TRANSISTOR (NPN) **Plastic-Encapsulate Transistor**

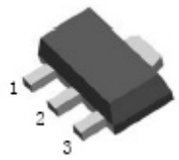
FEATURES

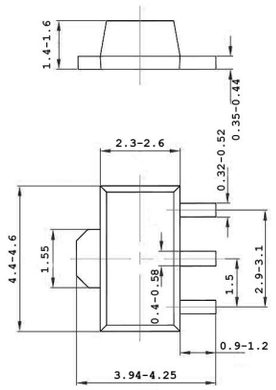
- Low voltage

MARKING: SA, SB, SC, SD

SOT-89

1. BASE
2. COLLECTOR
3. EMITTER





UNIT:mm

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25℃ ambient temperature unless otherwise specified.

MAXIMUM RATINGS

Parameter	Symbol	Value	UNITS
Collector-Base Voltage	V_{CBO}	30	V
Collector-Emitter Voltage	V_{CEO}	10	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current – Continuous	I_C	2	A
Collector Dissipation	P_C	0.5	W
Junction and Storage Temperature	T_J, T_{stg}	-55-150	℃

ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=1mA, I_E=0	30			V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=10mA, I_B=0	10			V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=1mA, I_C=0	6			V
Collector Cut-Off Current	I_{CBO}	V_{CB}=30V, I_E=0			0.1	μA
Emitter Cut-Off Current	I_{EBO}	V_{EB}=6V, I_C=0			0.1	μA
DC Current Gain	$h_{FE(1)}$ $h_{FE(2)}$	V_{CE}=1V, I_C=0.5A V_{CE}=1V, I_C=2A	140 70		600	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=2A, I_B=50mA			0.5	V
Base-Emitter Voltage	V_{BE}	V_{CE}=1V,I_C=2A			1.5	V
Transition Frequency	f_T	V_{CE}=1V, I_C=0.5A		150		MHz
Collector Output Capacitance	C_{ob}	V_{CB}=10V, I_E=0, f=1MHz		27		pF

CLASSIFICATION OF $h_{FE(1)}$

Rank	A	B	C	D
Range	140-240	200-330	300-450	420-600

RoHS Pb-free TIP Semiconductor