

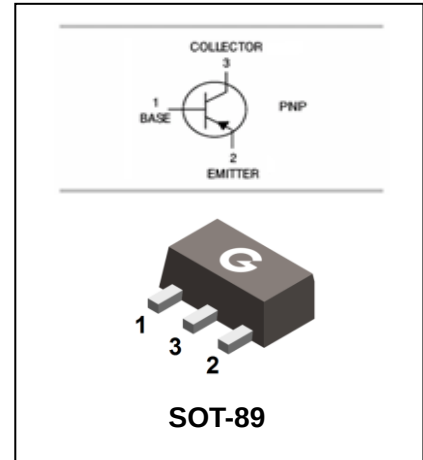
Medium Power Transistor

2SB1189

FEATURES

- High breakdown voltage, $BV_{CEO} = -80V$,
And high current, $I_C = -0.7A$
- Complementary the 2SD1767
- RoHS compliant with Halogen-free

HF



ORDERING INFORMATION

Type No.	Marking	Package Code
2SB1189-P	BDP	SOT-89
2SB1189-Q	BDQ	SOT-89
2SB1189-R	BDR	SOT-89

MAXIMUM RATING @ $T_a=25^\circ C$ unless otherwise specified

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-80	V
V_{CEO}	Collector-Emitter Voltage	-80	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current	-0.7	A
P_C	Collector power dissipation	500	mW
T_j, T_{stg}	Junction and Storage Temperature	-55 to +150	$^\circ C$

Medium Power Transistor

2SB1189

ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -50\mu A$ $I_E = 0$	-80			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -2mA$ $I_B = 0$	-80			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -50\mu A$ $I_C = 0$	-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}	$V_{CE} = -3V$ $I_C = -0.1A$	82		390	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -500mA$ $I_B = -50mA$		-0.2	-0.4	V
Transition frequency	f_T	$V_{CE} = -10V$, $I_E = -50mA$, $f = 100MHz$		100		MHz
Output Capacitance	C_{obo}	$V_{CB} = -10V$ $f = 1.0MHz$ $I_E = 0$		14	20	pF

