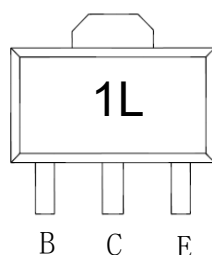
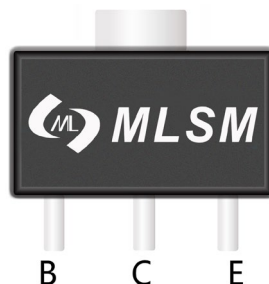


Features

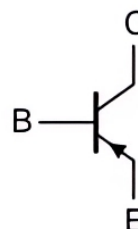
- Low collector-emitter saturation voltage $V_{CE(sat)}$
- For low-frequency output amplification
- Complementary to 2SD2185



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	-50	V
V_{CEO}	Collector-Emitter Voltage	-50	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current	-2	A
P_C	Collector Power Dissipation	500	mW
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
2SB1440	SOT-89-3L	1L	1,000	10,000	40,000	7"reel

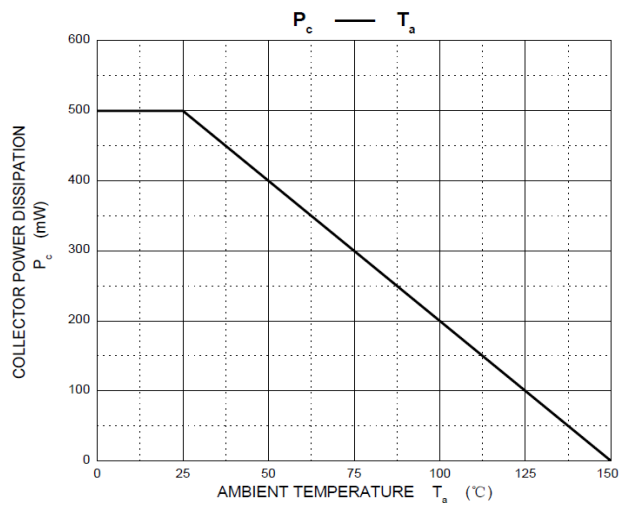
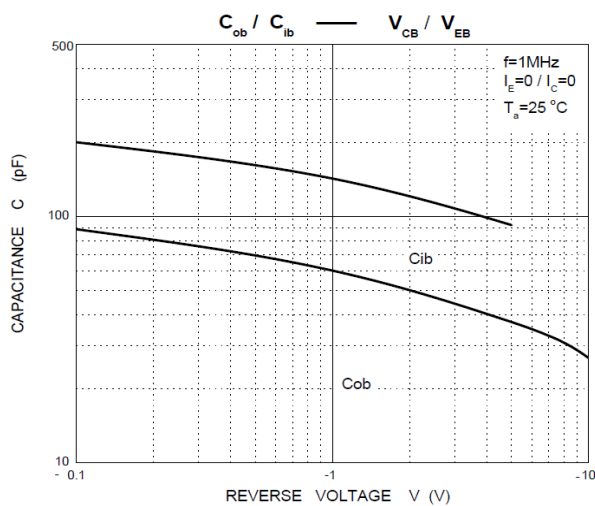
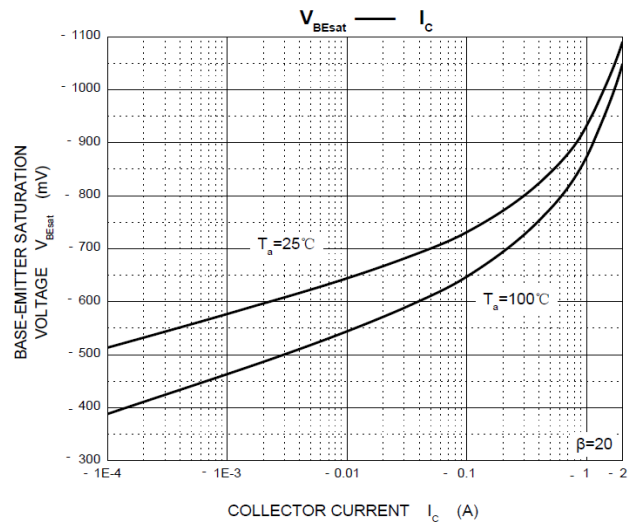
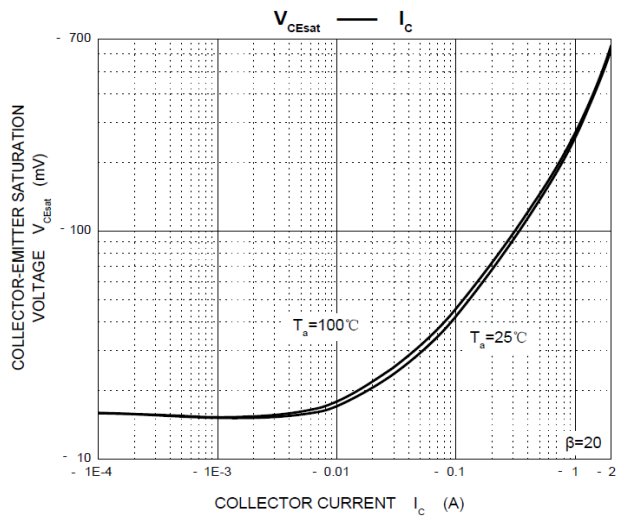
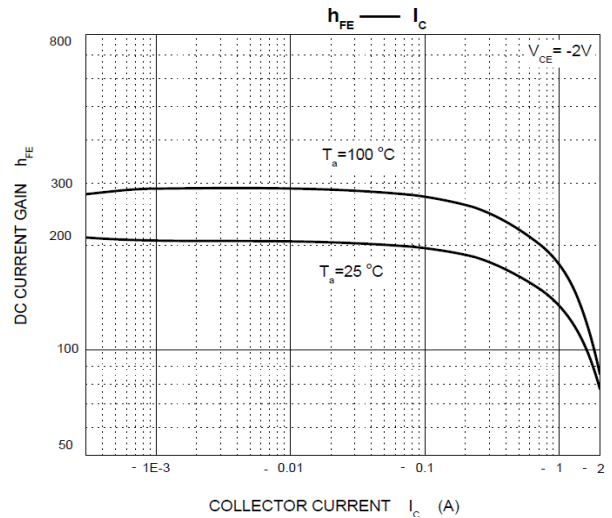
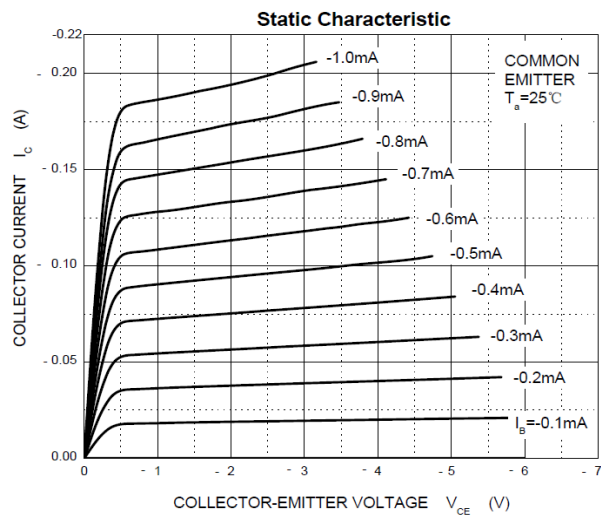
Electrical Characteristics (Ta=25°C unless otherwise specified)

