2SB1188 TRANSISTOR (PNP)

1.BASE
2.COLLECTOR
3.EMITTER

SOT-89

FEATURES

- Low $V_{CE(sat)}$.
- Complements the 2SD1766

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	Collector Current -Continuous	-2	A
P_C	Collector Power Dissipation	500	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	250	℃/W
$R_{\theta JC}$	Thermal Resistance From Junction To Case	45	℃/W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55~150	℃

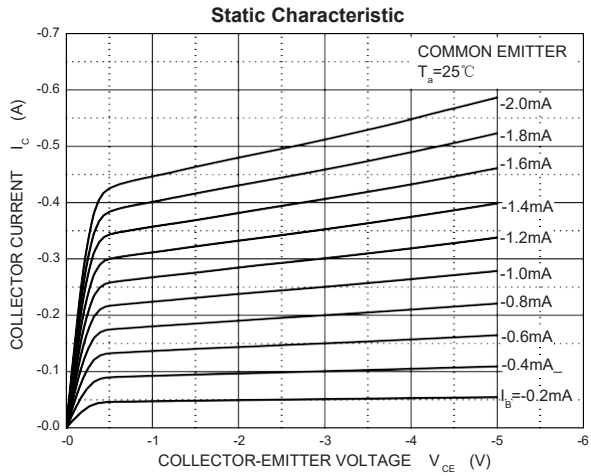
ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

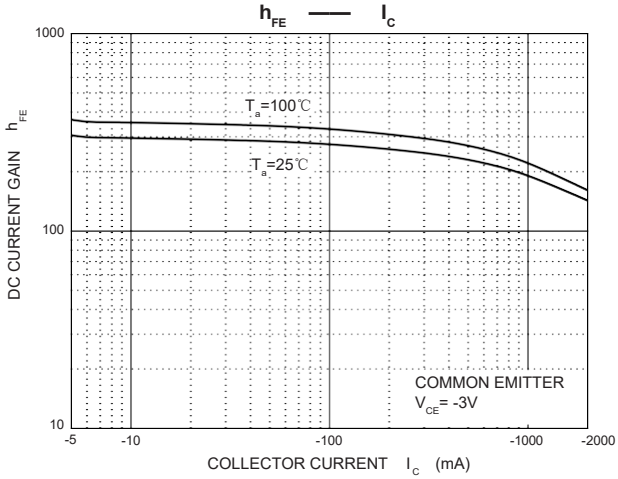
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=-50μA , I_E=0	-40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C= -1mA , I_B=0	-32			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=-50μA, I_C=0	-5			V
Collector cut-off current	I_{CBO}	V_{CB}=-20 V , I_E=0			-1	μA
Emitter cut-off current	I_{EBO}	V_{EB}=-4 V , I_C=0			-1	μA
DC current gain *	h_{FE}	V_{CE}= -3V, I_C= -0.5A	82		390	
Collector-emitter saturation voltage *	$V_{CE(sat)}$	I_C=-2A, I_B= -0.2A			-0.8	V
Transition frequency	f_T	V_{CE}=-5V, I_C=-0.5A ,f=30MHz		100		MHz
Output capacitance	C_{ob}	V_{CB}=-10V, I_E=0 ,f=1MHz		50		pF

