

BC546,BC547,BC548 SERIES

NPN GENERAL PURPOSE TRANSISTOR

VOLTAGE 30V/45V/65V **POWER** 625 mWatts

FEATURES

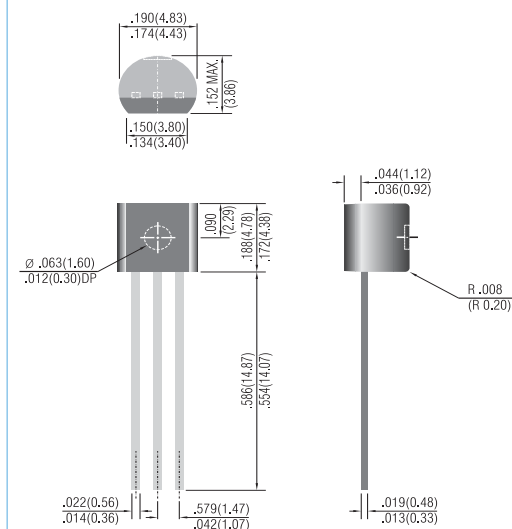
- NPN epitaxial silicon, planar design
- Collector current $I_C = 100\text{mA}$
- Complimentary (PNP) device:BC556,BC557,BC558 Series
- Pb free product :99% Sn above can meet RoHS environment substance directive request

MECHANICAL DATA

- Case: TO-92
- Terminals: Solderable per MIL-STD-202, Method 208
- Approx Weight : 0.02grams
- Device Marking :

BC546A=546A	BC546B=546B	-
BC547A=547A	BC547B=547B	BC547C=547C
BC548A=548A	BC548B=548B	BC548C=548C

TO-92 Unit: inch (mm)



ABSOLUTE MAXIMUM RATINGS

PARAMETER	Symbol	Value	Units
Collector - Emitter Voltage	V_{CEO}	65 45 30	V
Collector - Base Voltage	V_{CBO}	80 50 30	V
Emitter - Base Voltage	V_{EBO}	6.0 6.0 5.0	V
Collector Current - Continuous	I_C	100	mA
Max Power Dissipation	P_{TOT}	625	mW
Storage Temperature	T_{STG}	-55 to 150	°C
Junction Temperature	T_J	-55 to 150	°C

THERMAL CHARACTERISTICS

PARAMETER	Symbol	Value	Units
Thermal Resistance, Junction to Ambient	R_{JA}	200	°C/W



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ELECTRICAL CHARACTERISTICS ($T_J=25^{\circ}\text{C}$, unless otherwise noted)

PARAMETER	Symbol	MIN.	TYP.	MAX.	Units
Collector - Emitter Breakdown Voltage ($I_C=10\text{mA}$, $I_E=0$)	BC546A,B BC547A,B,C BC548A,B,C $V_{(BR)CEO}$	65 45 30	-	-	V
Collector - Base Breakdown Voltage ($I_C=10\mu\text{A}$, $I_E=0$)	BC546A,B BC547A,B,C BC548A,B,C $V_{(BR)CBO}$	80 50 30	-	-	V
Emitter - Base Breakdown Voltage ($I_E=10\mu\text{A}$, $I_C=0$)	BC546A,B BC547A,B,C BC548A,B,C $V_{(BR)EBO}$	6.0 6.0 5.0	-	-	V
Emitter-Base Cutoff Current ($V_{EB}=5\text{V}$)	I_{EBO}	-	-	100	nA
Collector-Base Cutoff Current($V_{CB}=30\text{V}$, $I_E=0$)	$T_J=150^{\circ}\text{C}$ I_{CBO}	- -	- -	15 5.0	nA uA
DC Current Gain ($I_C=10\mu\text{A}$, $V_{CE}=5\text{V}$)	BC546A,B BC547A,B,C BC548A,B,C h_{FE}	- - -	90 150 270	- - -	-
($I_C=2.0\text{mA}$, $V_{CE}=5\text{V}$)	BC546A,B BC547A,B,C BC548A,B,C	110 200 420	180 290 520	220 450 800	-
Collector - Emitter Saturation Voltage ($I_C=10\text{mA}$, $I_B=0.5\text{mA}$) ($I_C=100\text{mA}$, $I_B=5.0\text{mA}$)	$V_{CE(SAT)}$	- -	- -	0.25 0.6	V
Base - Emitter Saturation Voltage ($I_C=10\text{mA}$, $I_B=0.5\text{mA}$) ($I_C=100\text{mA}$, $I_B=5.0\text{mA}$)	$V_{BE(SAT)}$	- -	0.7 0.9	- -	V
Base - Emitter Voltage ($I_C=2\text{mA}$, $V_{CE}=0.5\text{mA}$) ($I_C=10\text{mA}$, $V_{CE}=5.0\text{mA}$)	$V_{BE(SAT)}$	0.58 -	0.660 -	0.70 0.77	V
Collector - Base Capacitance ($V_{CB}=10\text{V}$, $I_E=0$, $f=1\text{MHz}$)	C_{CBO}	-	-	4.5	pF

