

NPN-General use transistor

1W 、 1.0A、 32V

Applications :

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

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

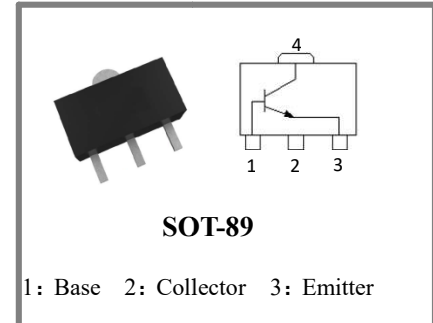
parameters	symbol	rating	unit
collector-emitter voltage ($I_B=0$)	V_{CEO}	32	V
collector-base voltage ($I_E=0$)	V_{CBO}	40	V
emitter - base voltage ($I_C=0$)	V_{EBO}	6	V
Collector current	I_C	1	A
Total power dissipation ($T_A=25^\circ\text{C}$)*	P_{tot}	1	W
Max junction temperature	T_{jm}	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55~150	$^\circ\text{C}$

* mounted on printed circuit board.

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

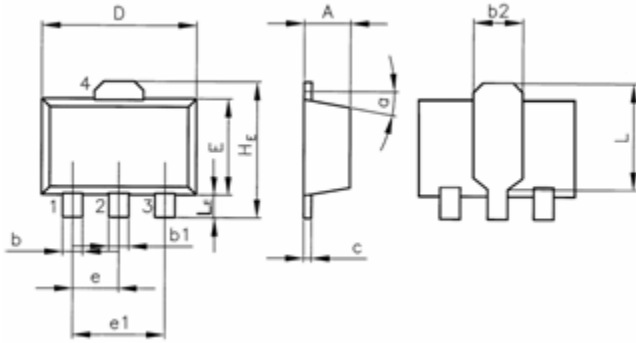
parameters		symbol	Test condition	min	typ	max	unit
collector-emitter breakdown voltage		$V_{(BR)CEO}$	$I_C=2\text{mA}, I_B=0$	32	—	—	V
collector- base breakdown voltage		$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$	40	—	—	V
emitter - base breakdown voltage		$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	6	—	—	V
Forward current transfer ratio ¹⁾	2SD1898Q	h_{FE}	$V_{CE}=1\text{V}; I_C=100\text{mA}$	120	—	270	—
	2SD1898R			180	—	390	
collector-base cutoff current		I_{CBO}	$V_{CB}=35\text{V}, I_E=0$	—	—	100	nA
emitter-base cutoff current		I_{EBO}	$V_{EB}=6\text{V}, I_C=0$	—	—	100	nA
collector-emitter saturation voltage ¹⁾		$V_{CE(sat)}$	$I_C=800\text{mA}, I_B=80\text{mA}$	—	—	0.5	V
Transition frequency		f_T	$I_C=50\text{mA}, V_{CE}=10\text{V}, f=100\text{MHz}$	—	100	—	MHz

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



Outline dimensions (see fig.1)

unit: mm



dimensions symbols	SOT-89		
	min	typ	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	
L _E		1.0	
α		50	

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