40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=-1mA,I_B=0	-32			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=-50μA,I_C=0	-5			V
Collector cut-off current	I_{CBO}	V_{CB}=-20V,I_E=0			-0.5	μA
Emitter cut-off current	I_{EBO}	V_{EB}=-4V,I_C=0			-0.5	μA
DC current gain	h_{FE}	V_{CE}=-3V,I_C=-100mA	82		390	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=-500mA,I_B=-50mA		-0.2	-0.5	V
Transition frequency	f_T	V_{CE}=-5V,I_C=-50mA,f=30MHz		150		MHz
Collector output capacitance	C_{ob}	V_{CB}=-10V,I_E=0,f=1MHz		20	30	pF

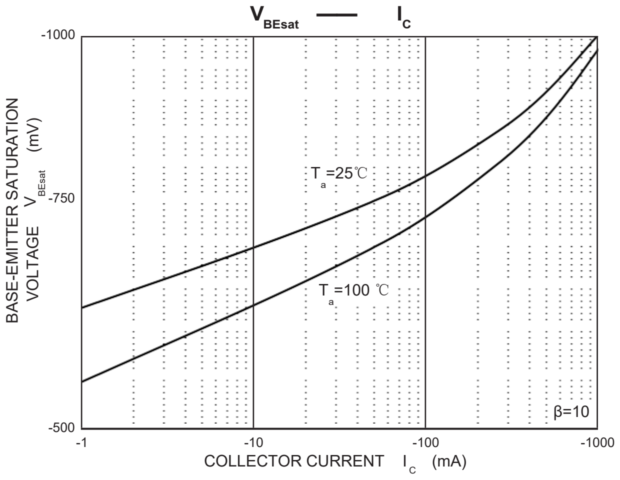
CLASSIFICATION OF h_{FE}

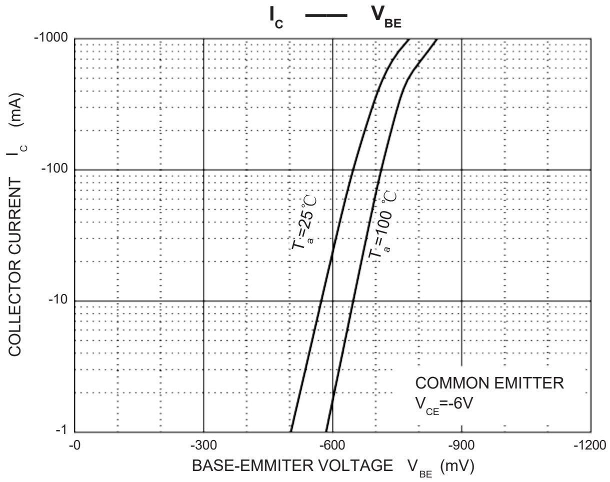
Rank	P	Q	R
Range	82-180	120-270	180-390
Marking	BAP	BAQ	BAR

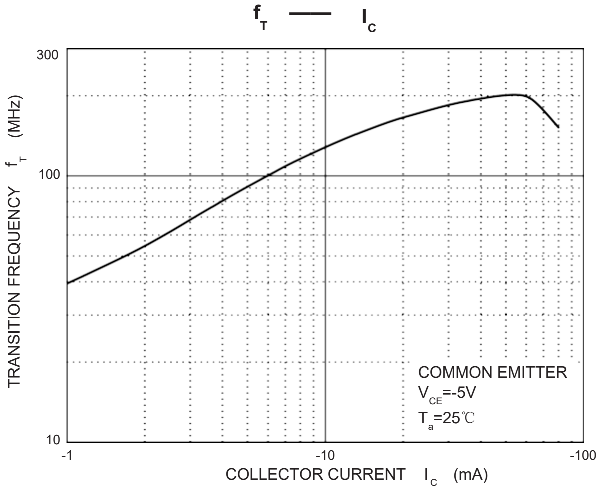

I_C — V_CE
COLLECTOR CURRENT I_C (mA)
COLLECTOR-EMITTER VOLTAGE V_CE (V)
-1000
-800
-600
-400
-200
-0
-0
-4
-8
-12
-16
-20
COMMON EMITTER
T_a=25℃
-5mA
-4.5mA
-4mA
-3.5mA
-3mA
-2.5mA
-2mA
-1.5mA
-1mA
I_B=-0.5mA