Symbol	Parameter	Condition	Min	Typ	Max	Unit
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C = -10\mu A, I_E = 0$	-50	--	--	V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C = -1mA, I_B = 0$	-50	--	--	V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E = -10\mu A, I_C = 0$	-5	--	--	V
I_{CBO}	Collector cut-off current	$V_{CB} = -50V, I_E = 0$	--	--	-1	μA
I_{EBO}	Emitter cut-off current	$V_{EB} = -5V, I_C = 0$	--	--	-1	μA
H_{FE1}	DC current gain	$V_{CE} = -2V, I_C = -200mA$	120	--	340	
H_{FE2}		$V_{CE} = -2V, I_C = -1A$	60	--	--	
$V_{CE(sat)}$	Collector-emitter saturation voltage	$I_C = -1A, I_B = -50mA$	--	--	-0.3	V
$V_{BE(sat)}$	Base-emitter saturation voltage	$I_C = -1A, I_B = -50mA$	--	--	-1.2	V
C_{ob}	Collector output capacitance	$V_{CB} = -10V, I_E = 0, f = 1MHz$	--	--	60	pF
f_t	Transition frequency	$V_{CE} = -10V, I_C = 50mA, f = 200MHz$	--	80	--	MHz

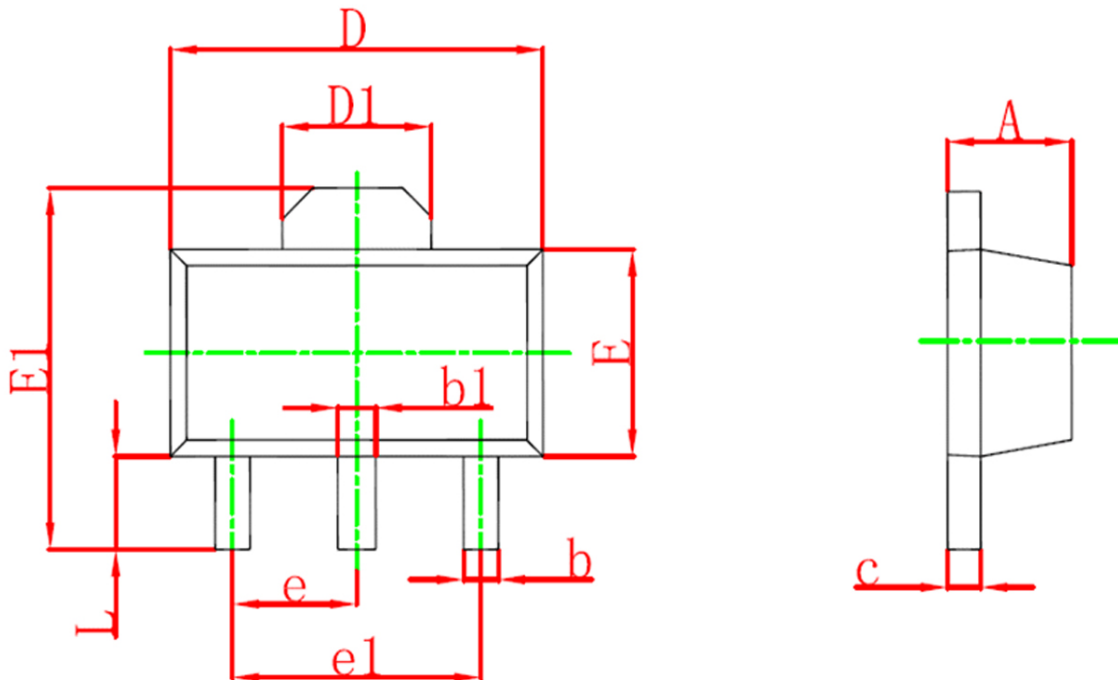
Classification of hFE

Rank	R	S
Range	120-240	170-340

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