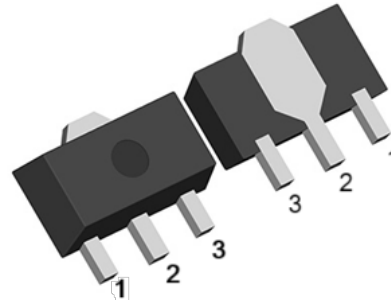


**DESCRIPTION**

The 2SB1189 is available in the SOT-89 package.

FEATURE

- High breakdown voltage
- Complements to 2SD1767

PIN DESCRIPTION

SOT-89

ORDERING INFORMATION

Package Type	Part Number
SOT-89	2SB1189
SPQ	1,000pcs/Reel
AiT provides all RoHS Compliant Products	

PIN#	DESCRIPTION
1	Base
2	Collector
3	Emitter

ABSOLUTE MAXIMUM RATINGS

T_A = 25°C, unless otherwise specified.

V _{CEO} , Collector-Emitter Voltage	-80 V
V _{CBO} , Collector-Base Voltage	-80 V
V _{EBO} , Emitter-Base Voltage	-5 V
I _C , Collector Current-Continuous	-0.7 A
P _C , Collector Power Dissipation	-500 mW
T _J , Junction Temperature	150 °C
T _{stg} , Storage Temperature Range	-55 ~ +150 °C

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.



ELECTRICAL CHARACTERISTICS

$T_A=25^\circ\text{C}$ unless otherwise specified.

Parameter	Symbols	Conditions	Min.	Typ.	Max.	Unit
Collector Cutoff Current	I_{CBO}	$V_{CB} = -50\text{ V},$ $I_E = 0$	-	-	-0.5	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = -4\text{ V},$ $I_C = 0$	-	-	-0.5	μA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -2\text{ mA},$ $I_B = 0$	-80	--	-	V
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -50\text{ }\mu\text{A},$ $I_E = 0$	-80		-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -5\text{ }\mu\text{A},$ $I_C = 0$	-5	-	-	V
DC Current Gain	h_{FE}	$V_{CE} = -3\text{ V},$ $I_C = -100\text{ mA}$	82	-	390	-
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -500\text{ mA},$ $I_B = -50\text{ mA},$	-	-	-0.4	V
Transition Frequency	f_T	$V_{CE} = -10\text{ V},$ $I_E = -50\text{ mA}$ $f = 100\text{ MHz}$	-	120	-	MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = -10\text{ V},$ $I_E = 0,$ $f = 1\text{ MHz}$	-	20	-	pF

