

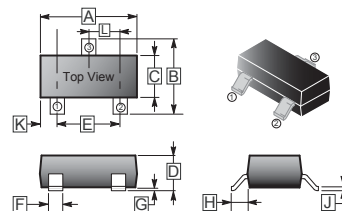
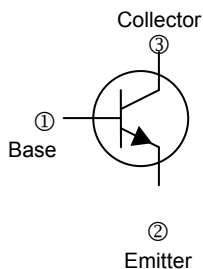
RoHS Compliant Product  
A suffix of "-C" specifies halogen & lead-free

**SOT-23**

**FEATURES**

- Low Current
- Low Voltage

**MARKING : AK**



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.70	3.04	G	-	0.18
B	2.10	2.80	H	0.40	0.60
C	1.20	1.60	J	0.08	0.20
D	0.89	1.40	K	0.6	REF.
E	1.78	2.04	L	0.85	1.15
F	0.30	0.50			

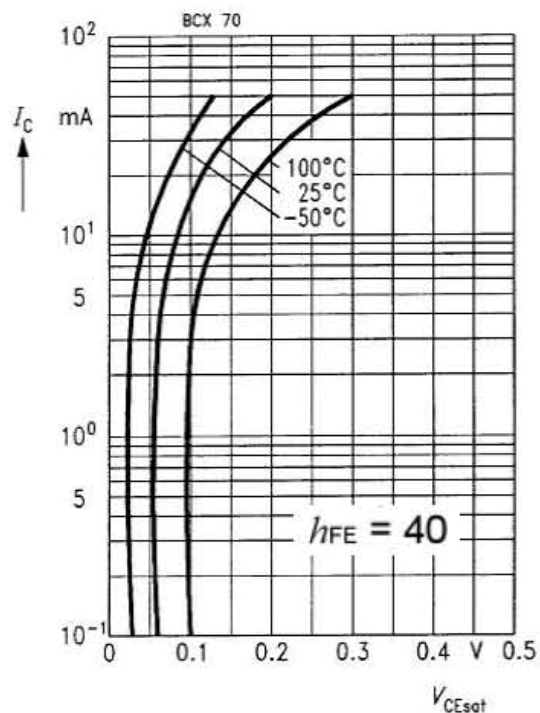
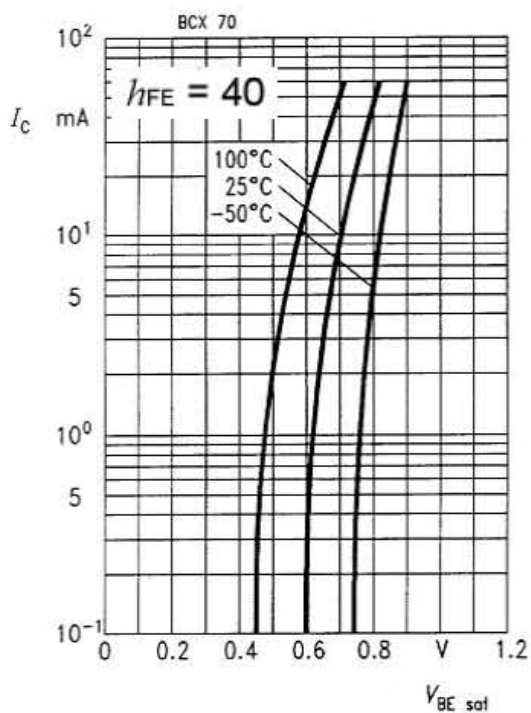
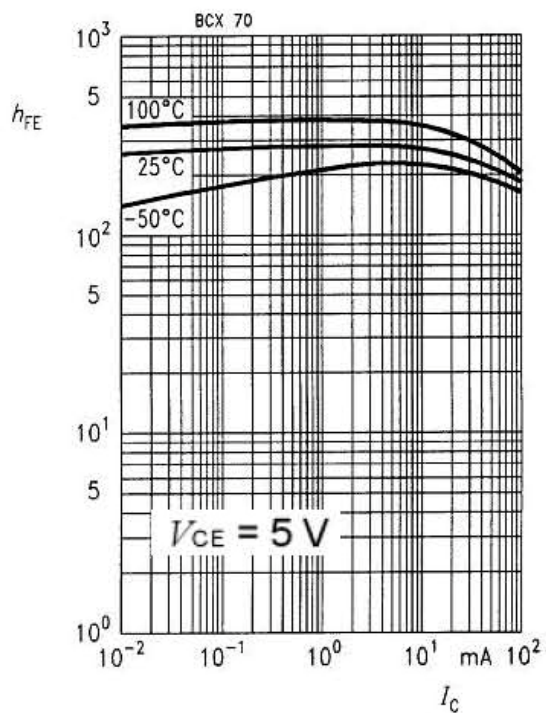
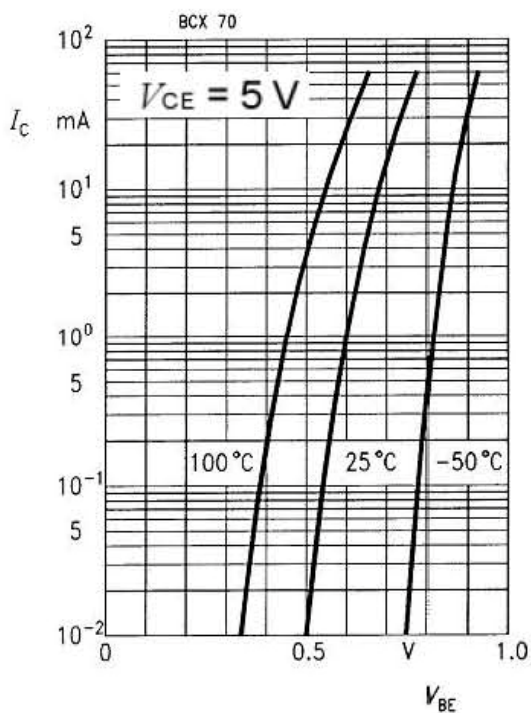
**MAXIMUM RATINGS** (at  $T_a = 25^\circ\text{C}$  unless otherwise specified)

