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[Fairchild Semiconductor](#)  
[BCX70G](#)

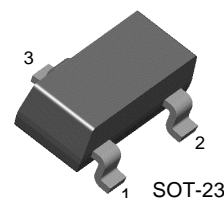
For any questions, you can email us directly:

[sales@integrated-circuit.com](mailto:sales@integrated-circuit.com)



## BCX70G

### General Purpose Transistor



1. Base 2. Emitter 3. Collector

### NPN Epitaxial Silicon Transistor

#### Absolute Maximum Ratings $T_a=25^\circ\text{C}$ unless otherwise noted

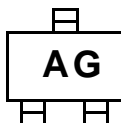
Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	45	V
$V_{CEO}$	Collector-Emitter Voltage	45	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current	200	mA
$P_C$	Collector Power Dissipation	350	mW
$T_{STG}$	Storage Temperature	-55 ~ 150	$^\circ\text{C}$

• Refer to KST5088 for graphs

#### Electrical Characteristics $T_a=25^\circ\text{C}$ unless otherwise noted

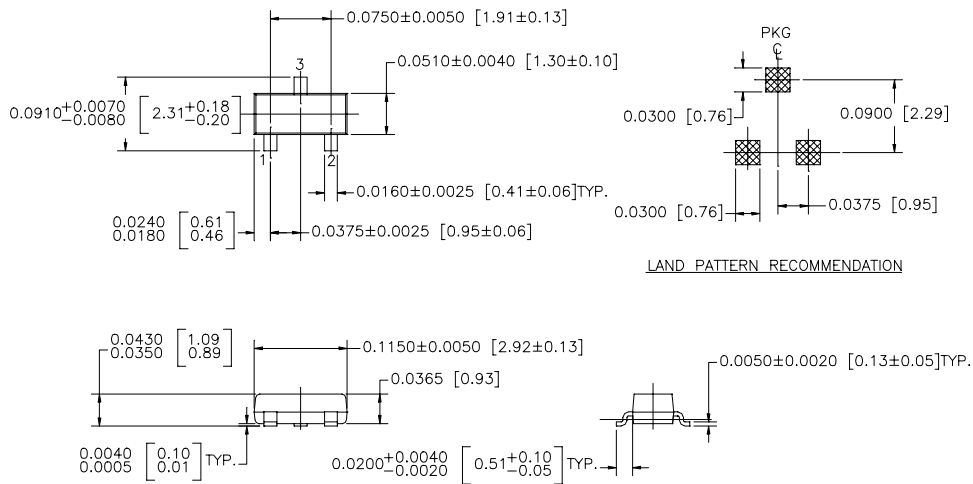
Symbol	Parameter	Test Condition	Min.	Max.	Units
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C=2\text{mA}, I_B=0$	45		V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E=1\mu\text{A}, I_C=0$	5		V
$I_{CES}$	Collector Cut-off Current	$V_{CE}=32\text{V}, V_{BE}=0$		20	nA
$I_{EBO}$	Emitter Cut-off Current	$V_{EB}=4\text{V}, I_C=0$		20	nA
$h_{FE}$	DC Current Gain	$V_{CE}=5\text{V}, I_C=2\text{mA}$ $V_{CE}=1\text{V}, I_C=50\text{mA}$	120 60	220	
$V_{CE}(\text{sat})$	Collector-Emitter Saturation Voltage	$I_C=10\text{mA}, I_B=0.25\text{mA}$ $I_C=50\text{mA}, I_B=1.25\text{mA}$		0.35 0.55	V
$V_{BE}(\text{sat})$	Base-Emitter Saturation Voltage	$I_C=10\text{mA}, I_B=0.25\text{mA}$ $I_C=50\text{mA}, I_B=1.25\text{mA}$	0.6 0.7	0.85 1.05	V
$V_{BE}(\text{on})$	Base-Emitter On Voltage	$I_C=2\text{mA}, V_{CE}=5\text{V}$	0.55	0.75	V
$f_T$	Current Gain Bandwidth Product	$V_{CE}=5\text{V}, I_C=10\text{mA}$	125		MHz
$C_{ob}$	Output Capacitance	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		4.5	pF
NF	Noise Figure	$I_C=0.2\text{mA}, V_{CE}=5\text{V}$ $f=1\text{KHz}, R_S=2\text{K}\Omega$		6	dB
$t_{ON}$	Turn On Time	$I_C=10\text{mA}, I_{B1}=1\text{mA}$		150	
$t_{OFF}$	Turn Off Time	$I_{B2}=1\text{mA}, V_{BB}=3.6\text{V}$ $R_L=990\Omega, R_1=R_2=5\text{K}\Omega$		800	ns

Marking



**Package Dimensions**

**SOT-23**



LAND PATTERN RECOMMENDATION

SOT 23, 3 LEADS LOW PROFILE

CONTROLLING DIMENSION IS INCH  
VALUES IN [ ] ARE MILLIMETERS

NOTE : UNLESS OTHERWISE SPECIFIED

1. STANDARD LEAD FINISH 150 MICROINCHES / 3.81 MICROMETERS  
MINIMUM TIN / LEAD (SOLDER) ON ALLOY 42
2. REFERENCE JEDEC REGISTRATION TO-236, VARIATION AB, ISSUE G, DATED JUL 1993

Dimensions in Millimeters

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Bottomless™	FAST®	LittleFET™	Power247™	SuperSOT™-3
CoolFET™	FASTr™	MicroFET™	PowerTrench®	SuperSOT™-6
CROSSVOLT™	FRFET™	MicroPak™	QFET™	SuperSOT™-8
DOME™	GlobalOptoisolator™	MICROWIRE™	QS™	SyncFET™
EcoSPARK™	GTO™	MSX™	QT Optoelectronics™	TinyLogic™
E <sup>2</sup> C MOS™	HiSeC™	MSXPro™	Quiet Series™	TruTranslation™
EnSigna™	I <sup>2</sup> C™	OCX™	RapidConfigure™	UHC™
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The Power Franchise™	OPTOPLANAR™	SMART START™	SILENT SWITCHER®	VCX™
Programmable Active Droop™				

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2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

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