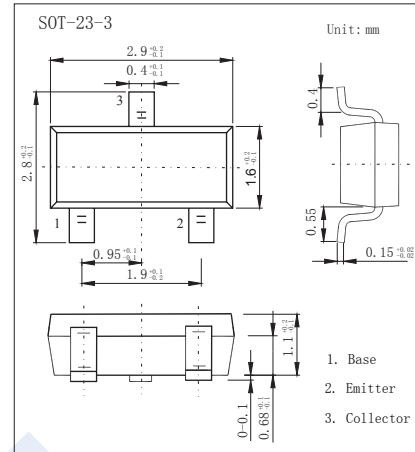


## NPN Transistors

## 2SC2714-HF

## ■ Features

- Collector Current Capability  $I_c=20\text{mA}$
- Collector Emitter Voltage  $V_{CE0}=30\text{V}$
- Pb-Free Package May be Available. The G-Suffix Denotes a Pb-Free Lead Finish

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

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	$V_{CBO}$	40	V
Collector - Emitter Voltage	$V_{CEO}$	30	
Emitter - Base Voltage	$V_{EBO}$	4	
Collector Current - Continuous	$I_c$	20	mA
Collector Power Dissipation	$P_c$	100	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	1000	$^\circ\text{C}/\text{W}$
Junction Temperature	$T_J$	125	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55 to 125	

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	$V_{CBO}$	$I_c = 100 \mu\text{A}, I_E = 0$	40			V
Collector- emitter breakdown voltage	$V_{CEO}$	$I_c = 1 \text{mA}, I_B = 0$	30			
Emitter - base breakdown voltage	$V_{EBO}$	$I_E = 100 \mu\text{A}, I_c = 0$	4			
Collector-base cut-off current	$I_{CBO}$	$V_{CB} = 18 \text{V}, I_E = 0$			0.5	uA
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 4 \text{V}, I_c = 0$			0.5	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_c = 100 \text{mA}, I_B = 10 \text{mA}$			0.4	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_c = 100 \text{mA}, I_B = 10 \text{mA}$			1.2	
DC current gain	$h_{FE}$	$V_{CE} = 6 \text{V}, I_c = 1 \text{mA}$	40		200	
Noise Figure	NF	$V_{CE} = 6 \text{V}, I_E = -1 \text{mA}, f = 100 \text{MHz}$		2.5	5	dB
Reverse Transfer capacitance	$C_{re}$	$V_{CB} = 6 \text{V}, I_E = 0, f = 1 \text{MHz}$		0.7		pF
Transition frequency	$f_T$	$V_{CE} = 6 \text{V}, I_c = 1 \text{mA}$		550		MHz

■ Classification of  $h_{FE}$ 

Type	2SC2714-R-HF	2SC2714-O-HF	2SC2714-Y-HF
Range	40-80	70-140	100-200
Marking	QR <sub>F</sub>	QO <sub>F</sub>	QY <sub>F</sub>

# NPN Transistors

## 2SC2714-HF

■ Typical Characteristics

