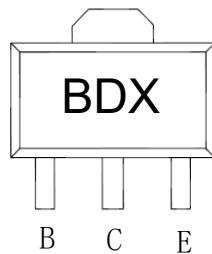


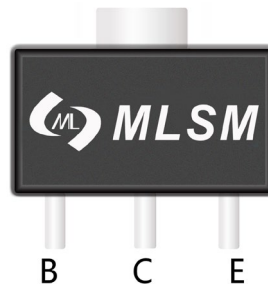
Features

- High breakdown voltage
- Complements the 2SD1767

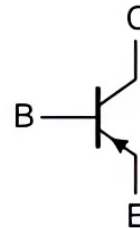


Rank: X

Marking and pin assignment



SOT-89-3L top view



Schematic diagram



Halogen-Free

Maximum Ratings (Ta=25°C unless otherwise noted)

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	0.5	W
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	°C

Ordering Information (Example)

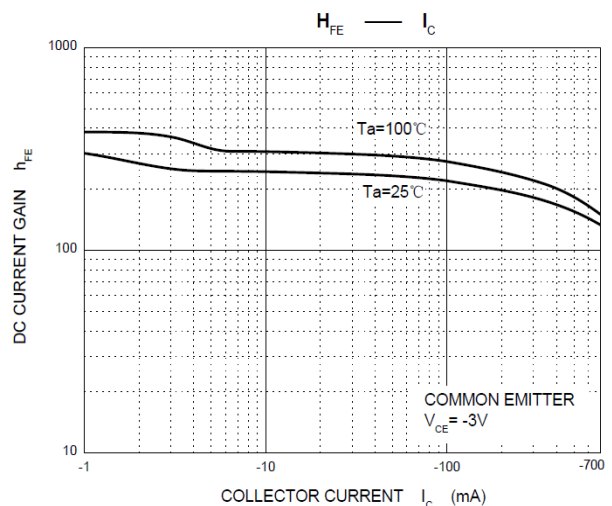
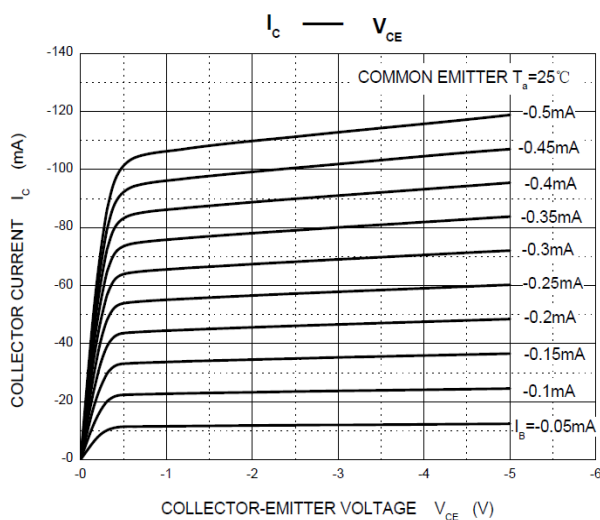
Type	Package	Marking	Minimum Package(pcs)	Inner Box Quantity(pcs)	Outer Carton Quantity(pcs)	Delivery Mode
2SB1189	SOT-89-3L	BDP/BDQ/BDR	1,000	10,000	40,000	7" reel

