



JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

SOT-23 Plastic-Encapsulate Transistors

BCX70J,K TRANSISTOR (NPN)

FEATURES

- Low current
- Low voltage

MARKING : BCX70J: AJ, BCX70K:AK

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

SOT-23



1. BASE
2. EMITTER
3. COLLECTOR

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

Typical Characteristics

BCX70J,K



