

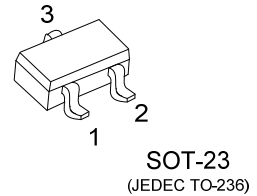


BCX70

Preliminary

NPN EPITAXIAL SILICON TRANSISTOR

GENERAL PURPOSE TRANSISTOR



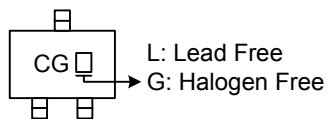
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
BCX70L-AE3-R	BCX70G-AE3-R	SOT-23	B	E	C	Tape Reel

Note: Pin Assignment: B: Base E: Emitter C: Collector

BCX70G-AE3-R	(1)Packing Type (2)Package Type (3)Green Package	(1) R: Tape Reel (2) AE3: SOT-23 (3) G: Halogen Free and Lead Free, L: Lead Free
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MARKING



■ **ABSOLUTE MAXIMUM RATINGS** ($T_A=25^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V_{CBO}	45	V
Collector-Emitter Voltage	V_{CEO}	45	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	200	mA
Collector Power Dissipation	P_C	350	mW
Storage Temperature	T_{STG}	-40 ~ +150	$^{\circ}\text{C}$

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ **THERMAL DATA**

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ_{JA}	325	$^{\circ}\text{C/W}$

■ **ELECTRICAL CHARACTERISTICS** ($T_A=25^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C=2.0\text{mA}$, $I_B=0$	45			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E=1.0\mu\text{F}$, $I_C=0$	5			V
Collector Cut-off Current	I_{CES}	$V_{CE}=32\text{V}$, $V_{BE}=0$			20	nA
Emitter Cut-off Current	I_{EBO}	$V_{EB}=4\text{V}$, $I_C=0$			20	nA
DC Current Gain	h_{FE}	$V_{CE}=5\text{V}$, $I_C=10\mu\text{A}$	100			
		$V_{CE}=5\text{V}$, $I_C=2.0\text{mA}$	380		630	
		$V_{CE}=1\text{V}$, $I_C=50\text{mA}$	100			
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=10\text{mA}$, $I_B=0.25\text{mA}$			0.35	V
		$I_C=50\text{mA}$, $I_B=1.25\text{mA}$			0.55	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=10\text{mA}$, $I_B=0.25\text{mA}$	0.6		0.85	V
		$I_C=50\text{mA}$, $I_B=1.25\text{mA}$	0.7		1.05	V
Base-Emitter On Voltage	$V_{BE(on)}$	$I_C=2.0\text{mA}$, $V_{CE}=5\text{V}$	0.55		0.75	V
Current Gain Bandwidth Product	f_T	$I_C=10\text{mA}$, $V_{CE}=5\text{V}$, $f=100\text{MHz}$	125			MHz
Output Capacitance	C_{ob}	$V_{CB}=10\text{V}$, $I_E=0$, $f=1\text{MHz}$			4.5	pF
Noise Figure	NF	$V_{CE}=5\text{V}$, $I_C=0.2\text{mA}$, $R_S=2\text{K}\Omega$ $f=1\text{KHz}$			6	dB
Turn On Time	t_{ON}	$I_C=10\text{mA}$, $I_{B1}=1.0\text{mA}$			150	ns
Turn Off Time	t_{OFF}	$V_{BB}=3.6\text{V}$, $I_{B2}=1.0\text{mA}$, $R_1=R_2=5\text{K}\Omega$, $R_L=990\Omega$			800	ns

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