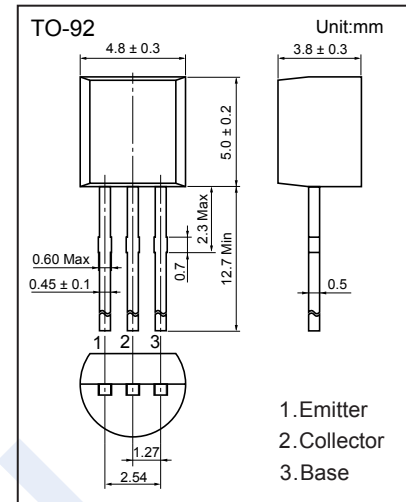


## NPN Transistors

## 2SC1923

## ■ Features

- Collector Current Capability  $I_c=20\text{mA}$
- Collector Emitter Voltage  $V_{CE0}=30\text{V}$
- General Purpose Switching Application

■ Absolute Maximum Ratings  $T_a = 25^\circ\text{C}$ 

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	$V_{CB0}$	40	V
Collector - Emitter Voltage	$V_{CE0}$	30	
Emitter - Base Voltage	$V_{EB0}$	4	
Collector Current - Continuous	$I_c$	20	mA
Collector Power Dissipation	$P_c$	100	mW
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	1250	$^\circ\text{C}/\text{W}$
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55 to 150	

■ Electrical Characteristics  $T_a = 25^\circ\text{C}$ 

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	$V_{CB0}$	$I_c = 100 \mu\text{A}$ , $I_E = 0$	40			V
Collector- emitter breakdown voltage	$V_{CE0}$	$I_c = 1 \text{mA}$ , $I_B = 0$	30			
Emitter - base breakdown voltage	$V_{EB0}$	$I_E = 100 \mu\text{A}$ , $I_c = 0$	4			
Collector-base cut-off current	$I_{CB0}$	$V_{CB} = 18 \text{V}$ , $I_E = 0$			0.5	$\mu\text{A}$
Emitter cut-off current	$I_{EB0}$	$V_{EB} = 4 \text{V}$ , $I_c = 0$			0.5	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_c = 20 \text{mA}$ , $I_B = 2 \text{mA}$			0.6	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_c = 20 \text{mA}$ , $I_B = 2 \text{mA}$			1.2	
DC current gain	$h_{FE}$	$V_{CE} = 6 \text{V}$ , $I_c = 1 \text{mA}$	40		200	
Transition frequency	$f_T$	$V_{CE} = 6 \text{V}$ , $I_c = 1 \text{mA}$		550		MHz

■ Classification of  $h_{FE}$ 

Type	2SC1923-R	2SC1923-O	2SC1923-Y
Range	40-80	70-140	100-200

# NPN Transistors

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### Typical Characteristics

