

TRANSISTOR (NPN)

FEATURES

- Low current (max.50 mA)
- High voltage (max.300V)
- Telephony and professional communication equipment.

SOT-23



1. BASE
2. EMITTER
3. COLLECTOR

MARKING: BF820:1V, BF822: 1X

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

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage BF820 BF822	300 250	V
V_{CEO}	Collector-Emitter Voltage BF820 BF822	300 250	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	50	mA
P_C	Collector Power Dissipation	0.25	W
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	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$ BF820 BF822	300 250		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$ BF820 BF822	300 250		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}	$V_{CB}=200\text{V}, I_E=0$		0.01	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0$		0.05	μA
DC current gain	h_{FE}	$V_{CE}=20\text{V}, I_C=25\text{mA}$	50		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=30\text{mA}, I_B=5\text{mA}$		0.6	V
Transition frequency	f_T	$V_{CE}=10\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	60		MHz
Collector output capacitance	C_{ob}	$V_{CB}=30\text{V}, I_E=0, f=1\text{MHz}$		1.6	pF

Typical Characteristics

