

GBC548

NPN SILICON TRANSISTOR

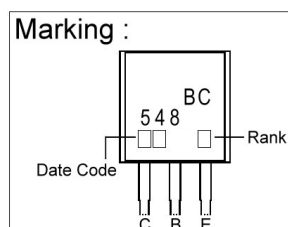
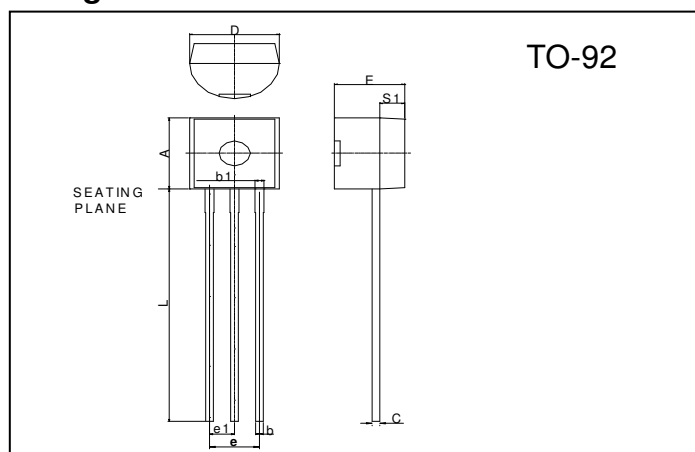
Description

The GBC548 is designed for drive and output-stages of audio amplifiers.

Features

- High DC Current Gain: 110~800 @ $V_{CE}=5V$, $I_C=2mA$
- Complementary to GBC558

Package Dimensions



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	4.45	4.7	D	4.44	4.7
S1	1.02	-	E	3.30	3.81
b	0.36	0.51	L	12.70	-
b1	0.36	0.76	e1	1.150	1.390
C	0.36	0.51	e	2.42	2.66

Absolute Maximum Ratings ($T_A=25^{\circ}C$)

Parameter	Symbol	Ratings	Unit
Collector to Base Voltage	V_{CBO}	30	V
Collector to Emitter Voltage	V_{CEO}	30	V
Emitter to Base Voltage	V_{EBO}	6	V
Collector Current (continuous)	I_C	100	mA
Total Device Dissipation @ $T_A = 25^{\circ}C$	P_D	625	mW
Derate above $25^{\circ}C$		5.0	mW/ $^{\circ}C$
Total Device Dissipation @ $T_C = 25^{\circ}C$	P_D	1.5	W
Derate above $25^{\circ}C$		12	mW/ $^{\circ}C$
Operating and Storage Junction Temperature	T_J, T_{stg}	-55 ~ +150	$^{\circ}C$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	200	$^{\circ}C/W$
Thermal Resistance, Junction to Case	$R_{\theta JC}$	83.3	$^{\circ}C/W$

Electrical Characteristics ($T_A = 25^{\circ}C$ unless otherwise noted)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
V_{CBO}	30	-	-	V	$I_C=100\mu A, I_E=0$
V_{CEO}	30	-	-	V	$I_C=1mA, I_B=0$
V_{EBO}	6	-	-	V	$I_E=10\mu A, I_C=0$
I_{CES}	-	-	15	nA	$V_{CE}=35V, V_{BE}=0$
* $V_{CE(sat)1}$	-	0.09	0.25	V	$I_C=10mA, I_B=0.5mA$
* $V_{CE(sat)2}$	-	0.2	0.6	V	$I_C=100mA, I_B=5mA$
* $V_{BE(sat)}$	-	0.7	-	V	$I_C=10mA, I_B=0.5mA$
* $V_{BE(on)1}$	0.55	-	0.7	V	$V_{CE}=5V, I_C=2mA$
* $V_{BE(on)2}$	-	-	0.77	V	$V_{CE}=5V, I_C=10mA$
* h_{FE}	110	-	800		$V_{CE}=5V, I_C=2mA$
fT	150	300	-	MHz	$V_{CE}=5V, I_C=10mA, f=100MHz$
Cob	-	1.7	4.5	pF	$V_{CB}=10V, I_C=0, f=1MHz$

