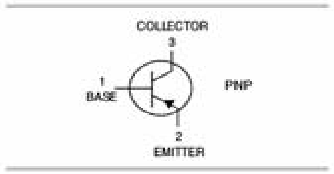
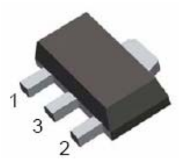
Medium power transistor(-80V,-0.7A) 2SB1189

FEATURES

- High breakdown voltage,BV_{CEO}=-80V,
  And high current,I_C=-0.7A.
- Complementary the 2SD1767.

Lead-free





SOT-89

ORDERING INFORMATION

Type No.	Marking	Package Code
2SB1189	BDP/BDQ/BDR	SOT-89

MAXIMUM RATING @ Ta=25℃ 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	℃

Medium power transistor(-80V,-0.7A) 2SB1189

ELECTRICAL CHARACTERISTICS @ Ta=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	-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=-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=-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℃ unless otherwise specified

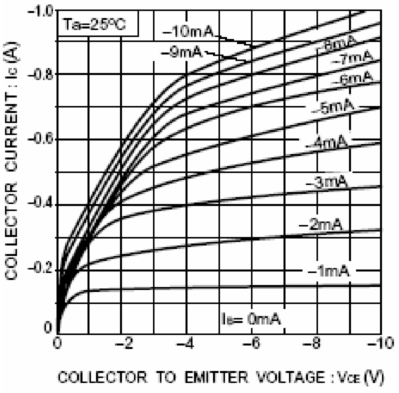


Fig.1 Ground emitter output characteristics

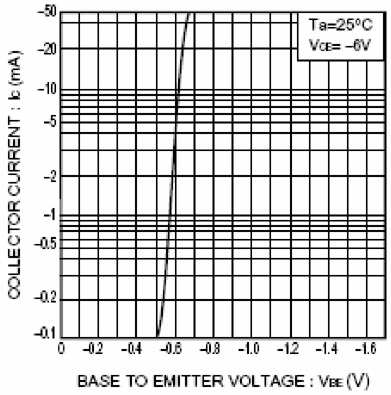


Fig.2 Ground emitter propagation characteristics

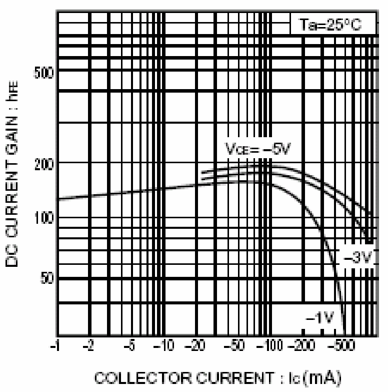