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 - Continuous	$I_C$	200	mA
Collector Power Dissipation	$P_C$	250	mW
Junction, Storage Temperature	$T_J, T_{STG}$	150, -55~150	$^\circ\text{C}$

**ELECTRICAL CHARACTERISTICS** (at  $T_a = 25^\circ\text{C}$  unless otherwise specified)

PARAMETER	TEST CONDITIONS	SYMBOL	MIN.	TYP.	MAX.	UNIT
Collector-Base Breakdown Voltage	$I_C=10\mu\text{A}, I_E=0$	$V_{(BR)CBO}$	45			V
Collector-Emitter Breakdown Voltage	$I_C=2\text{mA}, I_B=0$	$V_{(BR)CEO}$	45			V
Emitter-Base Breakdown Voltage	$I_E=1\mu\text{A}, I_C=0$	$V_{(BR)EBO}$	5			V
Collector Cut-Off Current	$V_{CE}=45\text{V}, V_{BE}=0$	$I_{CES}$			20	nA
DC Current Gain	$V_{CE}=5\text{V}, I_C=10\mu\text{A}$	$h_{FE1}$	100			
	$V_{CE}=5\text{V}, I_C=2\text{mA}$	$h_{FE2}$	380		630	
	$V_{CE}=1\text{V}, I_C=50\text{mA}$	$h_{FE3}$	100			
Collector-Emitter Saturation Voltage	$I_C=10\text{mA}, I_B=0.25\text{mA}$	$V_{CE(sat)1}$	0.05		0.35	V
	$I_C=50\text{mA}, I_B=1.25\text{mA}$	$V_{CE(sat)2}$	0.1		0.55	V
Base-Emitter Saturation Voltage	$I_C=10\text{mA}, I_B=-0.25\text{mA}$	$V_{BE(sat)1}$	0.6		0.85	V
	$I_C=50\text{mA}, I_B=1.25\text{mA}$	$V_{BE(sat)2}$	0.7		1.05	V
Base-Emitter Voltage	$V_{CE}=5\text{V}, I_C=2\text{mA}$	$V_{BE}$	0.55		0.75	V
Collector Output Capacitance	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$	$C_{OB}$		1.7		pF
Noise Figure	$V_{CE}=5\text{V}, I_C=200\mu\text{A}, f=1\text{KHZ},$ $BW=200\text{HZ}, RS=2\text{K}\Omega$	NF			6	dB
Gain-Bandwidth Product	$V_{CE}=5\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	$F_T$	100	250		MHz

**CHARACTERISTIC CURVES**



**CHARACTERISTIC CURVES**

