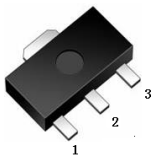
FEATURES

- High breakdown voltage
- Complements to 2SD1767

2SB1189(PNP)



1. BASE
2. COLLECTO
3. EMITTER

SOT-89

Maximum Ratings (Ta=25 ℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-80	V
Collector-Emitter Voltage	V_{CEO}	-80	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current -Continuous	I_C	0.7	A
Collector Power dissipation	P_C	500	mW
Junction Temperature	T_J	150	℃
Storage Temperature	T_{stg}	-55to +150	℃

ELECTRICAL CHARACTERISTICS (@ Ta=25 ℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V_{CBO}	I_C=-50μA,I_E=0	-80			V
Collector-emitter breakdown voltage	V_{CEO}	I_C=-2mA,I_B=0	-80			V
Emitter-base breakdown voltage	V_{EBO}	I_E=-50μA,I_C=0	-5			V
Collector cut-off current	I_{CBO}	V_{CB}=-50V,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			-0.4	V
Transition frequency	f_T	V_{CE}=-10V,I_C=-50mA,f=100MHz		100		MHz
Collector output capacitance	C_{ob}	V_{CB}=-10V,I_E=0,f=1MHz			20	pF

CLASSIFICATION OF h_{FE}

Rank	P	Q	R
Range	80-180	120-270	180-390
Marking	BDP	BDQ	BDR

2SB1189 Typical Characteristics

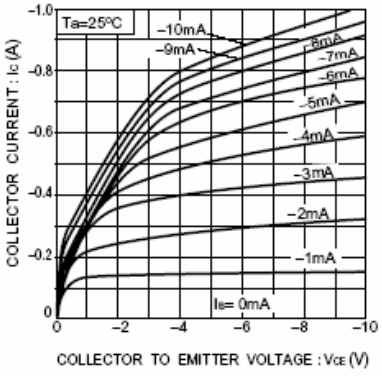


Fig.1 Ground emitter output characteristics

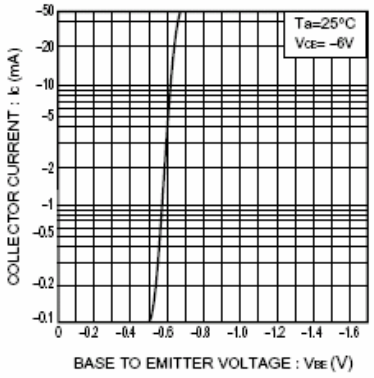


Fig.2 Ground emitter propagation characteristics

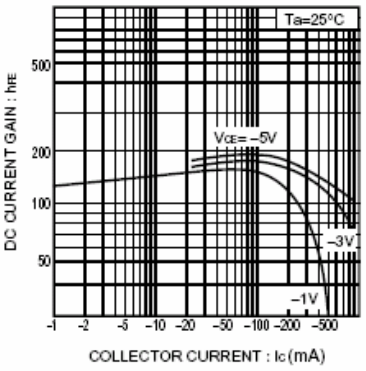


Fig.3 DC current gain vs. collector current

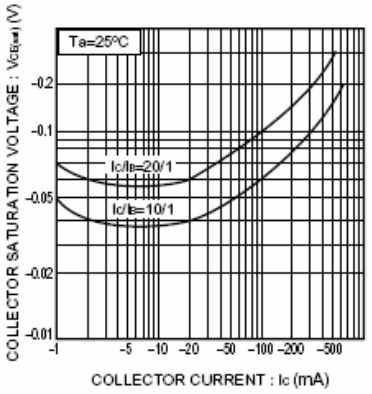


Fig.4 Collector-emitter saturation voltage vs.collector current

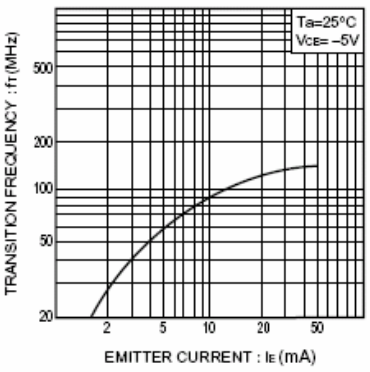


Fig.5 Gain bandwidth product vs. emitter current

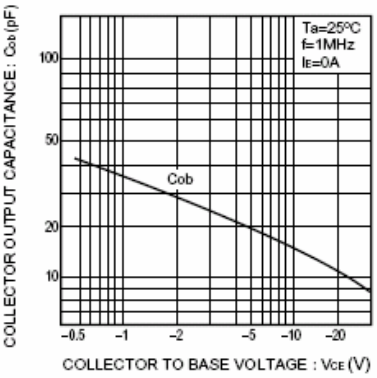


Fig.6 Collector output capacitance vs. collector-base voltage

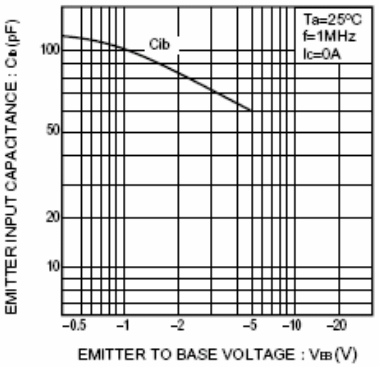


Fig.7 Emitter input capacitance vs. emitter-base voltage

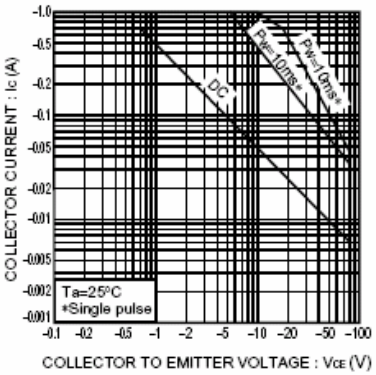


Fig.8 Safe operating area (2SB1189)