BCX70J,BCX70K TRANSISTOR (NPN)

1.BASE
2.COLLECTOR
3.EMITTER

SOT-23-3

FEATURES

- Low current
- Low voltage

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	45	V
V_{CEO}	Collector-Emitter Voltage	45	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	200	mA
P_C	Collector Power Dissipation	250	mW
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55-150	℃

ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=10μA,I_E=0	45			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=2mA,I_B=0	45			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=1μA,I_C=0	5			V
Collector cut-off current	I_{CES}	V_{CE}=45V,V_{BE}=0			20	nA
DC current gain BCX70J	h_{FE1}	V_{CE}=5V,I_C=10μA	30			
	h_{FE2}	V_{CE}=5V,I_C=2mA	250		460	
	h_{FE3}	V_{CE}=1V,I_C=50mA	90			
DC current gain BCX70K	h_{FE1}	V_{CE}=5V,I_C=10μA	100			
	h_{FE2}	V_{CE}=5V,I_C=2mA	380		630	
	h_{FE3}	V_{CE}=1V,I_C=50mA	100			
Collector-emitter saturation voltage	$V_{CE(sat)1}$	I_C= 10mA I_B= 0.25 mA	0.05		0.35	V
	$V_{CE(sat)2}$	I_C= 50mA I_B=1.25 mA	0.1		0.55	V
Base -emitter saturation voltage	$V_{BE(sat)1}$	I_C= 10mA I_B=-0.25 mA	0.6		0.85	V
	$V_{BE(sat)2}$	I_C= 50mA I_B= 1.25 mA	0.7		1.05	V
Base-emitter voltage	V_{BE}	V_{CE}=5V,I_C=2mA	0.55		0.75	V
Collector output capacitance	C_{ob}	V_{CB}=10V,I_E=0,f=1MHz		1.7		pF
Noise Figure	NF	V_{CE}=5V,I_C=200μA, f=1kHz,BW=200Hz,RS=2kΩ			6	dB
Gain-Bandwidth Product	f_T	V_{CE}= 5 V, I_C=10mA,f =100 MHz	100	250		MHz