2SC1815 (NPN)

FEATURES

Complementary type the PNP transistor

A1015 is recommended.

MARKING: HF



1. BASE
2. EMITTER
3. COLLECTO

SOT-23

MAXIMUM RATINGS (TA=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CEO}	50	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current -Continuous	I_C	150	mA
Collector Power Dissipation	P_C	0.2	W
Junction Temperature	T_J	150	℃
Storage Temperature	Tstg	-55 to +150	℃

ELECTRICAL CHARACTERISTICS (Tamb=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	VCBO	IC= 100uA, IE=0	60			V
Collector-emitter breakdown voltage	VCEO	IC= 0.1mA, IB=0	50			V
Emitter-base breakdown voltage	VEBO	IE=100μA, IC=0	5			V
Collector cut-off current	ICBO	VCB=60V, IE=0			0.1	uA
Collector cut-off current	ICE	VCE=50V, IB=0			0.1	uA
Emitter cut-off current	IEB	VEB= 5V, IC=0			0.1	uA
DC current gain	hFE	VCE= 6V, IC= 2mA	130		400	
Collector-emitter saturation voltage	VCE(sat)	IC=100mA, IB= 10mA			0.25	V
Base-emitter saturation voltage	VBE(sat)	IC=100mA, IB= 10mA			1	V
Transition frequency	fT	VCE=10V, IC= 1mA, f=30MHz	80			MHz

CLASSIFICATION OF h_{FE}

Rank	L	H	
Range	130-200	200-400	

2SC1815 Typical Characteristics

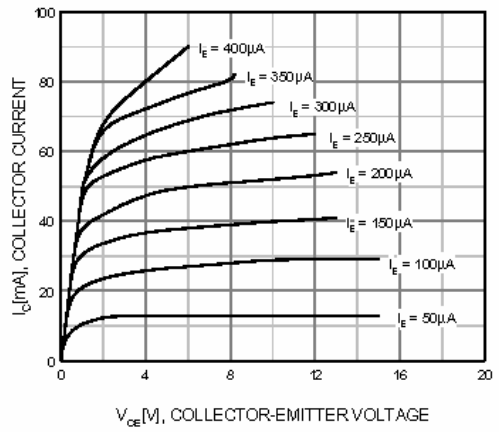

Figure 1. Static Characteristic

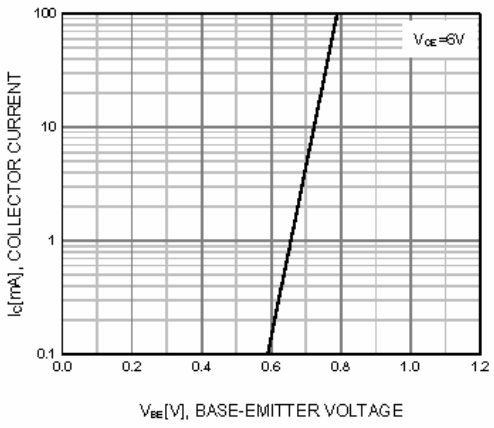

Figure 2. Transfer Characteristic

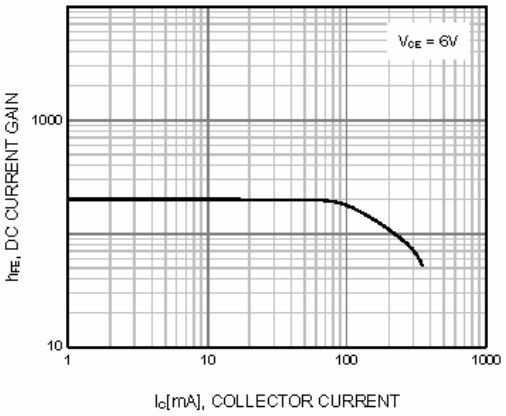

Figure 3. DC current Gain

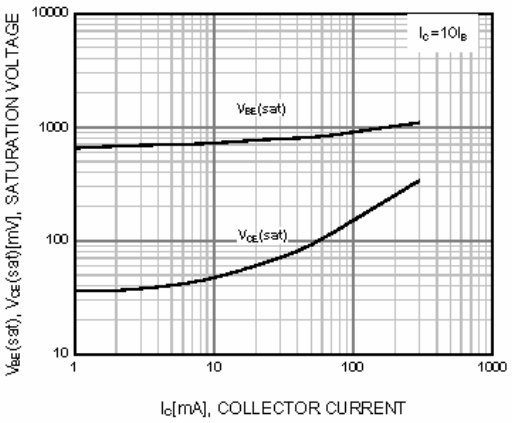

Figure 4. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

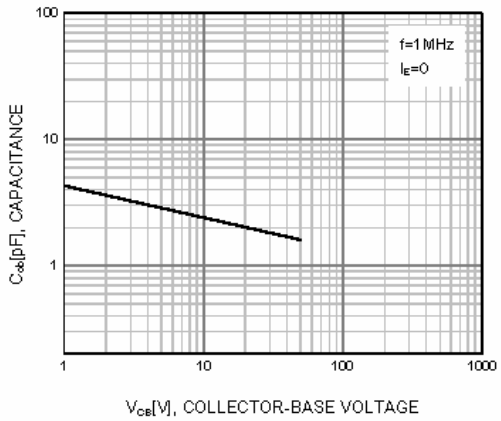

Figure 5. Output Capacitance

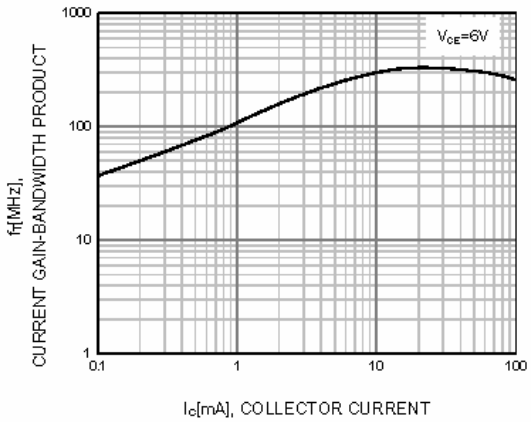

Figure 6. Current Gain Bandwidth Product