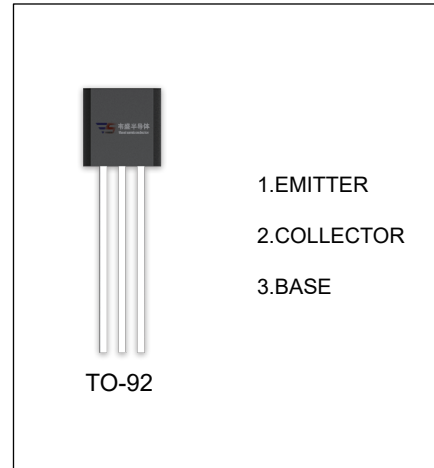


2SC1815 TRANSISTOR (NPN)

FEATURES

- Power dissipation



ORDERING INFORMATION

Part Number	Package	Packing Method	Pack Quantity
2SC1815	TO-92	Bulk	1000pcs/Bag
2SC1815-TA	TO-92	Tape	2000pcs/Box

MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V _{CB0}	Collector-Base Voltage	60	V
V _{CEO}	Collector-Emitter Voltage	50	V
V _{EBO}	Emitter-Base Voltage	5	V
I _C	Collector Current -Continuous	0.15	A
P _D	Collector Power Dissipation	400	mW
R _{θJA}	Thermal Resistance from Junction to Ambient	312	°C /W
T _J , T _{stg}	Operation Junction and Storage Temperature Range	-55 ~+ 150	°C

$T_a=25\text{ }^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$	60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=0.1\text{mA}, I_B=0$	50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB}=60\text{V}, I_E=0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0$			0.1	μA
DC current gain	h_{FE}	$V_{CE}=6\text{V}, I_C=2\text{mA}$	70		700	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=100\text{mA}, I_B=10\text{mA}$			0.25	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=100\text{mA}, I_B=10\text{mA}$			1	V
Transition frequency	f_T	$V_{CE}=10\text{V}, I_C=1\text{mA}$ $f=30\text{MHz}$	80			MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0$ $f=1\text{MHz}$			3.5	pF
Noise Figure	NF	$V_{CE}=6\text{V}, I_C=0.1\text{mA}$ $f=1\text{KHz}, R_G=10\text{K}$			10	dB

CLASSIFICATION OF h_{FE}

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