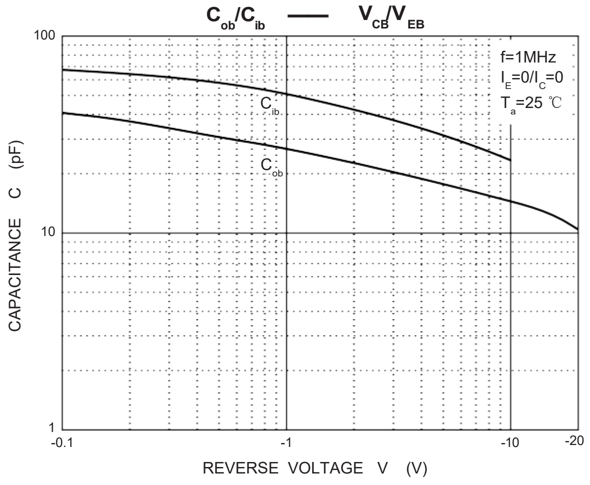

h_FE — I_C
DC CURRENT GAIN h_FE
COLLECTOR CURRENT I_C (mA)
1000
100
10
-1
-10
-100
-1000
T_a=100℃
T_a=25℃
COMMON EMITTER
V_CE=-3V

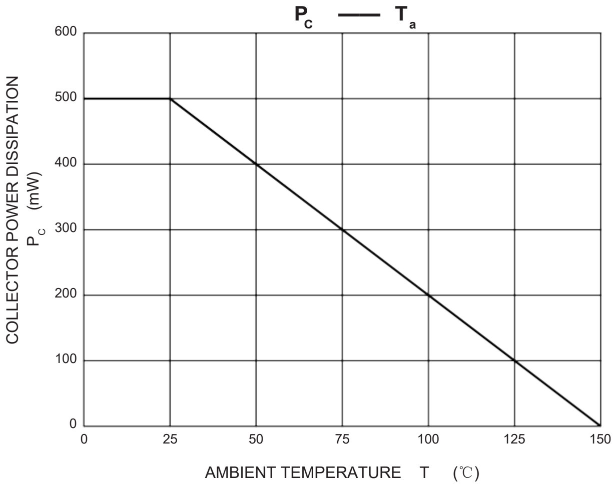

V_CEsat — I_C
COLLECTOR-EMITTER SATURATION VOLTAGE V_CEsat (mV)
COLLECTOR CURRENT I_C (mA)
-400
-100
-10
-1
-10
-100
-1000
T_a=100 ℃
T_a=25℃
β=10


V_BEsat — I_C
BASE-EMITTER SATURATION VOLTAGE V_BEsat (mV)
COLLECTOR CURRENT I_C (mA)
-1000
-750
-500
-1
-10
-100
-1000
T_a=25℃
T_a=100 ℃
β=10


I_C — V_BE
COLLECTOR CURRENT I_C (mA)
BASE-EMMITER VOLTAGE V_BE (mV)
-1000
-100
-10
-1
-0
-300
-600
-900
-1200
T_a=25℃
T_a=100 ℃
COMMON EMITTER
V_CE=-6V


f_T — I_C
TRANSITION FREQUENCY f_T (MHz)
COLLECTOR CURRENT I_C (mA)
300
100
10
-1
-10
-100
COMMON EMITTER
V_CE=-5V
T_a=25℃


C_ob/C_ib — V_CB/V_EB
CAPACITANCE C (pF)
REVERSE VOLTAGE V (V)
100
10
1
-0.1
-1
-10
-20
f=1MHz
I_E=0/I_C=0
T_a=25 ℃
C_ib
C_ob


P_C — T_a
COLLECTOR POWER DISSIPATION P_C (mW)
AMBIENT TEMPERATURE T (℃)
600
500
400
300
200
100
0
0
25
50
75
100
125
150