

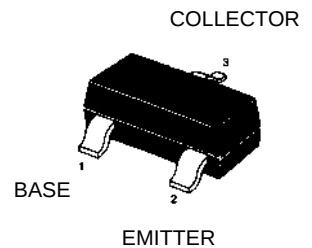


BC546... TRANSISTOR (NPN)

FEATURE

Ideally suited for automatic insertion

For Switching and AF Amplifier Applications



SOT-23

MARKING :

BC546A=1A; BC546B=1B;

BC547A=1E; BC547B=1F; BC547C=1G;

BC548A=1J; BC548B=1K; BC548C=1L

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

Symbol	Parameter		Value	Units
V_{CBO}	Collector-Base Voltage	BC546	80	V
		BC547	50	
		BC548	30	
V_{CEO}	Collector-Emitter Voltage	BC546	65	V
		BC547	45	
		BC548	30	
V_{EBO}	Emitter-Base Voltage		6	V
I_{C}	Collector Current –Continuous		0.1	A
P_{C}	Collector Power Dissipation		200	mW
T_{J}	Junction Temperature		150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature		-65-150	$^{\circ}\text{C}$



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

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage BC546 BC547 BC548	V_{CBO}	$I_C = 0.1mA, I_E = 0$	80 50 30			V
Collector-emitter breakdown voltage BC546 BC547 BC548	V_{CEO}	$I_C = 1mA, I_B = 0$	65 45 30			V
Emitter-base breakdown voltage	V_{EBO}	$I_E = 10\mu A, I_C = 0$	6			V
Collector cut-off current BC546 BC547 BC548	I_{CBO}	$V_{CB} = 70V, I_E = 0$ $V_{CB} = 50V, I_E = 0$ $V_{CB} = 30V, I_E = 0$			0.1	μA
Collector cut-off current BC546 BC547 BC548	I_{CEO}	$V_{CE} = 60V, I_B = 0$ $V_{CE} = 45V, I_B = 0$ $V_{CE} = 30V, I_B = 0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 5V, I_C = 0$			0.1	μA
DC current gain BC546A,547A,548A BC546B,547B,548B BC547C,BC548C	h_{FE}	$V_{CE} = 5V, I_C = 2mA$	110 200 420		220 450 800	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 100mA, I_B = 5mA$			0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 100mA, I_B = 5mA$			1.1	V
Transition frequency	f_T	$V_{CE} = 5V, I_C = 10mA$ $f = 100MHz$	100			MHz
Collector output capacitance	C_{ob}	$V_{CB} = 10V, f = 1MHz$			4.5	pF



