

Olitech Electronics Co. Ltd

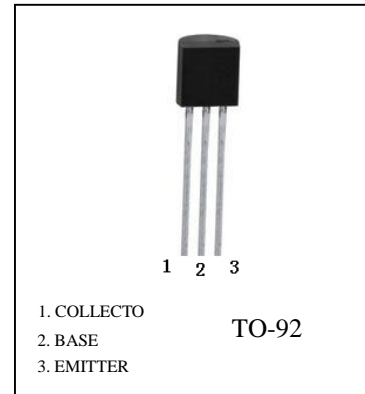
Email: info@olitech-elec.com Website: www.olitech-elec.com

Plastic-Encapsulate Transistors

BC546/BC547/BC548 (NPN)

FEATURES

- High Voltage
- Complement to BC556,BC557,BC558



Maximum Ratings (Ta=25 °C unless otherwise noted)

Symbol	Parameter	Value	Unit	
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	BC546	6	V
		BC547	6	V
		BC548	5	V
I _C	Collector Current-Continuous	0.1	A	
P _C	Collector Power Dissipation	625	mW	
R _{JA}	Thermal Resistance from Junction to Ambient	200	°C/W	
T _j	Junction Temperature	150	°C	
T _{stg}	Storage Temperature	-55~+150	°C	

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ELECTRICAL CHARACTERISTICS (@ Ta=25 °C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	BC546	$V_{(BR)CBO}$ $I_C=0.1mA, I_E=0$	80			V
	BC547		50			
	BC548		30			
Collector-emitter breakdown voltage	BC546	$V_{(BR)CEO}$ $I_C=1mA, I_B=0$	65			V
	BC547		45			
	BC548		30			
Emitter-base breakdown voltage	BC546	$V_{(BR)EBO}$ $I_E=10\mu A, I_C=0$	6			V
	BC547		6			
	BC548		5			
Collector cut-off current	BC546	I_{CBO} $V_{CB}=70V, I_E=0$			0.1	μA
	BC547		$V_{CB}=50V, I_E=0$		0.1	μA
	BC548		$V_{CB}=30V, I_E=0$		0.1	μA
Collector cut-off current	BC546	I_{CEO} $V_{CE}=60V, I_B=0$			0.1	μA
	BC547		$V_{CE}=45V, I_B=0$		0.1	μA
	BC548		$V_{CE}=30V, I_B=0$		0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=5V, I_C=0$			0.1	μA
DC current gain	h_{FE}^*	$V_{CE}=5V, I_C=2mA$	110		800	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=100mA, I_B=5mA$			0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=100mA, I_B=5mA$			1.1	V
Base-emitter voltage	V_{BE}	$V_{CE}=5V, I_C=2mA$	0.58		0.7	V
		$V_{CE}=5V, I_C=10mA$			0.75	V
Collector output capacitance	C_{ob}	$V_{CB}=10V, I_E=0, f=1MHz$			4.5	pF
Transition frequency	f_T	$V_{CE}=5V, I_C=10mA, f=100MHz$	150			MH

