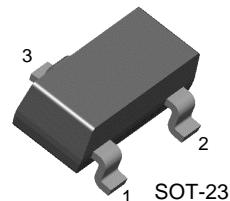


## BCX70K

### 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

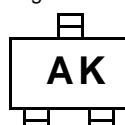
Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	45	V
$V_{CEO}$	Collector-Emitter Voltage	45	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current	200	mA
$P_C$	Collector Power Dissipation	350	mW
$T_{STG}$	Storage Temperature	-55 ~ 150	°C

• Refer to KST3904 for graphs

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

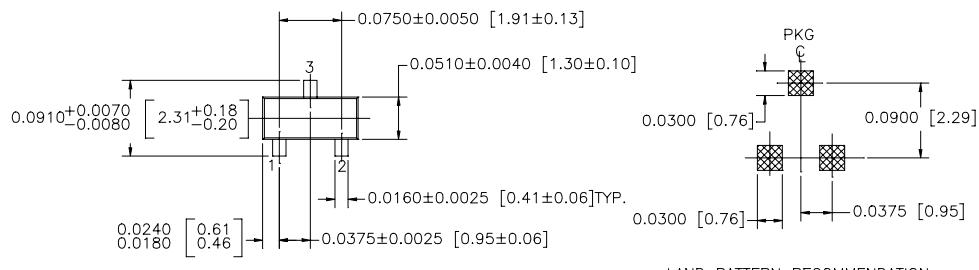
Symbol	Parameter	Test Condition	Min.	Max.	Units
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C=2.0\text{mA}$ , $I_B=0$	45		V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E=1.0\mu\text{A}$ , $I_C=0$	5		V
$I_{CES}$	Collector Cut-off Current	$V_{CE}=32\text{V}$ , $V_{BE}=0$		20	nA
$I_{EBO}$	Emitter Cut-off Current	$V_{EB}=4\text{V}$ , $I_C=0$		20	nA
$h_{FE}$	DC Current Gain	$V_{CE}=5\text{V}$ , $I_C=10\mu\text{A}$ $V_{CE}=5\text{V}$ , $I_C=2.0\text{mA}$ $V_{CE}=1\text{V}$ , $I_C=50\text{mA}$	100 380 100	630	
$V_{CE}(\text{sat})$	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	$I_C=2.0\text{mA}$ , $V_{CE}=5\text{V}$	0.55	0.75	V
$f_T$	Current Gain Bandwidth Product	$I_C=10\text{mA}$ , $V_{CE}=5\text{V}$ , $f=100\text{MHz}$	125		MHz
$C_{ob}$	Output Capacitance	$V_{CB}=10\text{V}$ , $I_E=0$ , $f=1\text{MHz}$		4.5	pF
NF	Noise Figure	$V_{CE}=5\text{V}$ , $I_C=0.2\text{mA}$ $R_S=2\text{K}\Omega$ , $f=1\text{kHz}$		6	dB
$t_{ON}$	Turn On Time	$I_C=10\text{mA}$ , $I_{B1}=1.0\text{mA}$		150	ns
$t_{OFF}$	Turn Off Time	$V_{BB}=3.6\text{V}$ , $I_{B2}=1.0\text{mA}$ $R_1=R_2=5\text{K}\Omega$ , $R_L=990\Omega$		800	ns

#### Marking

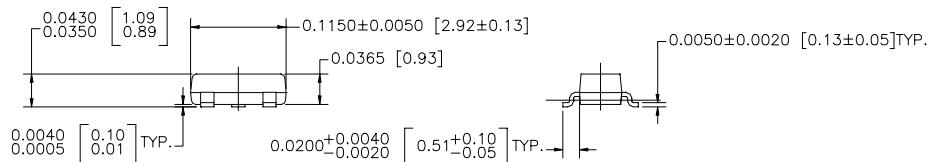


## Package Dimensions

### SOT-23



LAND PATTERN RECOMMENDATION



CONTROLLING DIMENSION IS INCH  
VALUES IN [ ] ARE MILLIMETERS

SOT 23, 3 LEADS LOW PROFILE

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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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> CMOS™	HiSeC™	MSXPro™	Quiet Series™	TruTranslation™
EnSigna™	I <sup>2</sup> C™	OCX™	RapidConfigure™	UHC™
Across the board. Around the world.™		OCXPro™	RapidConnect™	UltraFET®
The Power Franchise™		OPTOLOGIC®	SILENT SWITCHER®	VCX™
Programmable Active Droop™		OPTOPLANAR™	SMART START™	

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