

BCX70 SERIES
SURFACE MOUNT
NPN SILICON TRANSISTOR



SOT-23 CASE



www.centralemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR BCX70 Series types are NPN Silicon Transistors manufactured by the epitaxial planar process, epoxy molded in a surface mount package, designed for general purpose switching and amplifier applications.

MARKING CODES: BCX70G: AG
BCX70H: AH
BCX70J: AJ
BCX70K: AK

MAXIMUM RATINGS: ($T_A=25^{\circ}\text{C}$)

Collector-Base Voltage
Collector-Emitter Voltage
Emitter-Base Voltage
Continuous Collector Current
Peak Collector Current
Peak Base Current
Power Dissipation
Operating and Storage Junction Temperature
Thermal Resistance

SYMBOL

V_{CB0} 45
 V_{CEO} 45
 V_{EBO} 5.0
 I_C 100
 I_{CM} 200
 I_{BM} 200
 P_D 350
 T_J, T_{stg} -65 to +150
 θ_{JA} 357

UNITS

V
V
V
mA
mA
mA
mW
 $^{\circ}\text{C}$
 $^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{CBO}	$V_{CB}=45\text{V}$			20	nA
I_{CBO}	$V_{CB}=45\text{V}, T_A=150^{\circ}\text{C}$			20	μA
I_{EBO}	$V_{EB}=4.0\text{V}$			20	nA
BV_{CBO}	$I_C=10\mu\text{A}$	45			V
BV_{CEO}	$I_C=10\text{mA}$	45			V
BV_{EBO}	$I_E=1.0\mu\text{A}$	5.0			V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=250\mu\text{A}$	0.05		0.35	V
$V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=1.25\text{mA}$	0.10		0.55	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=250\mu\text{A}$	0.60		0.85	V
$V_{BE(SAT)}$	$I_C=50\text{mA}, I_B=1.25\text{mA}$	0.70		1.05	V
$V_{BE(ON)}$	$V_{CE}=5.0\text{V}, I_C=2.0\text{mA}$	0.55		0.75	V
f_T	$V_{CE}=5.0\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	100	250		MHz
C_c	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		1.7		pF
C_e	$V_{EB}=0.5\text{V}, I_C=0, f=1.0\text{MHz}$		11		pF
NF	$V_{CE}=5.0\text{V}, I_C=200\mu\text{A}, R_S=2.0\text{k}\Omega, f=1.0\text{kHz}, BW=200\text{Hz}$			6.0	dB

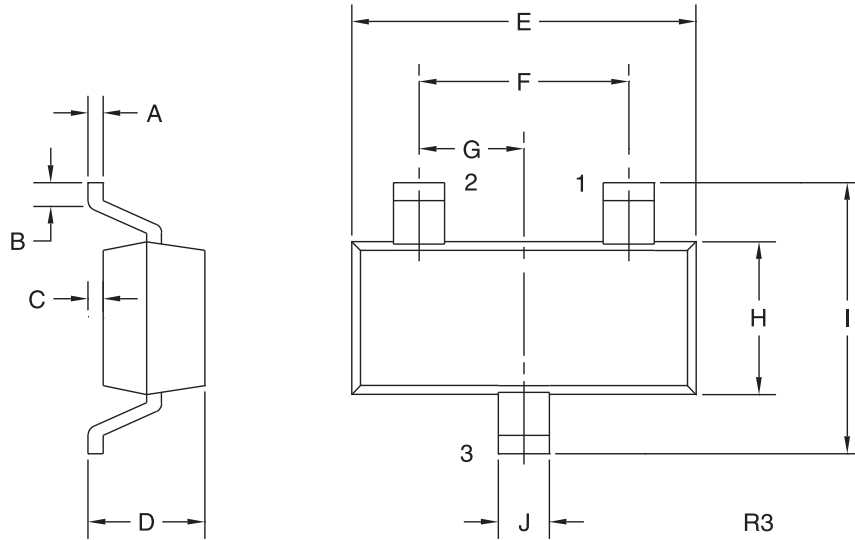
		<u>BCX70G</u>		<u>BCX70H</u>		<u>BCX70J</u>		<u>BCX70K</u>	
		MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
h_{FE}	$V_{CE}=5.0\text{V}, I_C=10\mu\text{A}$			40		30		100	
h_{FE}	$V_{CE}=5.0\text{V}, I_C=2.0\text{mA}$	120	220	180	310	250	460	380	630
h_{FE}	$V_{CE}=1.0\text{V}, I_C=50\text{mA}$	50		70		90		100	

R2 (20-November 2009)

BCX70 SERIES
SURFACE MOUNT
NPN SILICON TRANSISTOR



SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:
1) BASE
2) EMITTER
3) COLLECTOR

DEVICE	MARKING CODE
BCX70G	AG
BCX70H	AH
BCX70J	AJ
BCX70K	AK

SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

R2 (20-November 2009)