CLASSIFICATION of h_{FE}

RANK	A	B	C
RANGE	110-220	200-450	420-800

BC546/BC547/BC548 Typical Characteristics

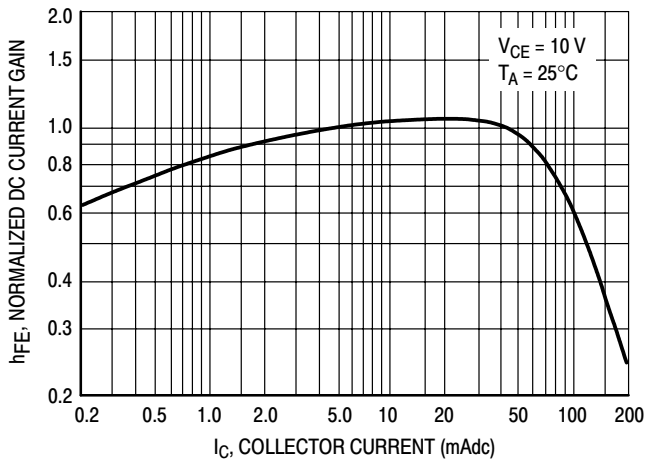


Figure 1. Normalized DC Current Gain

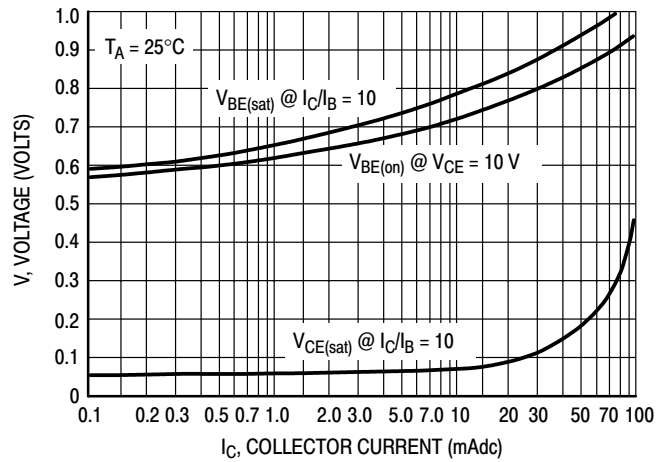


Figure 2. "Saturation" and "On" Voltages

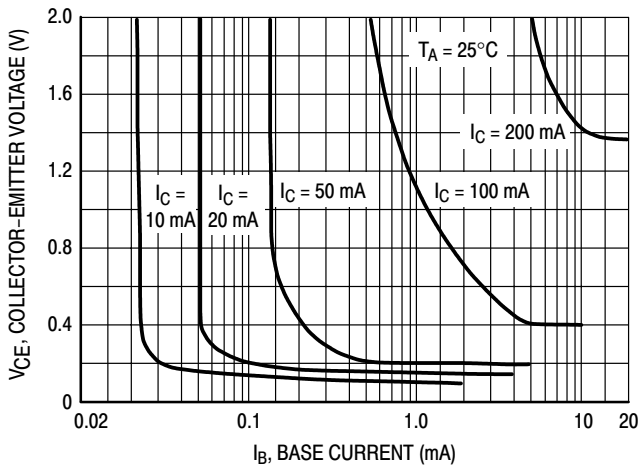


Figure 3. Collector Saturation Region

