

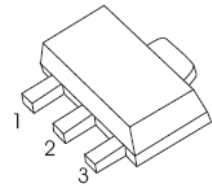
TRANSISTOR (NPN)

FEATURES

- Low Collector-Emitter Saturation Voltage
- Mini Power Type Package
- Excellent DC Current Gain Linearity

SOT-89-3L

1. BASE
2. COLLECTOR
3. EMITTER



MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V _{CBO}	Collector-Base Voltage	30	V
V _{CEO}	Collector-Emitter Voltage	25	V
V _{EBO}	Emitter-Base Voltage	5	V
I _C	Collector Current	1	A
P _C	Collector Power Dissipation	500	mW
R _{θJA}	Thermal Resistance From Junction To Ambient	250	°C/W
T _j	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55~+150	°C

ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =100μA, I _E =0	30			V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C =1mA, I _B =0	25			V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E =100μA, I _C =0	5			V
Collector cut-off current	I _{CBO}	V _{CB} =30V, I _E =0			0.1	μA
Emitter cut-off current	I _{EBO}	V _{EB} =5V, I _C =0			0.1	μA
DC current gain	h _{FE(1)} *	V _{CE} =1V, I _C =100mA	90		400	
	h _{FE(2)} *	V _{CE} =1V, I _C =1A	50			
Collector-emitter saturation voltage	V _{CE(sat)} *	I _C =1A, I _B =0.1A			0.4	V
Base-emitter saturation voltage	V _{BE(sat)} *	I _C =1A, I _B =0.1A			1.2	V
Base-emitter voltage	V _{BE} *	V _{CE} =6V, I _C =10mA	0.6		0.7	V
Transition frequency	f _T	V _{CE} =6V, I _C =10mA		130		MHz
Collector output capacitance	C _{ob}	V _{CB} =6V, I _E =0, f=1MHz		22		pF

*Pulse test: pulse width ≤350μs, duty cycles ≤ 2.0%.

CLASSIFICATION OF h_{FE(1)}

RANK	CM	CL	CK
RANGE	90 - 180	135 - 270	200 - 400
MARKING	CM	CL	CK