Typical Characteristics

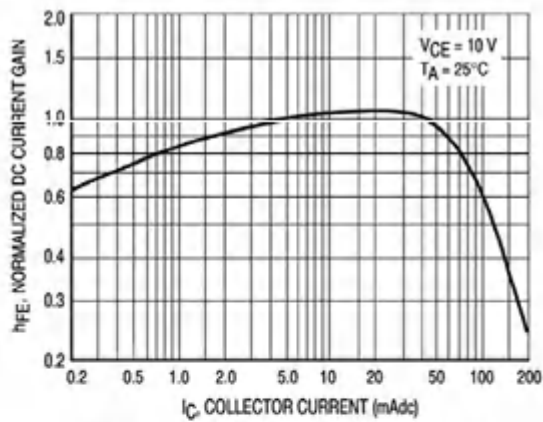


Figure 1. Normalized DC Current Gain

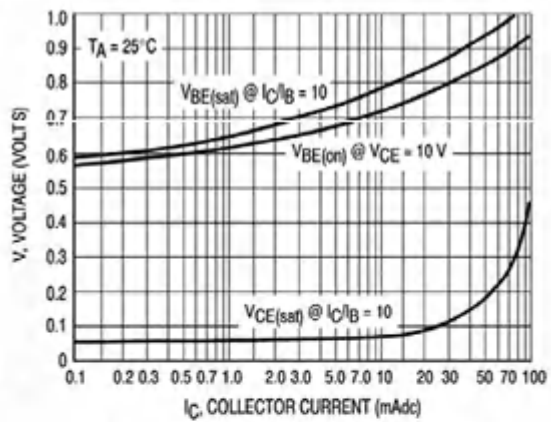


Figure 2. "Saturation" and "On" Voltages

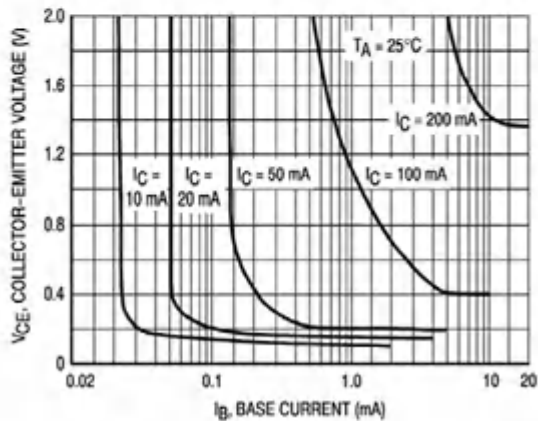


Figure 3. Collector Saturation Region

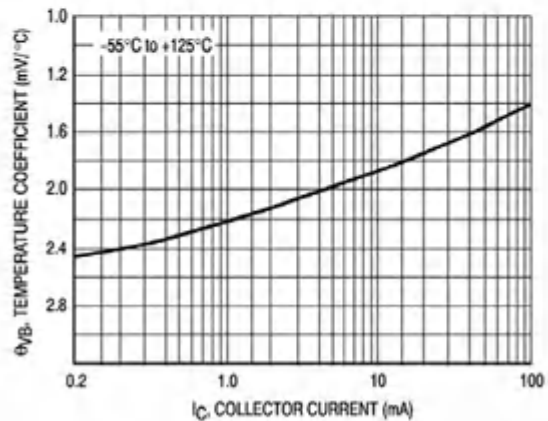


Figure 4. Base-Emitter Temperature Coefficient

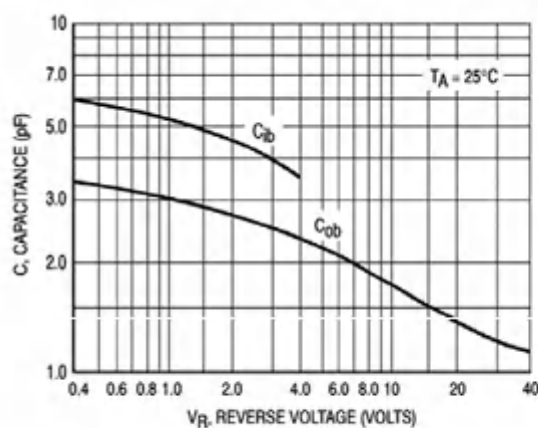


Figure 5. Capacitances

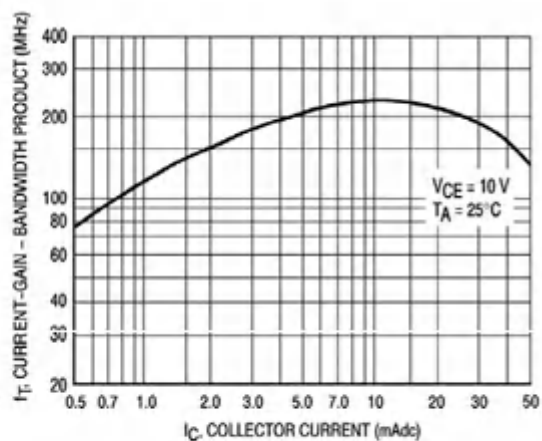


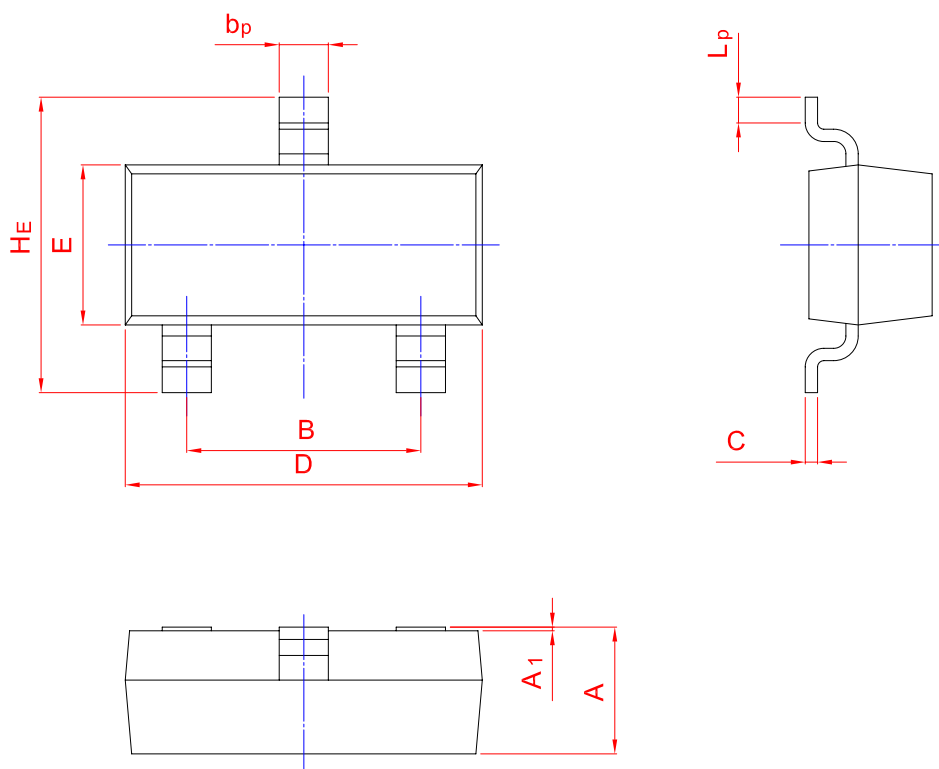
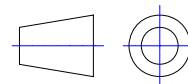
Figure 6. Current-Gain - Bandwidth Product



PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



UNIT	A	B	b_p	C	D	E	H_E	A_1	L_p
mm	1.40 0.95	2.04 1.78	0.50 0.35	0.19 0.08	3.10 2.70	1.65 1.20	3.00 2.20	0.100 0.013	0.50 0.20