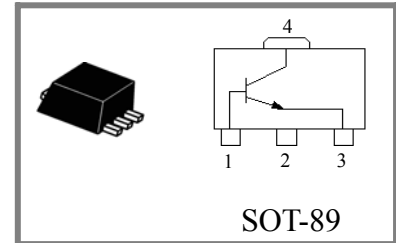


NPN General use transistor

1.2W 3A 30V

Applications: Can be used for switching and amplifying in various electrical and electronic equipments.



MARKING

Parameters	Symbol	Rating	Unit
Collector-emitter voltage ($I_B=0$)	V_{CEO}	30	V
Collector-base voltage ($I_E=0$)	V_{CBO}	40	V
Emitter-base voltage ($I_C=0$)	V_{EBO}	5	V
Collector current	I_C	3	A
Total power dissipation ($T_A=25^\circ\text{C}$)*	P_{tot}	1.2	W
Max junction temperature	T_{jm}	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55~150	$^\circ\text{C}$

* mounted on printed circuit board.

Characteristics (Unless otherwise specified, $T_A=25^\circ\text{C}$)

Parameters	symbol	Test condition	min	typ	max	unit
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=10\text{mA}$, $I_B=0$	30	—	—	V
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=1\text{mA}$, $I_E=0$	40	—	—	V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=1\text{mA}$, $I_C=0$	5	—	—	V
Forward current transfer ratio ¹⁾	R	$V_{CE}=2\text{V}$; $I_C=1\text{A}$	180	—	390	—
	S		270	—	560	—
Collector-base cutoff current	I_{CBO}	$V_{CB}=30\text{V}$, $I_E=0$	—	—	1	μA
Collector-emitter saturation voltage ¹⁾	$V_{CE(sat)}$	$I_C=2\text{A}$, $I_B=200\text{mA}$	—	—	0.5	V
Transition frequency	f_T	$I_C=100\text{mA}$, $V_{CE}=5\text{V}$, $f=100\text{MHz}$	—	90	—	MHz

¹⁾ pulse method: $t_w:300\mu\text{s}$, duty ratio $\leq 2\%$.

Typical curve

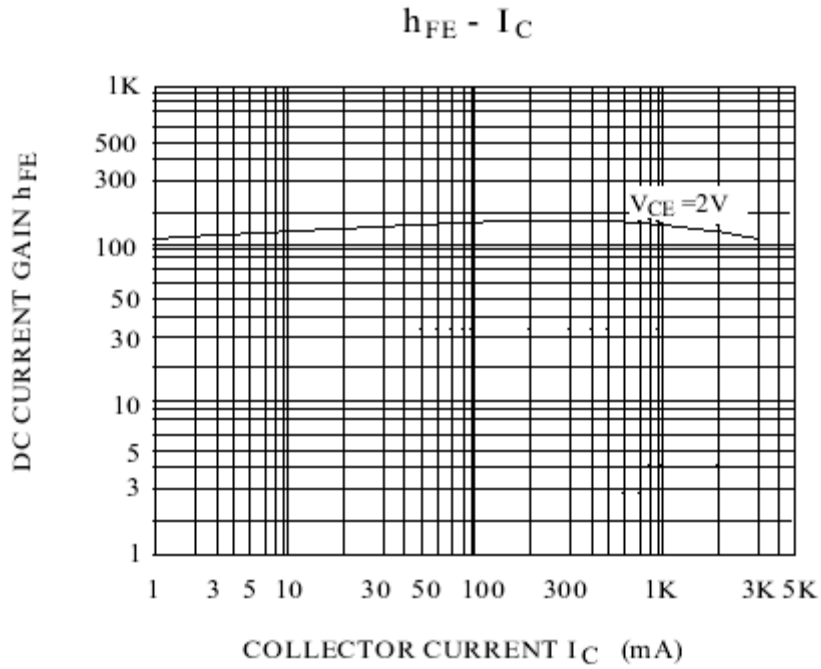
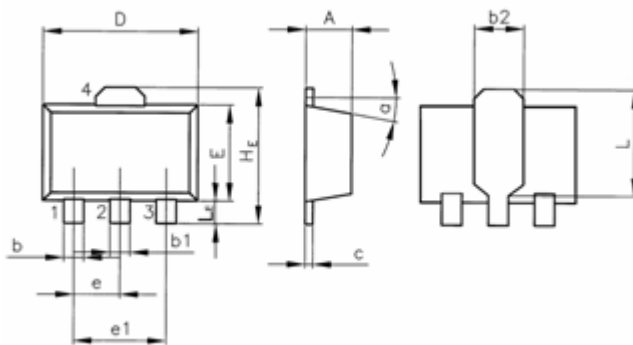


fig.1 Typical curve

Outline dimensions

unit: mm



dimensions symbol	SOT-89		
	min	type	max
A	1.4	—	1.6
b	0.35	—	0.55
b1	0.4	—	0.65
b2	—	1.6	—
c	0.35	—	0.45
D	4.4	—	4.6
E	2.35	—	2.55
e	—	1.5	—
e1	—	3	—
H_E	—	4.15	—
L	—	2.7	—
LE	—	1.0	—
α	—	5°	—

Fig.2 Outline dimensions