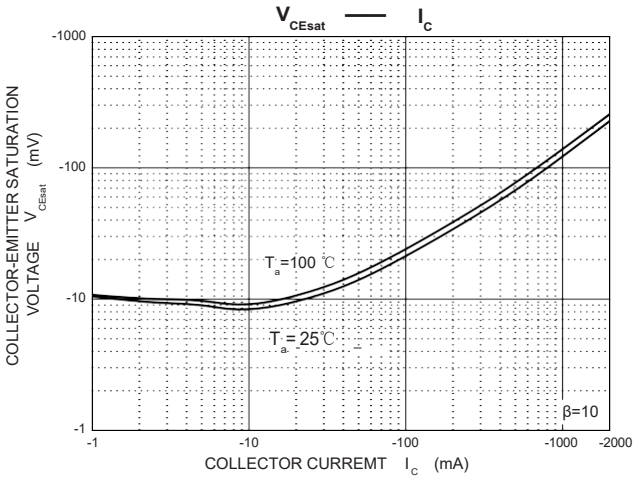
*** Measured using pulse current.**

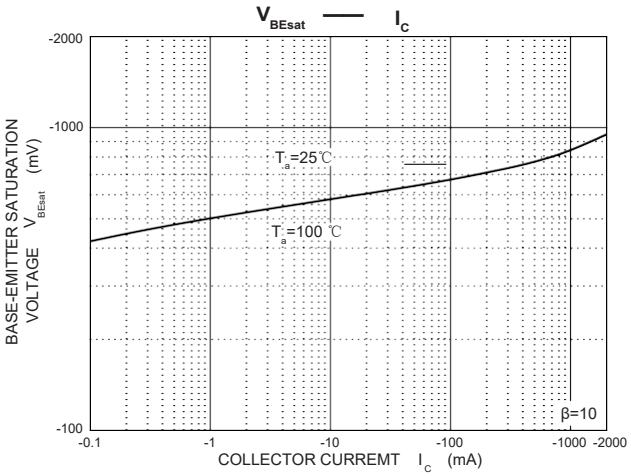
CLASSIFICATION OF h_{FE}

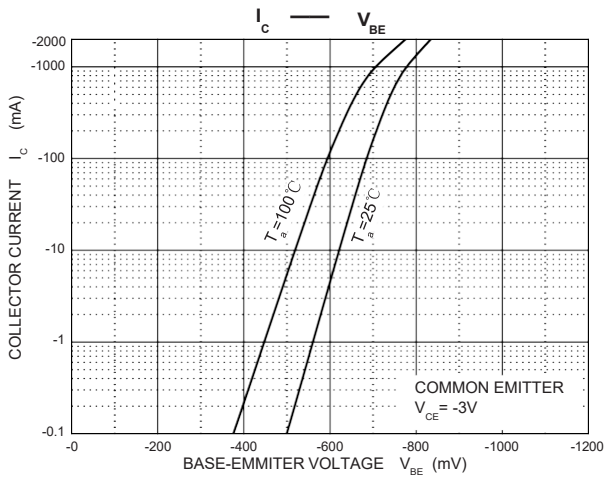
Rank	P	Q	R
Range	82-180	120-270	180-390
Marking	**BCP**	**BCQ**	**BCR**

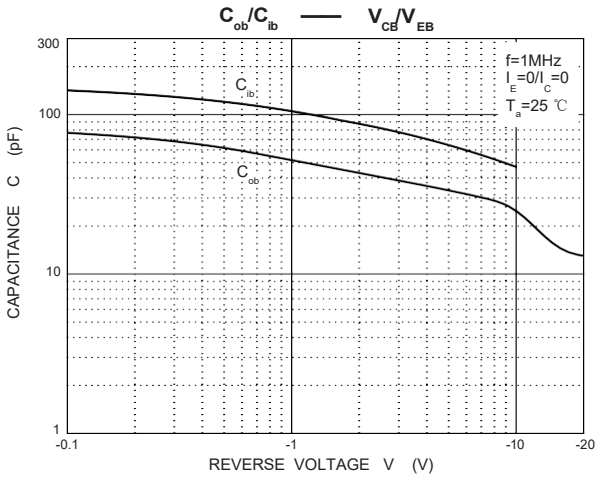

Static Characteristic
COMMON EMITTER
Ta=25℃
-2.0mA
-1.8mA
-1.6mA
-1.4mA
-1.2mA
-1.0mA
-0.8mA
-0.6mA
-0.4mA
IB=-0.2mA
COLLECTOR CURRENT IC (A)
COLLECTOR-EMITTER VOLTAGE VCE (V)

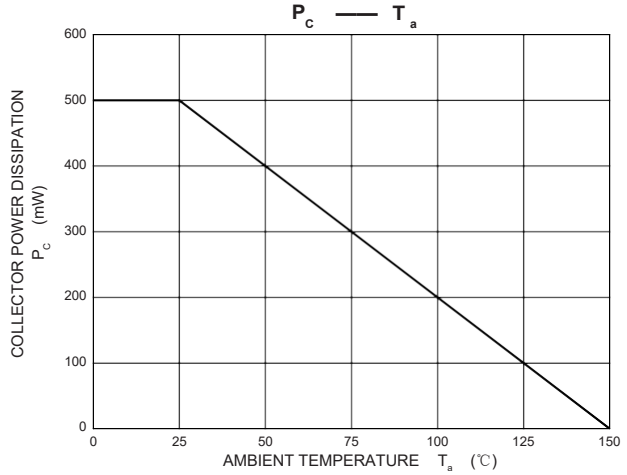

hFE — IC
Ta=100℃
Ta=25℃
COMMON EMITTER
VCE= -3V
DC CURRENT GAIN hFE
COLLECTOR CURRENT IC (mA)


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


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


IC — VBE
Ta=100℃
Ta=25℃
COMMON EMITTER
VCE= -3V
COLLECTOR CURRENT IC (mA)
BASE-EMMITER VOLTAGE VBE (mV)


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


PC — Ta
COLLECTOR POWER DISSIPATION PC (mW)
AMBIENT TEMPERATURE Ta (℃)