Fig.3 DC current gain vs. collector current

Medium power transistor(-80V,-0.7A) 2SB1189

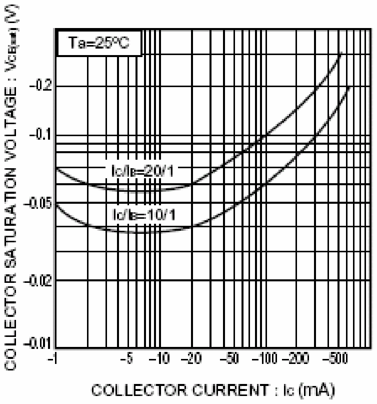


Fig.4 Collector-emitter saturation voltage vs.collector current

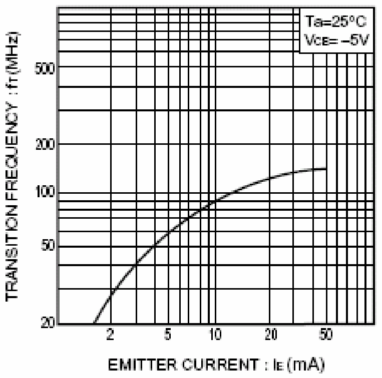


Fig.5 Gain bandwidth product vs. emitter current

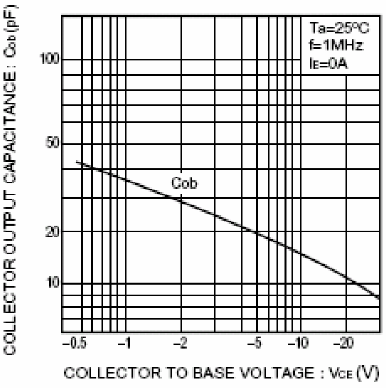


Fig.6 Collector output capacitance vs. collector-base voltage

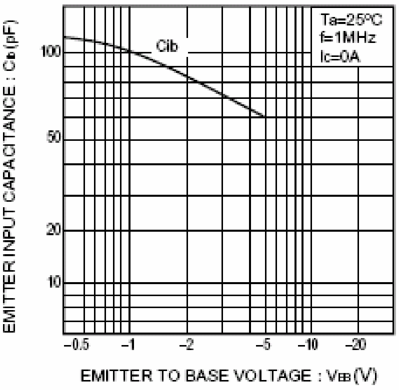


Fig.7 Emitter input capacitance vs. emitter-base voltage

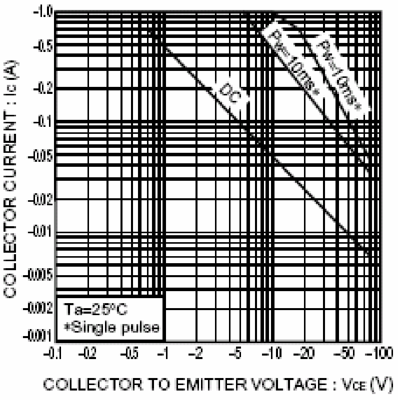
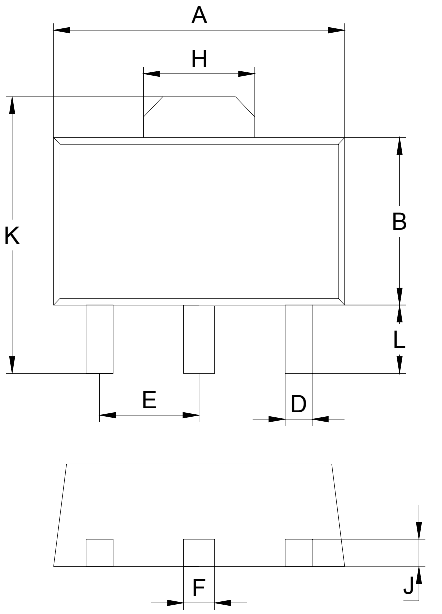


Fig.8 Safe operating area (2SB1189)

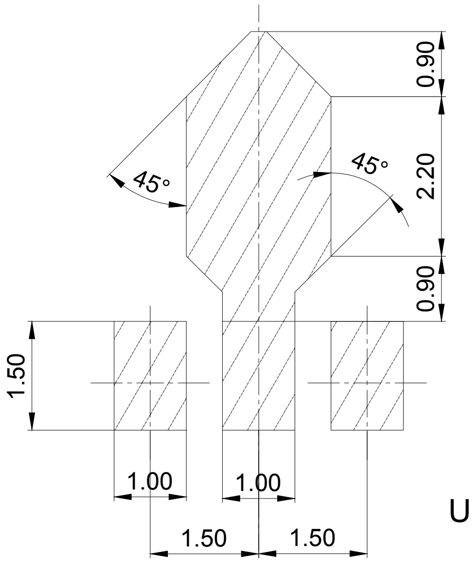
PACKAGE OUTLINE

Plastic surface mounted package SOT-89



SOT-89		
Dim	Min	Max
A	4.30	4.70
B	2.25	2.65
C	1.50 Typical	
D	0.40 Typical	
E	1.40	1.60
F	0.48 Typical	
H	1.60	1.80
J	0.40 Typical	
L	0.90	1.10
K	3.95	4.35
All Dimensions in mm		

SOLDERING FOOTPRINT



Unit:mm

PACKAGE INFORMATION

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