CLASSIFICATION h_{FE}

Rank	P	Q	R
Range	82-180	120-270	180-390
Marking	BDP	BDQ	BDR

TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

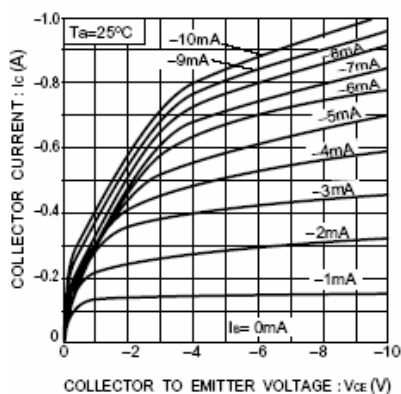


Fig.1 Ground emitter output characteristics

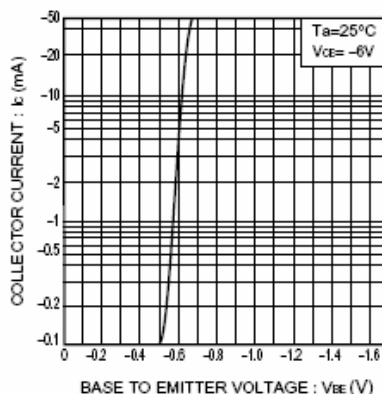


Fig.2 Ground emitter propagation characteristics

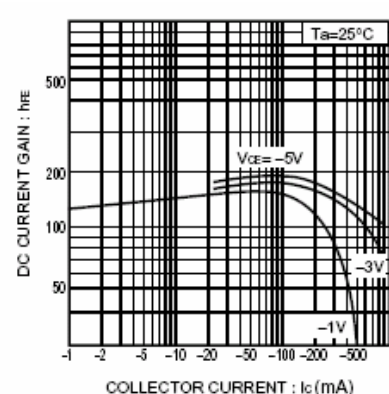


Fig.3 DC current gain vs. collector current

Medium Power Transistor

2SB1189

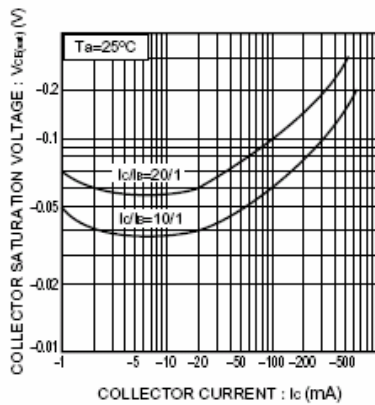


Fig.4 Collector-emitter saturation voltage vs. collector current

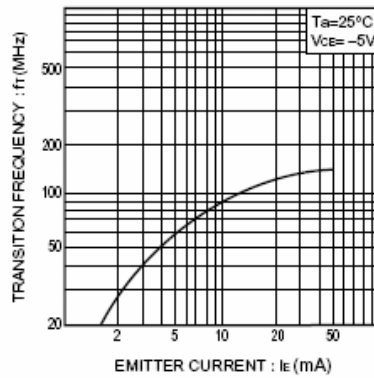


Fig.5 Gain bandwidth product vs. emitter current

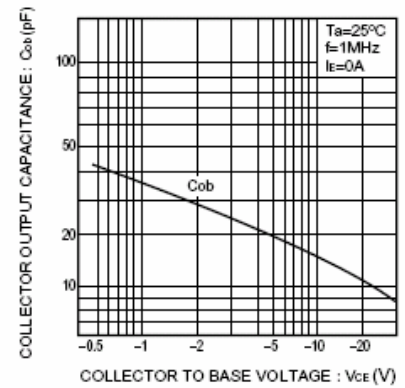


Fig.6 Collector output capacitance vs. collector-base voltage

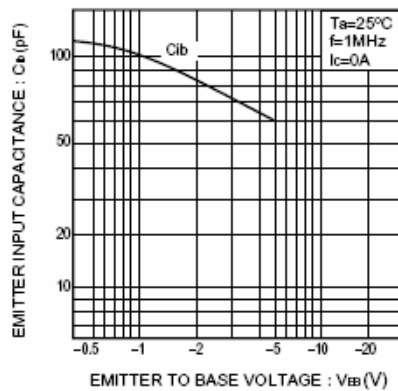


Fig.7 Emitter input capacitance vs. emitter-base voltage

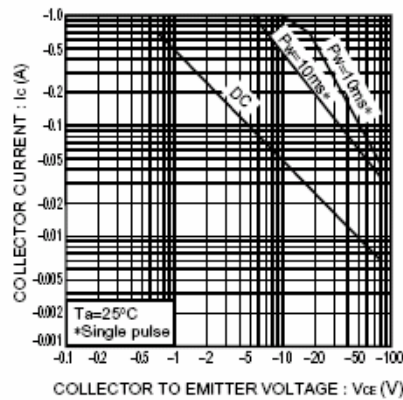


Fig.8 Safe operating area (2SB1189)

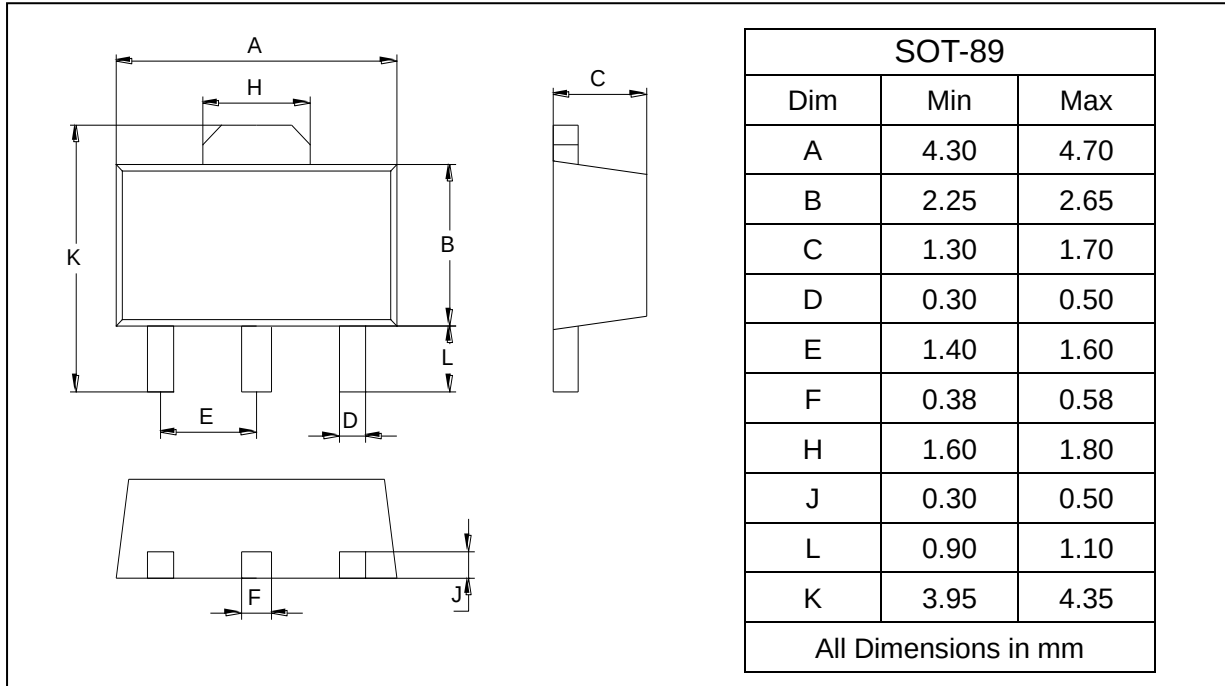
Medium Power Transistor

2SB1189

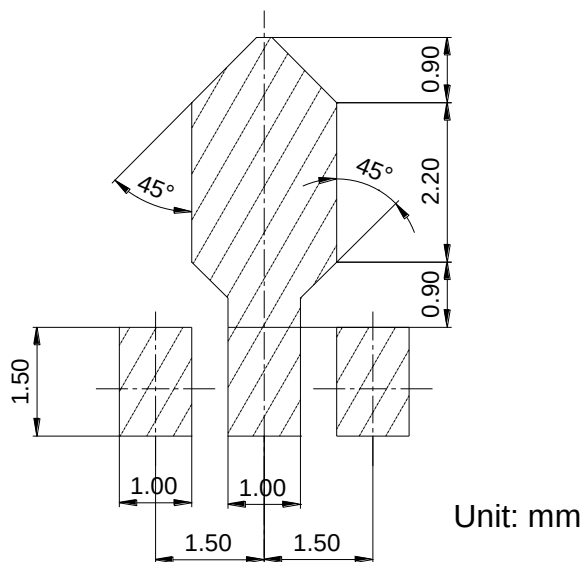
PACKAGE OUTLINE

Plastic surface mounted package

SOT-89



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
2SB1189	SOT-89	1000 pcs / Tape & Reel