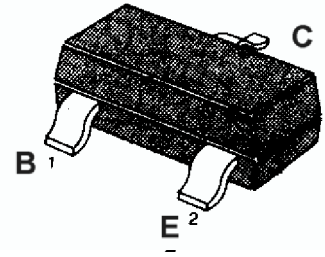


**APPLICATION:** General purpose applications.

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

PARAMETER	SYMBOL	RATING	UNIT
Collector-base voltage	$V_{CB0}$	-30	V
Collector-emitter voltage	$V_{CE0}$	-30	V
Emitter-base voltage	$V_{EB0}$	-5	V
Collector current	$I_C$	-100	mA
Collector Power Dissipation	$P_C$	310	mW
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	- 55~150	$^\circ\text{C}$

**SOT-23**


1.Base 2 .Emitter 3 .Collector

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

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
DC Current Gain	$h_{FE}$	110		800		$V_{CE} = -5\text{V}$ , $I_C = -2\text{mA}$
Collector Cut-off Current	$I_{CB0}$			-0.015	$\mu\text{A}$	$V_{CB} = -30\text{V}$ , $I_E = 0$
Emitter Cut-off Current	$I_{EB0}$			-0.015	$\mu\text{A}$	$V_{EB} = -4\text{V}$ , $I_C = 0$
Collector-Base Breakdown Voltage	$BV_{CB0}$	-30			V	$I_C = -0.1\text{mA}$ , $I_E = 0$
Collector-Emitter Breakdown Voltage	$BV_{CE0}$	-30			V	$I_C = -1\text{mA}$ , $I_B = 0$
Emitter-Base Breakdown Voltage	$BV_{EB0}$	-5			V	$I_E = -0.1\text{mA}$ , $I_C = 0$
Base-Emitter Voltage	$V_{BE}$			-0.75	V	$V_{CE} = -5\text{V}$ , $I_C = -2\text{mA}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			-0.3	V	$I_C = -100\text{mA}$ , $I_B = -0.5\text{mA}$
				-0.65		$I_C = -100\text{mA}$ , $I_B = -5\text{mA}$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		-0.7		V	$I_C = -100\text{mA}$ , $I_B = -0.5\text{mA}$
			-0.9			$I_C = -100\text{mA}$ , $I_B = -5\text{mA}$
Gain bandwidth product	$f_T$		300		MHz	$I_C = -10\text{mA}$ , $V_{CE} = -5\text{V}$ , $f = 100\text{MHz}$
Common Base Output Capacitance	$C_{ob}$			6	PF	$V_{CB} = -10\text{V}$ , $I_E = 0$ , $f = 1\text{MHz}$
Noise Figure	$N_F$		1.2	4	dB	$V_{CE} = -5\text{V}$ , $I_C = -0.2\text{mA}$ , $f = 1\text{kHz}$ , $R_g = 2\text{k}\Omega$

 **$h_{FE}$  Classification And Marking**

Print Mark	9BA	9BB	9BC
Classification	A	B	C
$h_{FE}$	110~220	200~450	420~800