TYPICAL CHARACTERISTICS

Fig 1. Ground emitter output characteristics

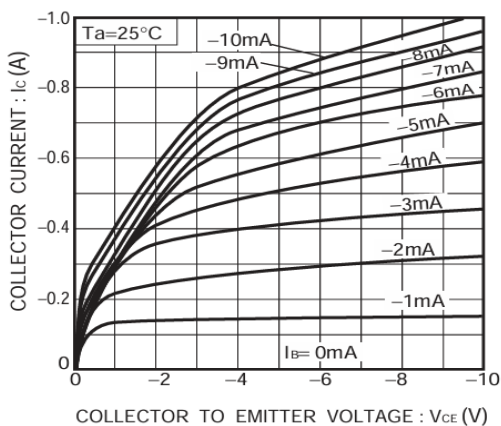


Fig 2. Ground emitter propagation characteristics

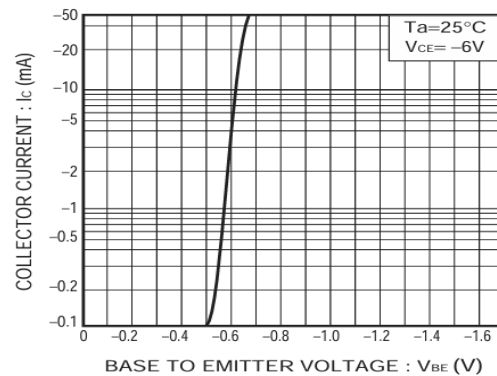




Fig 3. DC current gain vs. collector current

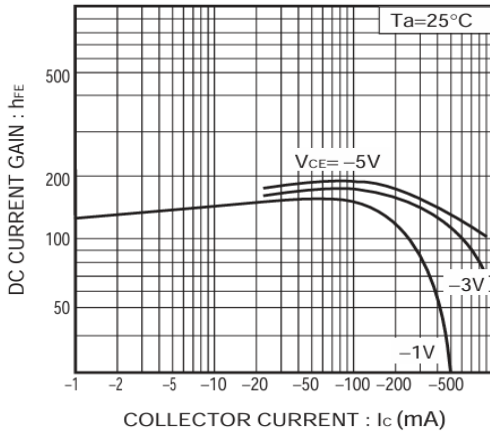


Fig 4. Collector-emitter saturation voltage vs. collector current

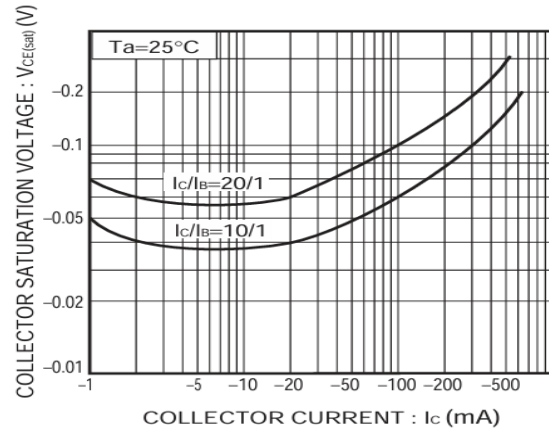


Fig 5. Gain bandwidth product vs. emitter current

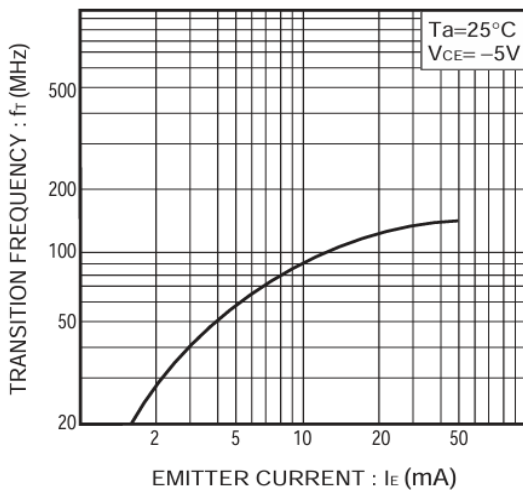


Fig 6. Collector output capacitance vs. collector-base voltage

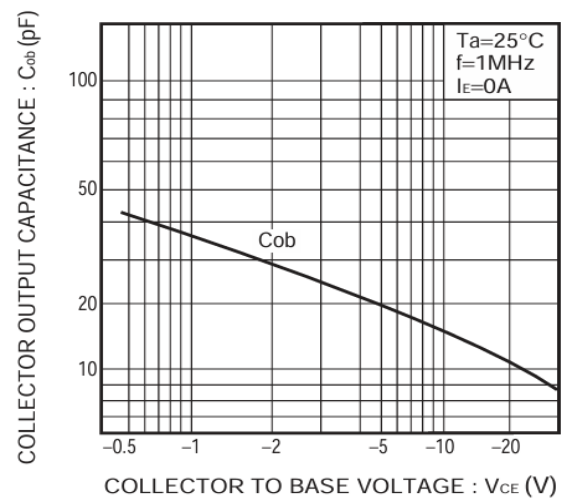


