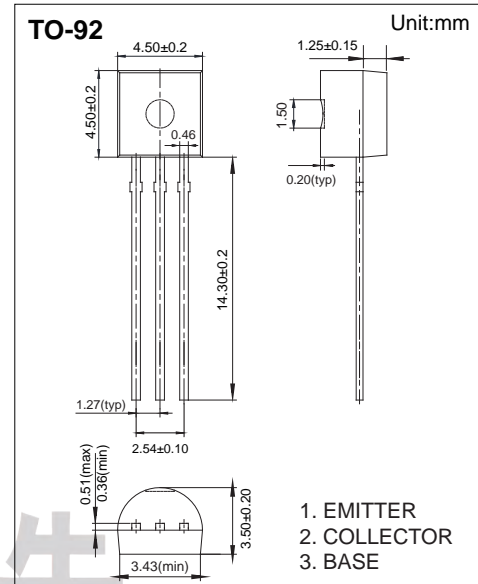


## NPN Transistors 2SC1815

### ■ Features

- Collector current:  $I_c=150\text{mA}$
- Collector base voltage:  $V_{CB0}=60\text{V}$



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

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	$V_{CB0}$	60	V
Collector - Emitter Voltage	$V_{CEO}$	50	
Emitter - Base Voltage	$V_{EBO}$	5	
Collector Current - Continuous	$I_c$	150	mA
Collector Power Dissipation	$P_c$	400	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	312	$^\circ\text{C}/\text{W}$
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-55 to 150	

# Transistor

## NPN Transistors 2SC1815

### ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collecto- base breakdown voltage	V <sub>CB0</sub>	I <sub>C</sub> = 100 μA, I <sub>E</sub> =0	60			V
Collector- emitter breakdown voltage	V <sub>CEO</sub>	I <sub>C</sub> = 0.1 mA, I <sub>B</sub> =0	50			
Emitter - base breakdown voltage	V <sub>EB0</sub>	I <sub>E</sub> = 100 μA, I <sub>C</sub> =0	5			
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> = 60 V, I <sub>E</sub> =0			0.1	μA
Collector cut-off current	I <sub>CEO</sub>	V <sub>CE</sub> = 50 V, I <sub>B</sub> =0			0.1	
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> = 5 V, I <sub>C</sub> =0			0.1	
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =100 mA, I <sub>B</sub> = 10mA			0.25	V
Base - emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =100 mA, I <sub>B</sub> = 10mA			1	
DC current gain	h <sub>FE</sub>	V <sub>CE</sub> = 6V, I <sub>C</sub> = 2mA	70		700	
Noise figure	NF	V <sub>CE</sub> =6V, I <sub>C</sub> =0.1mA f =1KHz, R <sub>G</sub> =10KΩ			10	dB
Collector Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=1MHz			3.5	pF
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> = 10V, I <sub>C</sub> =1mA, f=1MHz	80			MHz

### ■ Classification of hFE

Rank	O	Y	GR	BL
Range	70-140	120-240	200-400	350-700

# Transistor

## NPN Transistors 2SC1815

### Typical Characteristics