LEGAL STATEMENT

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BC546,BC547,BC548 SERIES

ELECTRICAL CHARACTERISTICS CURVE BC546A,BC547A,BC548A ONLY

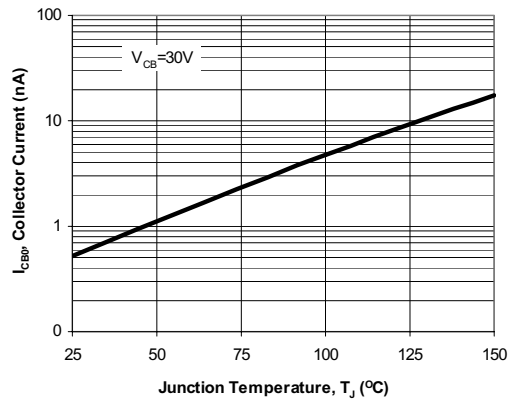


Fig. 1. Typical I_{CBO} vs.

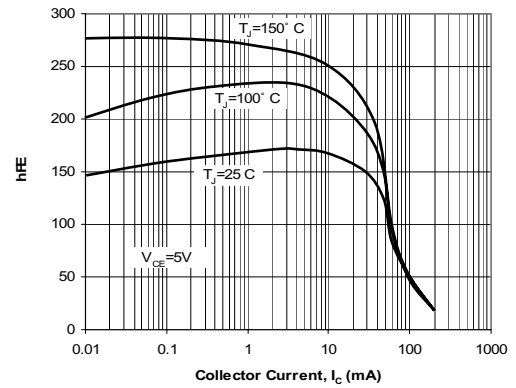


Fig. 2. Typical h_{FE} vs.

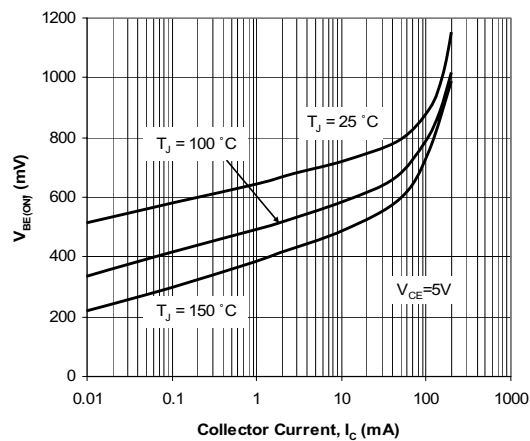


Fig. 3. Typical $V_{BE(ON)}$ vs.

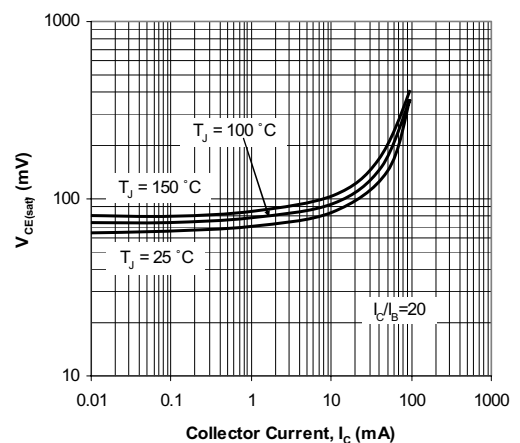


Fig. 4. Typical $V_{CE(SAT)}$ vs.

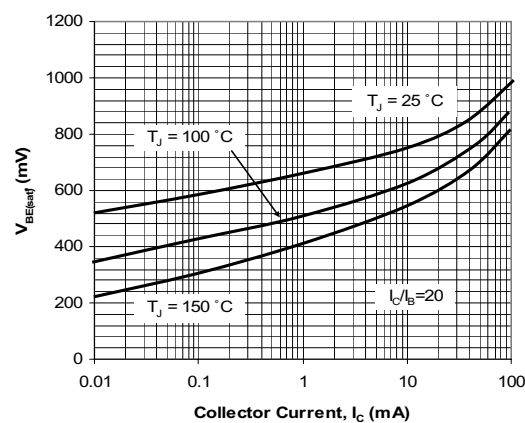


Fig. 5. Typical $V_{BE(SAT)}$ vs.

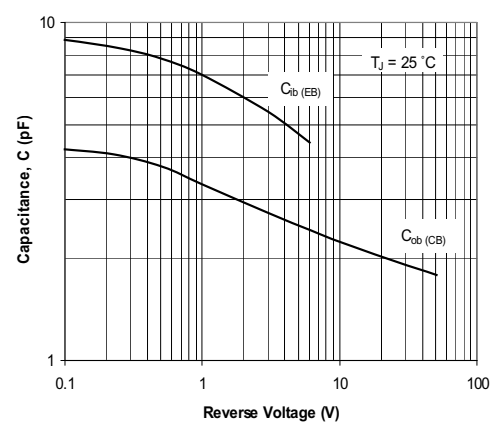


Fig. 6. Typical Capacitances vs.