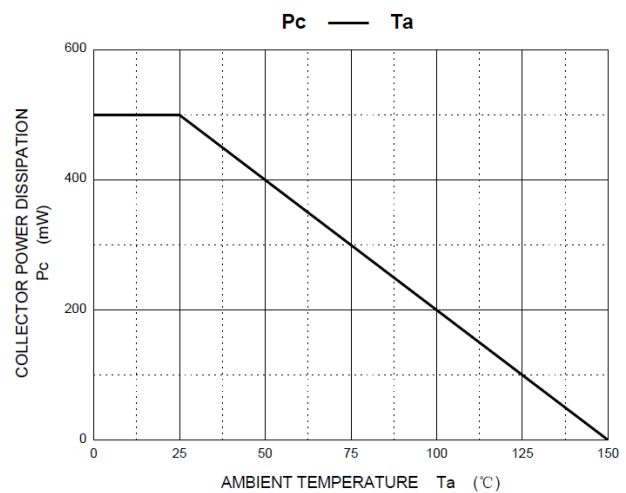
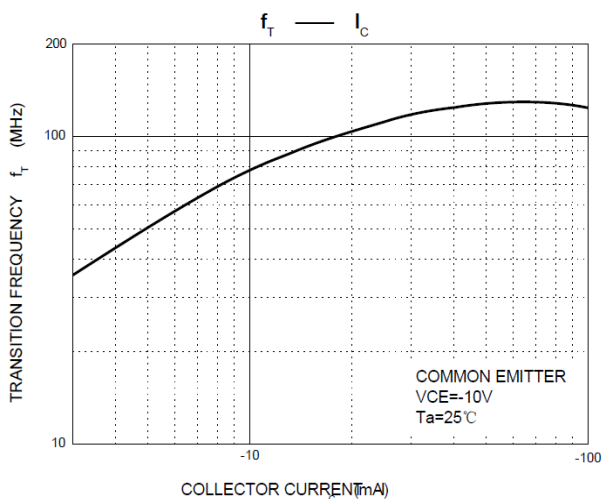
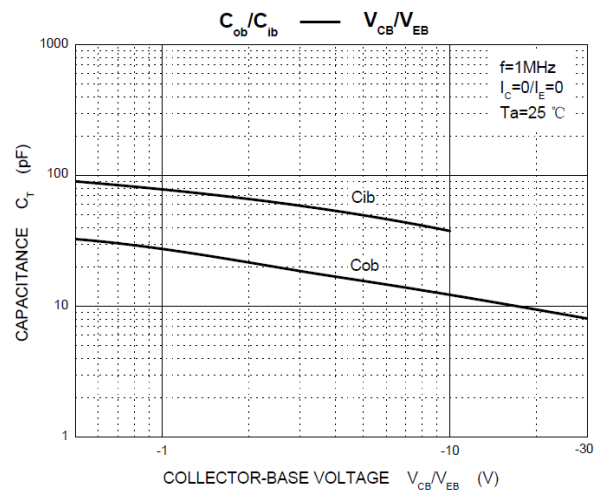
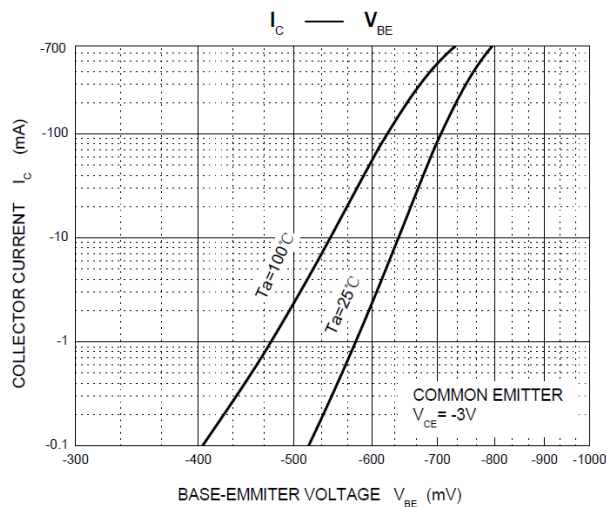
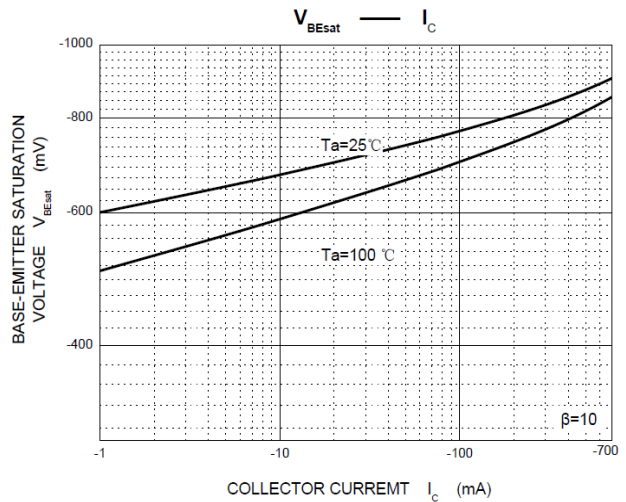
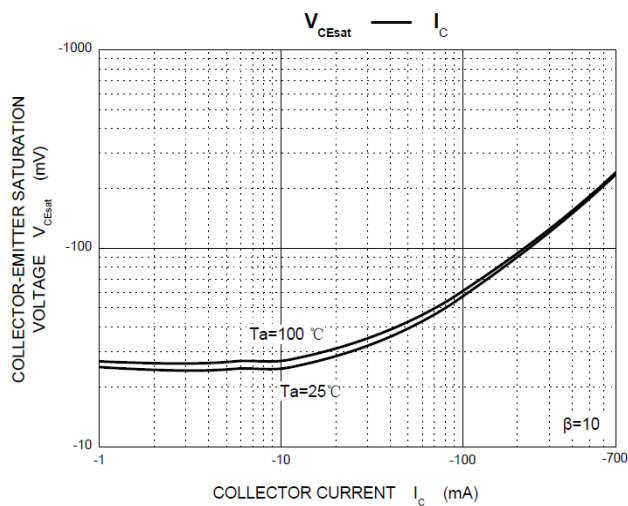
Electrical Characteristics (Ta=25°C unless otherwise specified)

