

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

## FEATURES

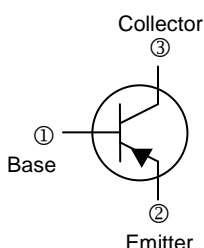
- Low current
- Low voltage

## MARKING :

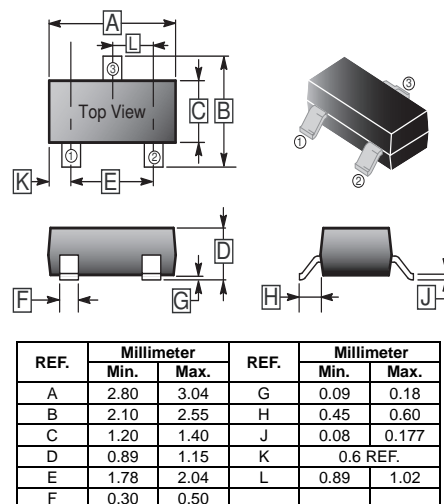
**BB**

## PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-23	3K	7 inch



## SOT-23



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

Parameter	Symbol	Ratings	Unit
Collector to Base Voltage	$V_{CB0}$	-32	V
Collector to Emitter Voltage	$V_{CEO}$	-32	V
Emitter to Base Voltage	$V_{EBO}$	-5	V
Collector Current - Continuous	$I_C$	-100	mA
Collector Power Dissipation	$P_C$	0.25	W
Junction, Storage Temperature	$T_J, T_{STG}$	150, -55~150	$^\circ\text{C}$

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Collector to Base Breakdown Voltage	$V_{(BR)CBO}$	-32	-	-	V	$I_C = -10\mu\text{A}, I_E = 0$
Collector to Emitter Breakdown Voltage	$V_{(BR)CEO}$	-32	-	-	V	$I_C = -1\text{mA}, I_B = 0$
Emitter to Base Breakdown Voltage	$V_{(BR)EBO}$	-5	-	-	V	$I_E = -10\mu\text{A}, I_C = 0$
Collector Cut-Off Current	$I_{CBO}$	-	-	-0.02	$\mu\text{A}$	$V_{CB} = -32\text{V}, I_E = 0$
Emitter Cut-Off Current	$I_{EBO}$	-	-	-0.02	$\mu\text{A}$	$V_{EB} = -4\text{V}, I_C = 0$
DC Current Gain	$h_{FE(1)}$	30	-	-		$V_{CE} = -5\text{V}, I_C = -10\mu\text{A}$
	$h_{FE(2)}$	180	-	310		$V_{CE} = -5\text{V}, I_C = -2\text{mA}$
	$h_{FE(3)}$	80	-	-		$V_{CE} = -1\text{V}, I_C = -50\text{mA}$
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	-0.06	-	-0.25	V	$I_C = -10\text{mA}, I_B = -0.25\text{mA}$
		-0.12	-	-0.55	V	$I_C = -50\text{mA}, I_B = -1.25\text{mA}$
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	-0.6	-	-0.85	V	$I_C = -10\text{mA}, I_B = -0.25\text{mA}$
		-0.68	-	-1.05	V	$I_C = -50\text{mA}, I_B = -1.25\text{mA}$
Base to Emitter Voltage	$V_{BE}$	-	-0.55	-	V	$V_{CE} = -5\text{V}, I_C = -10\mu\text{A}$
		-0.6	-	-0.75	V	$V_{CE} = -5\text{V}, I_C = -2\text{mA}$
		-	-0.72	-	V	$V_{CE} = -1\text{V}, I_C = -50\text{mA}$
Transition Frequency	$f_T$	100	-	-	MHz	$V_{CE} = -5\text{V}, I_C = -10\text{mA}, f = 100\text{MHz}$
Collector capacitance	$C_C$	-	4.5	-	pF	$V_{CB} = -10\text{V}, I_E = 0, f = 1\text{MHz}$
Emitter capacitance	$C_E$	-	11	-	pF	$V_{EB} = -0.5\text{V}, I_C = 0, f = 1\text{MHz}$

**CHARACTERISTIC CURVES**