BC546,BC547,BC548 SERIES

ELECTRICAL CHARACTERISTICS CURVE BC546B,BC547B,BC548B ONLY

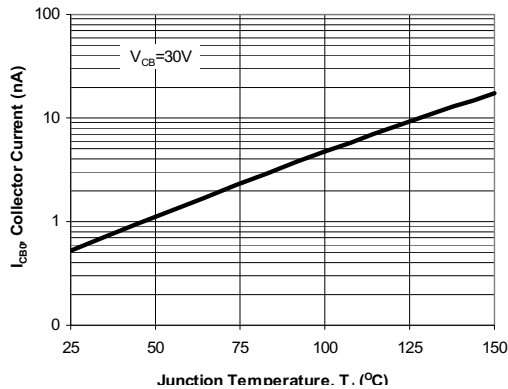


Fig. 1. Typical I_{CBO} vs. Junction Temperature

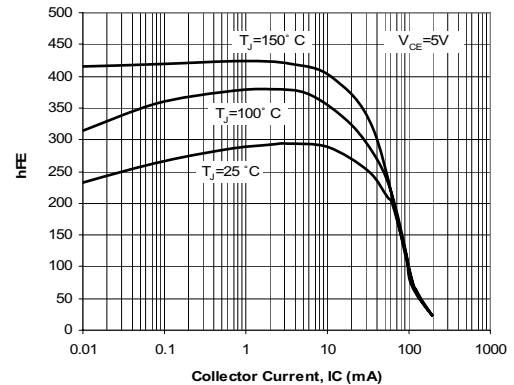


Fig. 2. Typical h_{FE} vs. Collector Current

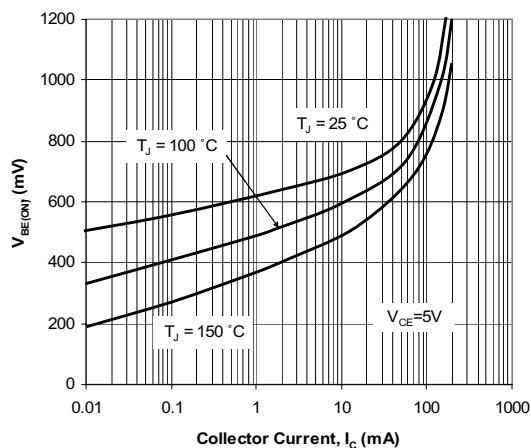


Fig. 3. Typical $V_{BE(ON)}$ vs. Collector Current

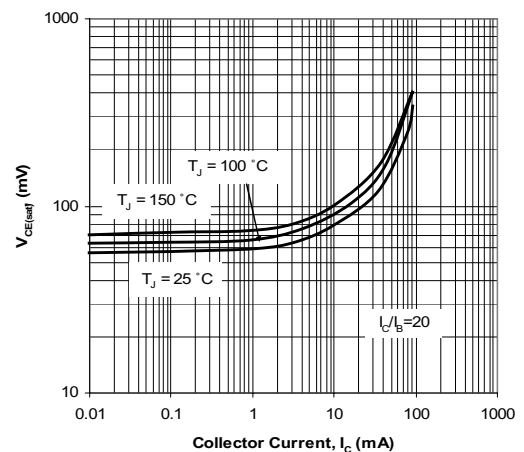


Fig. 4. Typical $V_{CE(SAT)}$ vs. Collector Current

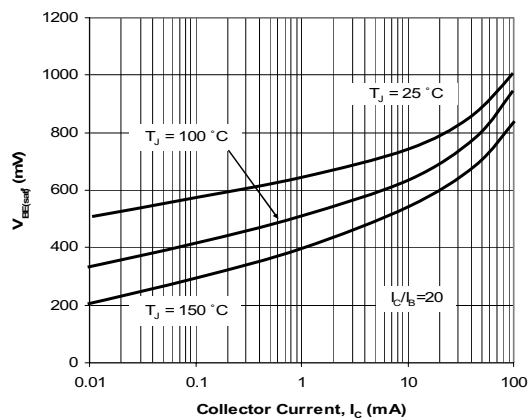


Fig. 5. Typical $V_{BE(SAT)}$ vs. Collector Current

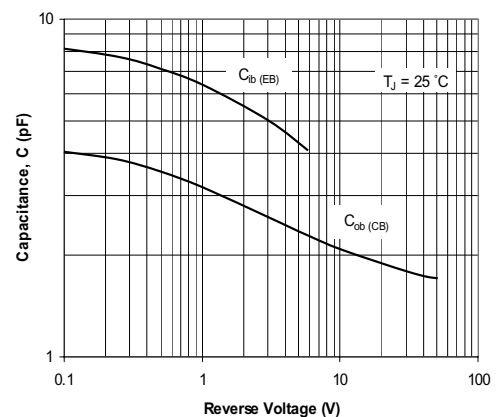


Fig. 6. Typical Capacitances vs. Reverse Voltage

BC546,BC547,BC548 SERIES

ELECTRICAL CHARACTERISTICS CURVE BC547C,BC548C ONLY

