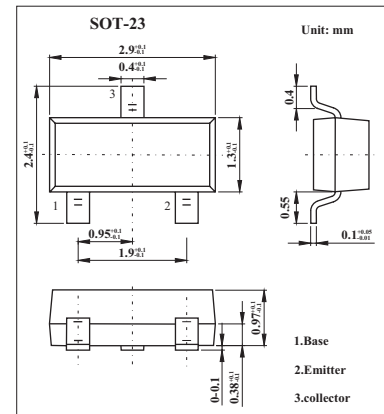


NPN Transistor

2SC1815



■ Features

- Power dissipation

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

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CB0}	60	V
Collector to Emitter Voltage	V_{CE0}	50	V
Emitter to Base Voltage	V_{EB0}	5	V
Collector Current to Continuous	I_c	150	mA
Collector Power Dissipation	P_c	200	mW
Junction Temperature	T_j	125	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to 125	$^\circ\text{C}$

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

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector to base breakdown voltage	V_{CB0}	$I_c = 100 \mu\text{A}, I_E = 0$	60			V
Collector to emitter breakdown voltage	V_{CE0}	$I_c = 0.1\text{mA}, I_B = 0$	50			V
Collector cut to off current	I_{CB0}	$V_{CB} = 60\text{V}, I_E = 0$			0.1	μA
Collector cut to off current	I_{CE0}	$V_{CE} = 50\text{V}, I_B = 0$			0.1	μA
Emitter cut to off current	I_{EB0}	$V_{EB} = 5\text{V}, I_c = 0$			0.1	μA
DC current gain	h_{FE}	$V_{CE} = 6\text{V}, I_c = 2\text{mA}$	130		400	
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_c = 100\text{mA}, I_B = 10\text{mA}$			0.25	V
Base to 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

■ hFE Classification

Marking	HF	
	L	H
hFE	130~200	200~400

2SC1815

■ Typical Characteristics

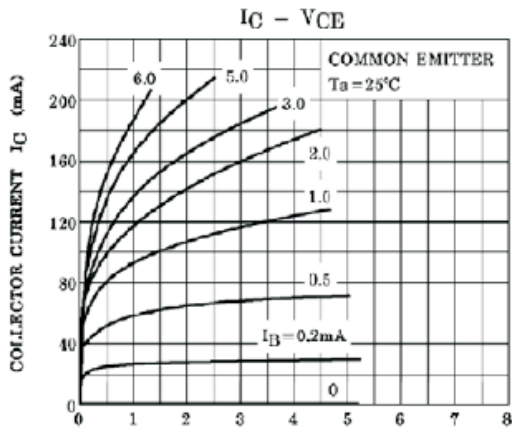


Fig.1 Collector Emitter Voltage

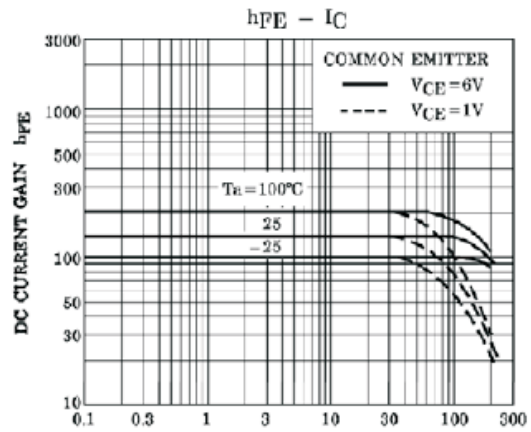


Fig.2 Collector Current

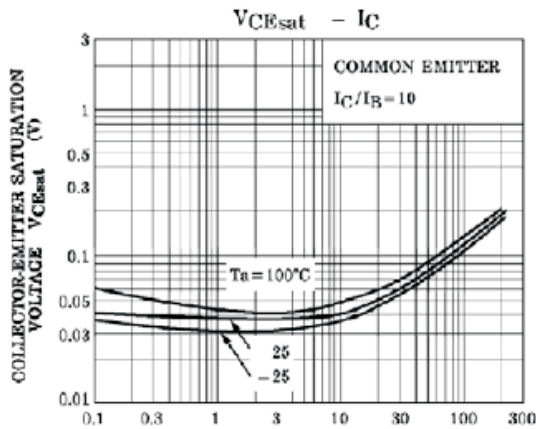


Fig.3 Collector Current

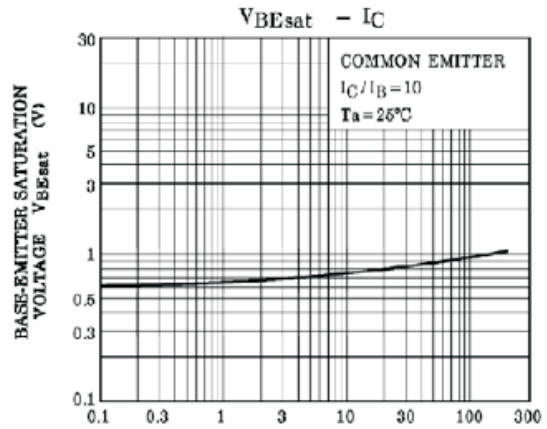


Fig.4 Collector Current

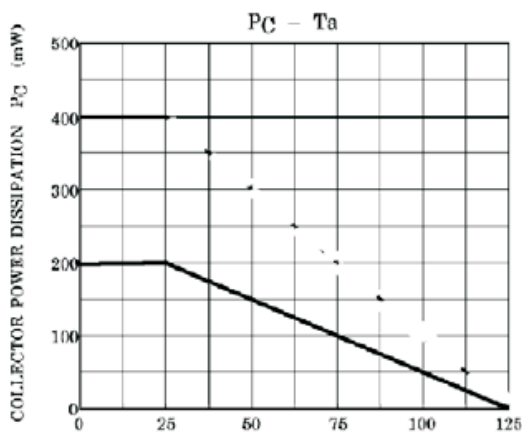


Fig.5 Ambient Temperature

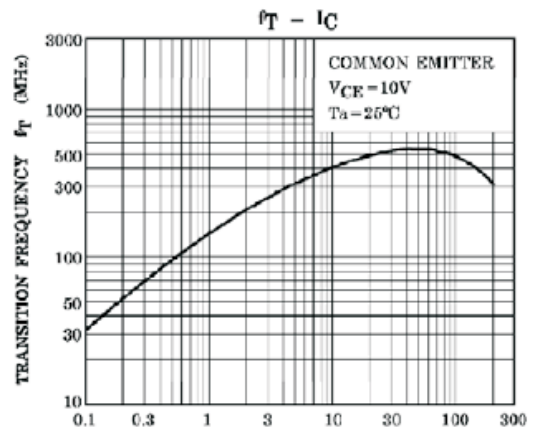


Fig.6 Emitter Current