Symbol	Parameter	Condition	Min	Typ	Max	Unit
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C = -50\mu A, I_E = 0$	-80	--	--	V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C = -2mA, I_B = 0$	-80	--	--	V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E = -50\mu A, I_C = 0$	-5	--	--	V
I_{CBO}	Collector cut-off current	$V_{CB} = -50V, I_E = 0$	--	--	-0.5	μA
I_{EBO}	Emitter cut-off current	$V_{EB} = -4V, I_C = 0$	--	--	-0.5	μA
H_{FE}	DC current gain	$V_{CE} = -3V, I_C = -100mA$	82	--	390	
$V_{CE(sat)}$	Collector-emitter saturation voltage	$I_C = -500mA, I_B = -50A$	--	--	-0.4	V
C_{ob}	Collector output capacitance	$V_{CB} = -10V, I_E = 0, f = 1MHz$	--	--	20	pF
f_t	Transition frequency	$V_{CE} = -10V, I_C = -50mA, f = 100MHz$	--	100	--	MHz

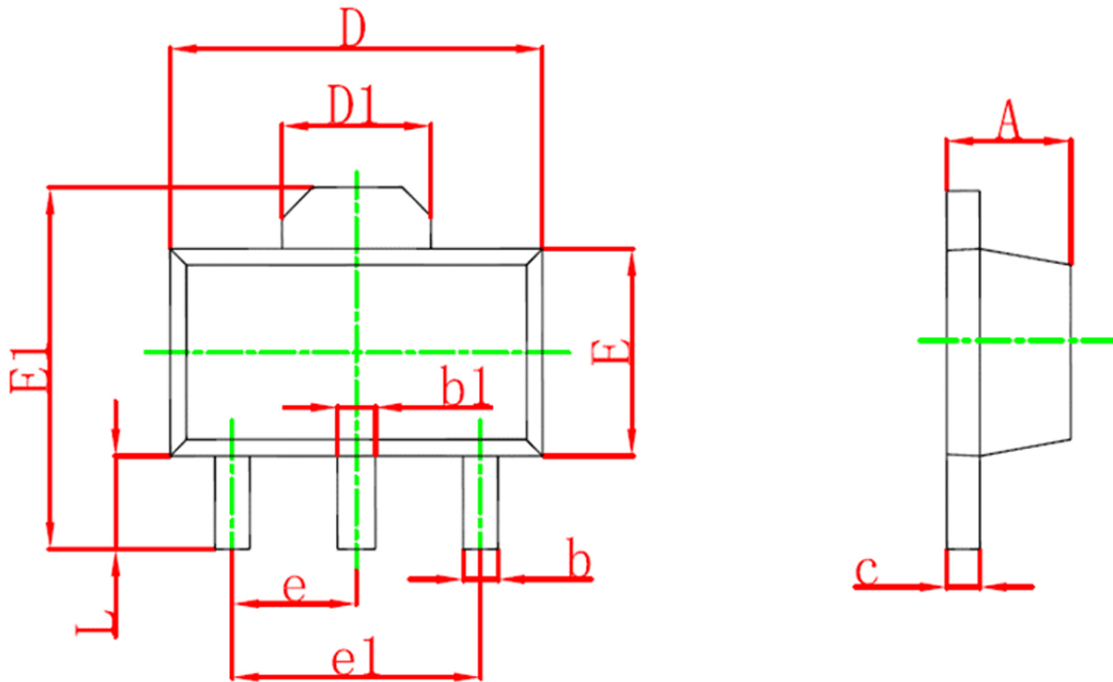
Classification of hFE

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

Typical Characteristics




SOT-89-3L Package information



Symbol	Dimensions in Millimeters(mm)		Dimensions in Inches	
	Min	Max	Min	Max
A	1.400	1.600	0.055	0.063
b	0.320	0.520	0.013	0.020
b1	0.400	0.580	0.016	0.023
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.550 REF		0.061 REF	
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500 TYP		0.060 TYP	
e1	3.000 TYP		0.118 TYP	
L	0.900	1.200	0.035	0.047