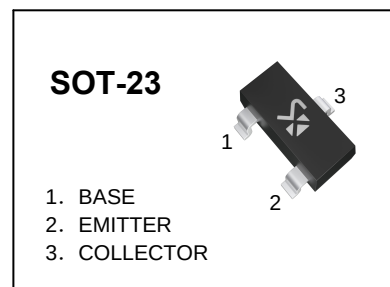


NPN Silicon Epitaxial Planar Transistor

FEATURES :

- Low current (max. 100mA)
- Low voltage (max. 65V).



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

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	BC846 80	V
		BC847, BC850 50	
		BC848, BC849 30	
V_{CEO}	Collector-Emitter Voltage	BC846 65	V
		BC847, BC850 45	
		BC848, BC849 30	
V_{EBO}	Emitter-Base Voltage	BC846, BC847 6	V
		BC848, BC849, BC850 5	
I_C	Collector Current -Continuous	100	mA
P_C	Collector Power Dissipation	300	mW
T_j	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55-150	$^{\circ}\text{C}$
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient Air	417	$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=10\mu\text{A}, I_E=0$	BC846 80 BC847, BC850 50 BC848, BC849 30			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=10\text{mA}, I_E=0$	BC846 65 BC847, BC850 45 BC848, BC849 30			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	BC846, BC847 6 BC848, BC849, BC850 5			V
Collector cut-off current	I_{CBO}	$V_{CB}=30\text{V}, I_E=0$			15	nA
DC current gain	h_{FE}	$V_{CE}=5\text{V}, I_C=2\text{mA}$	A 110 B 200 C 420		220 450 800	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=10\text{mA}, I_B=0.5\text{mA}$ $I_C=100\text{mA}, I_B=5\text{mA}$			0.25 0.6	V

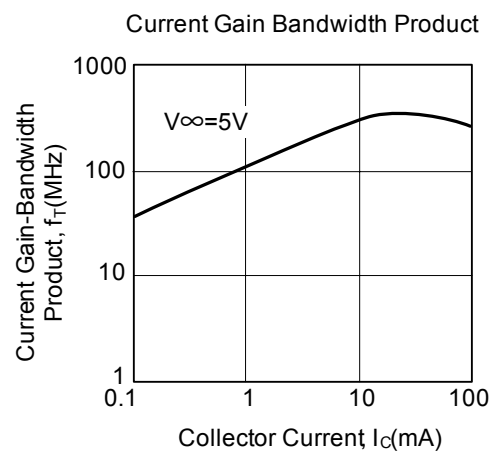
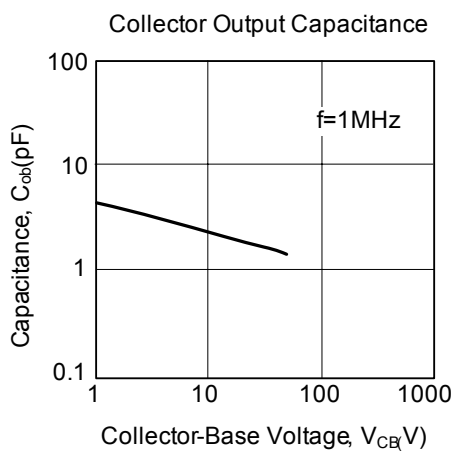
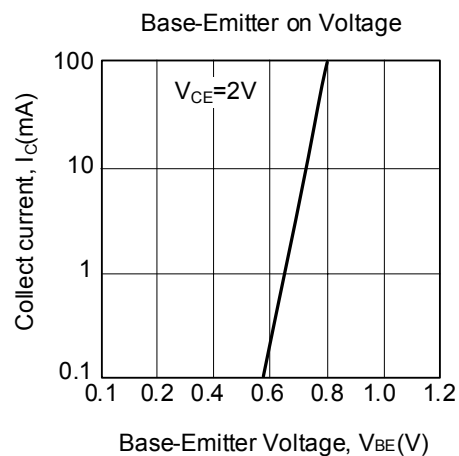
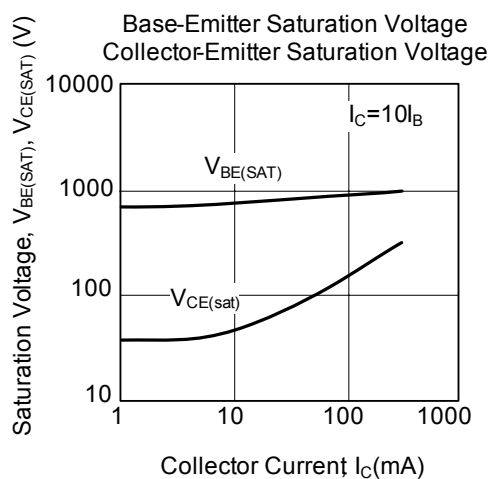
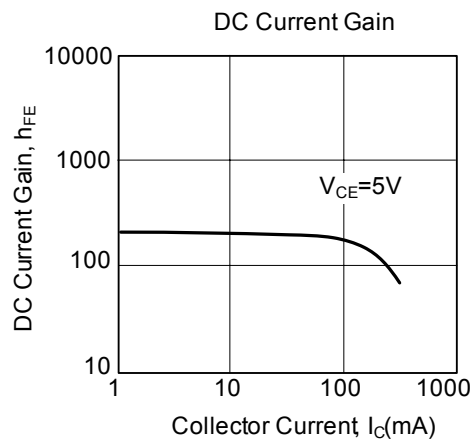
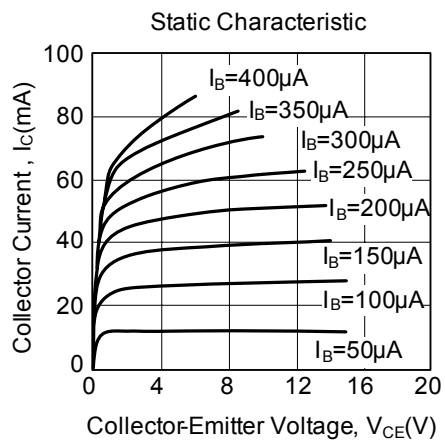
ELECTRICAL CHARACTERISTICS (Tamb=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=10mA, I_B=0.5 mA$ $I_C=100mA, I_B=5 mA$		0.7 0.9	0.85 1.1	V
Transition frequency	f_T	$V_{CE}=5V, I_C= 10mA$ $f=100MHz$		300		MHz
Base Emitter On Voltage	$V_{BE(on)}$	$I_C= 2 mA, V_{CE}= 5 V$ $I_C= 10 mA, V_{CE}= 5 V$	0.58		0.7 0.77	V
Output capacitance	C_{ob}	$V_{CE}=10V, I_C=0$ $f=1MHz$			6	pF
Input Capacitance	C_{ib}	$V_{BE}=0.5V, I_C=0$ $f=1MHz$		9		pF
Noise Figure	NF	$I_C=200 \mu A, V_{CE}=5V$ $R_G= 2 K\Omega, f = 1 KHz$ $I_C=200 \mu A, V_{CE}= 5 V, R_G$ $= 2K\Omega, f =30\sim15KHz$			10 4 4 3	dB

MARKING CODE

TYPE	846A	846B	846C	847A	847B	847C	848A	848B	848C	849A	849B	849C	850A	850B	850C
MARK	1A	1B	1C	1E	1F	1G	1J	1K	1L	2A	2B	2C	2E	2F	2G

Typical Characteristics



PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23

