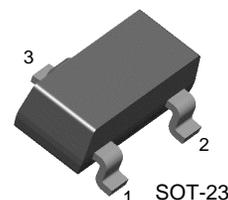


BCX70H

General Purpose Transistor



SOT-23
1. Base 2. Emitter 3. Collector

NPN Epitaxial Silicon Transistor

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

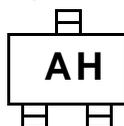
Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	45	V
V_{CEO}	Collector-Emitter Voltage	45	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	200	mA
P_C	Collector Power Dissipation	350	mW
T_{STG}	Storage Temperature	-55 ~ 150	$^\circ\text{C}$

• Refer to KST3904 for graphs

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

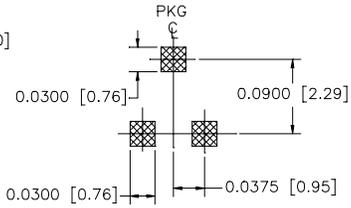
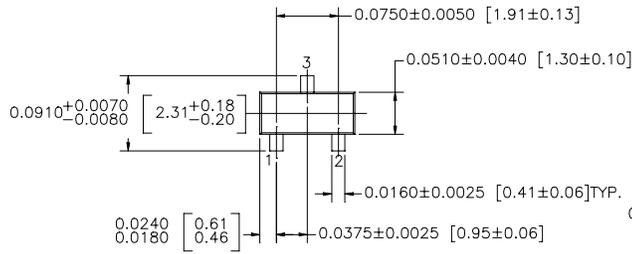
Symbol	Parameter	Test Condition	Min.	Max.	Units
BV_{CEO}	Collector-Emitter Breakdown Voltage	$I_C=2.0\text{mA}, I_B=0$	45		V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E=1.0\mu\text{A}, I_C=0$	5		V
I_{CES}	Collector Cut-off Current	$V_{CE}=32\text{V}, V_{BE}=0$		20	nA
I_{EBO}	Emitter Cut-off Current	$V_{EB}=4\text{V}, I_C=0$		20	nA
h_{FE}	DC Current Gain	$V_{CE}=5\text{V}, I_C=10\mu\text{A}$ $V_{CE}=5\text{V}, I_C=2.0\text{mA}$ $V_{CE}=1\text{V}, I_C=50\text{mA}$	20 180 70	310	
$V_{CE}(\text{sat})$	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
$V_{BE}(\text{sat})$	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
$V_{BE}(\text{on})$	Base-Emitter On Voltage	$V_{CE}=5\text{V}, I_C=2.0\text{mA}$	0.55	0.75	V
f_T	Current Gain Bandwidth Product	$V_{CE}=5\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	125		MHz
C_{ob}	Output Capacitance	$V_{CE}=10\text{V}, I_E=0, f=1\text{MHz}$		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

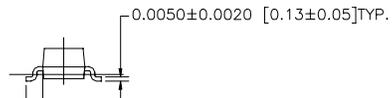
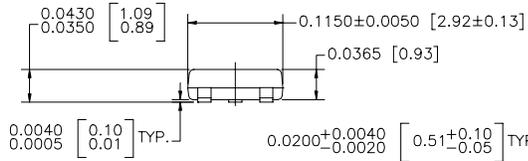


Package Dimensions

SOT-23



LAND PATTERN RECOMMENDATION



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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CoolFET [™]	FAST ^r [™]	MicroFET [™]	PowerTrench [®]	SuperSOT [™] -6
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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.

PRODUCT STATUS DEFINITIONS

Definition of Terms

Datasheet Identification	Product Status	Definition
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