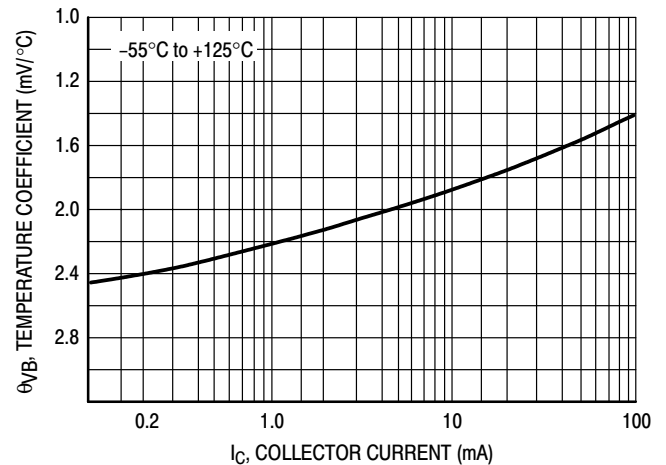


Figure 4. Base-Emitter Temperature Coefficient

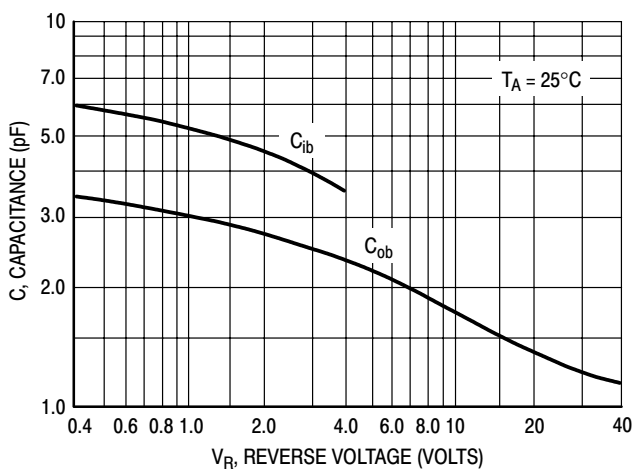


Figure 5. Capacitances

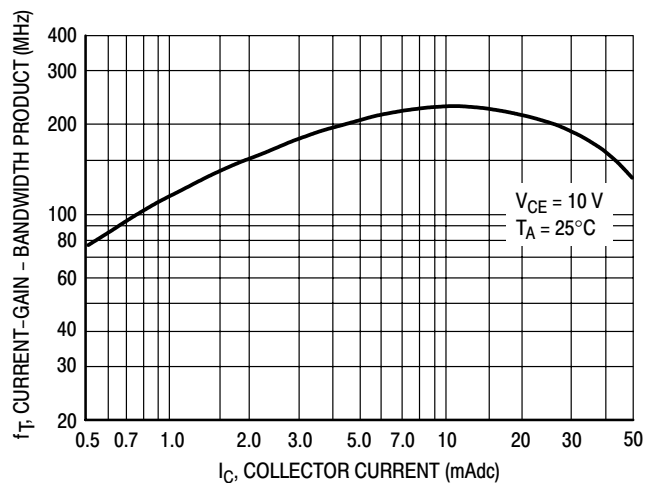


Figure 6. Current-Gain - Bandwidth Product

BC546/BC547/BC548 Typical Characteristics

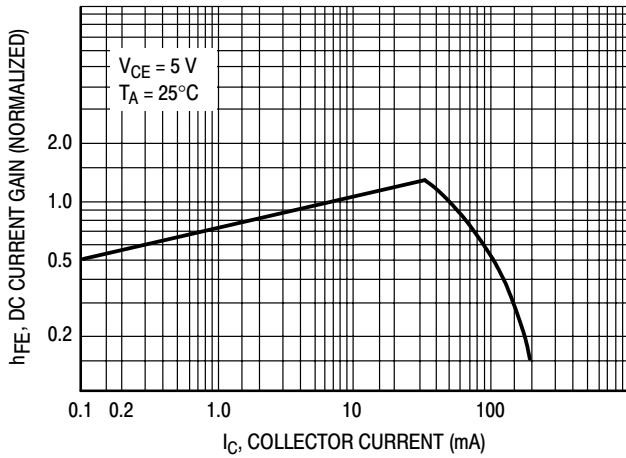


Figure 7. DC Current Gain

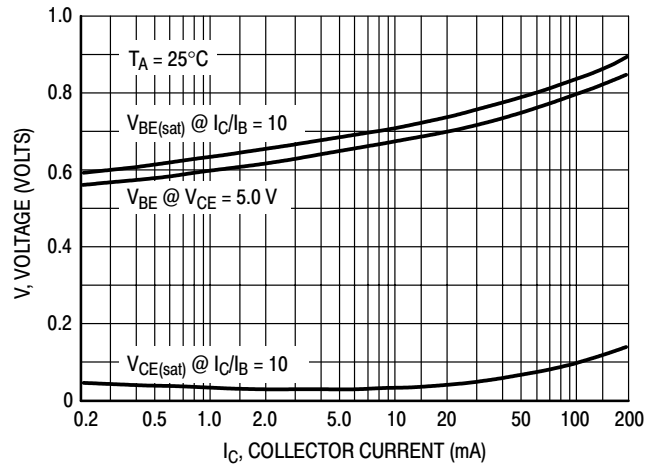


