

SOT-23 Plastic-Encapsulate Transistors**C1815 TRANSISTOR (NPN)****FEATURES****Power dissipation****MARKING : C1815=HF****SOT-23**

1. BASE
2. Emitter
3. Collector

MAXIMUM RATINGS ($T_A=25^\circ\text{C}$ unless otherwise noted)

Symbol Para	meter	Value	Units
V_{CBO}	Collector-Base Voltage	-60	V
V_{CEO}	Collector-Emitter Voltage	-50	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_c	Collector Current -Continuous	150	mA
P_c	Collector Power Dissipation	200	mW
T_j	Junction Temperature	125	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55-125	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS (Tamb=25°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
Collector cut-off current	I_{CBO}	$V_{CB}=60\text{ V}, I_E=0$			0.1	A
Collector cut-off current	I_{CEO}	$V_{CE}=50\text{ V}, I_B=0$			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}	$V_{CE}= 6\text{V}, I_C= 2\text{mA}$	130		400	
Collector-emitter saturation voltage	$V_{CE}(\text{sat})$	$I_C=100\text{ mA}, I_B= 10\text{mA}$			0.25	V
Base-emitter saturation voltage	$V_{BE}(\text{sat})$	$I_C=100\text{ mA}, I_B= 10\text{mA}$			1	V
Transition frequency	f_T	$V_{CE}=10\text{V}, I_C= 1\text{mA}$ $f=30\text{MHz}$	80			MHz

CLASSIFICATION OF h_{FE}

Rank	L	H
Range	130-200	200-400

Typical Characteristics

C1815

