

1. BASE

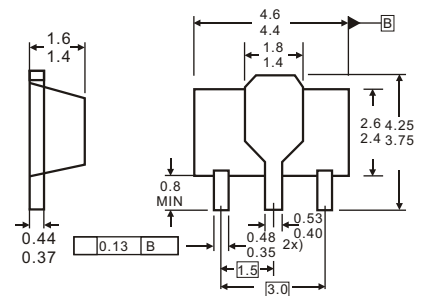
2. COLLECTOR

3. EMITTER

Features

- ✧ High collector to base voltage V_{CBO}
- ✧ High collector to emitter voltage V_{CEO}
- ✧ Large collector power dissipation P_C
- ✧ Low collector to emitter saturation voltage $V_{CE(sat)}$

SOT-89



Dimensions in inches and (millimeters)

Marking:1S

MAXIMUM RATINGS ($T_A=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	400	V
V_{CEO}	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	100	mA
P_C	Collector Power Dissipation	500	mW
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55-150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_{amb}=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}$, $I_E=0$	400			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=0.5\text{mA}$, $I_B=0$	400			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}$, $I_C=0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB}=400\text{V}$, $I_E=0$			50	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=5\text{V}$, $I_C=0$			50	μA
DC current gain	h_{FE}	$V_{CE}=5\text{V}$, $I_C=30\text{mA}$	30			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=50\text{mA}$, $I_B=5\text{mA}$			1.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=50\text{mA}$, $I_B=5\text{mA}$			1.5	V
Transition frequency	f_T	$V_{CE}=30\text{V}$, $I_C=20\text{mA}$, $f=200\text{MHz}$		40		MHz
Collector output capacitance	C_{ob}	$V_{CB} = 30\text{V}$, $I_E=0$, $f=1\text{MHz}$			7	pF

Typical Characteristics