Figure 8. "On" Voltage

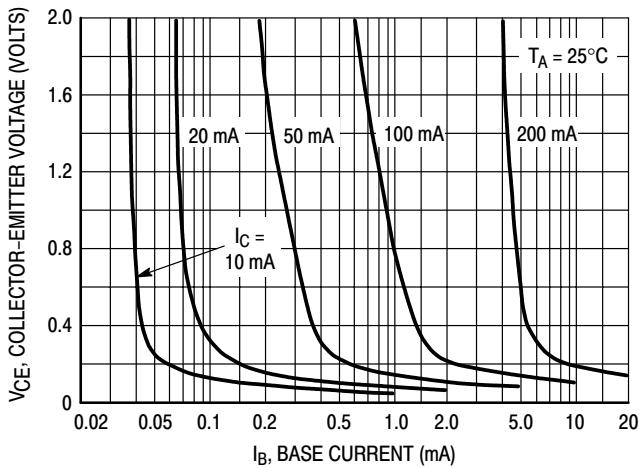


Figure 9. Collector Saturation Region

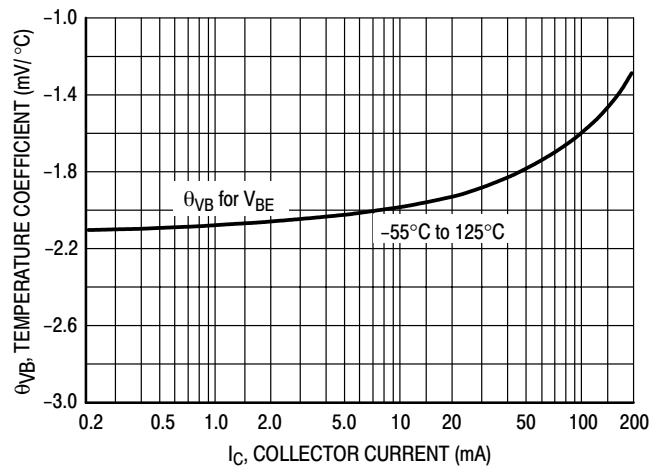


Figure 10. Base-Emitter Temperature Coefficient

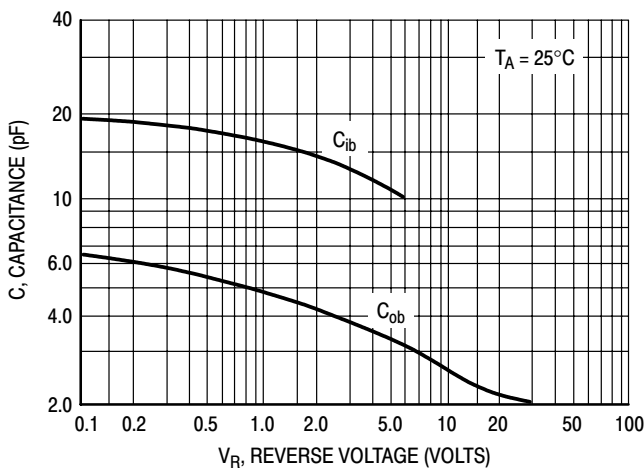


Figure 11. Capacitance

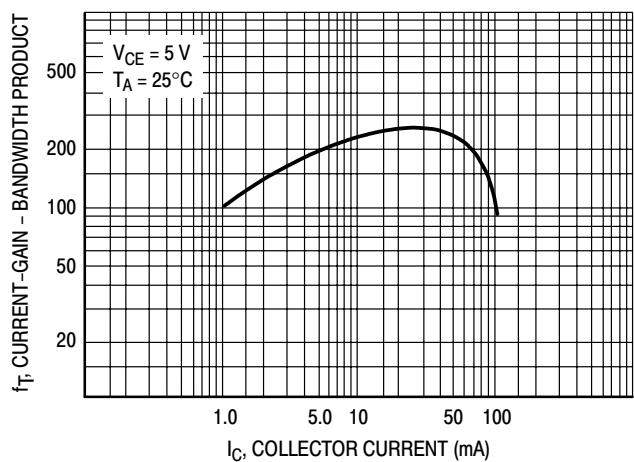


Figure 12. Current-Gain - Bandwidth Product