Fig 7. Emitter input capacitance vs. emitter-base voltage

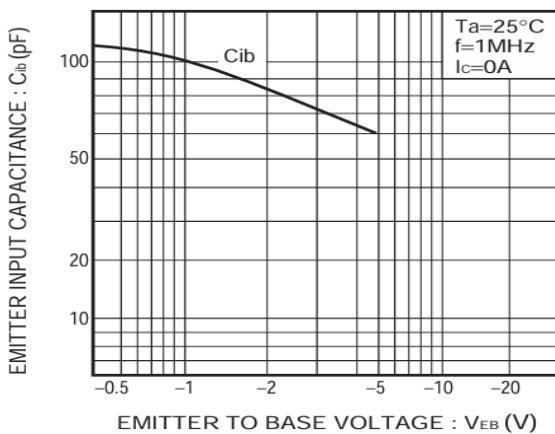
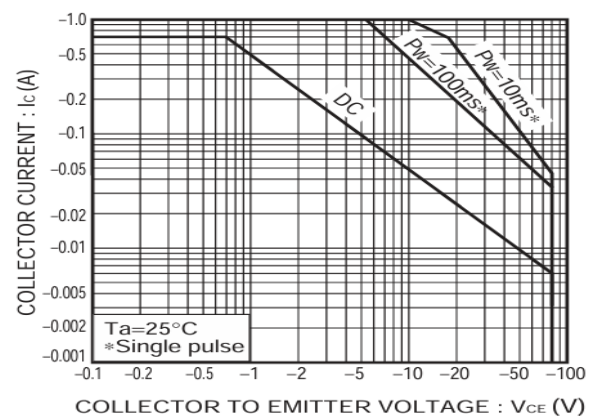


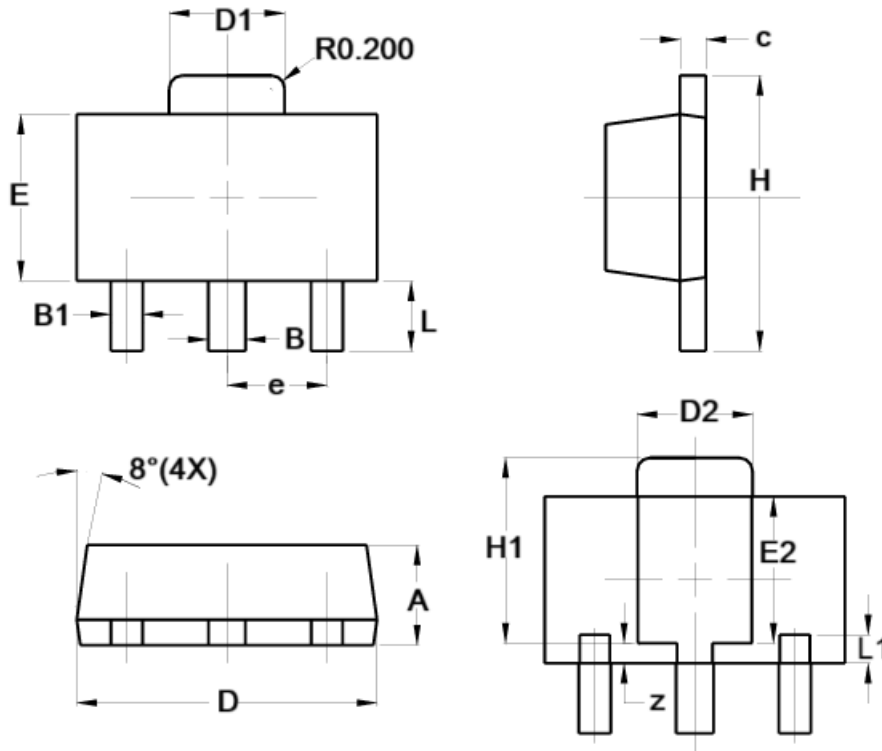
Fig 8. Safe operating area (2SB1189)





PACKAGE INFORMATION

Dimension in SOT-89 (Unit: mm)



Symbol	Millimeter	
	Min.	Max.
A	1.400	1.600
B	0.500	0.620
B1	0.420	0.540
c	0.350	0.430
D	4.440	4.600
D1	1.620	1.830
D2	1.610	1.810
E	2.400	2.600
E2	2.050	2.350
e	1.500 TYP.	
H	3.950	4.250
H1	2.630	2.930
L	0.900	1.200
L1	0.327	0.527
z	0.200	0.400



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