*Pulse Test: Pulse Width $\leq 380\mu s$, Duty Cycle $\leq 2\%$

Classification Of h_{FE}

Rank	A	B	C
Range	110 ~ 220	200 ~ 450	420 ~ 800

Characteristics Curve

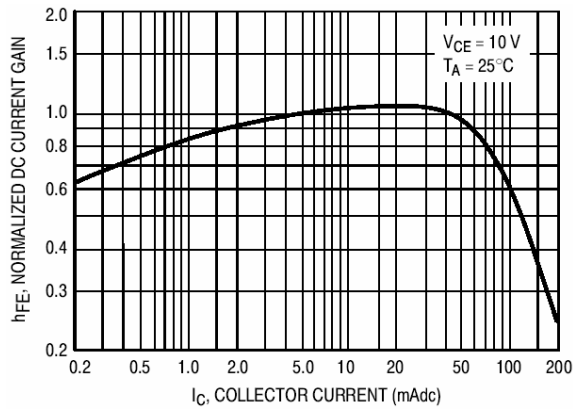


Fig 1. DC Current Gain

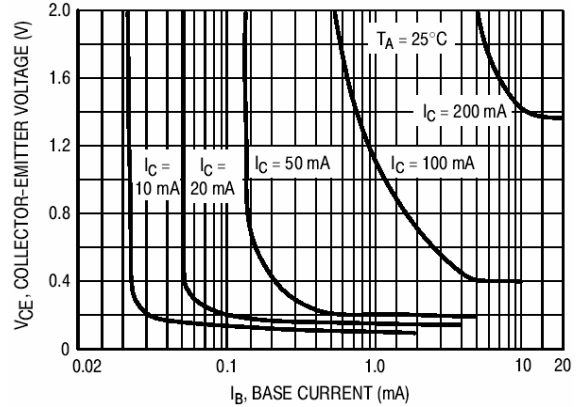


Fig 2. Collector Saturation Region

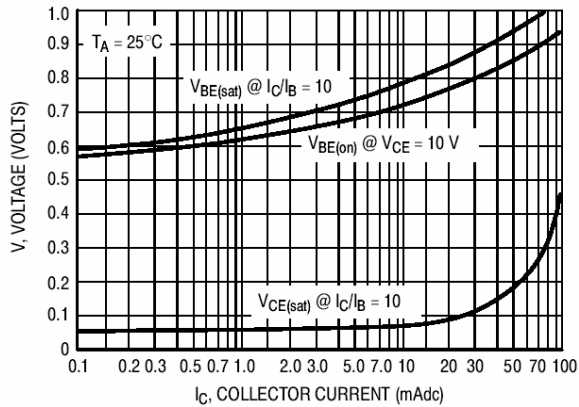


Fig 3. "Saturation" & "On" Voltages

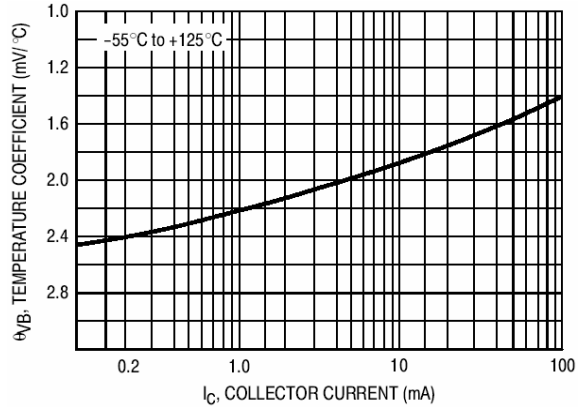


Fig 4. Temperature Coefficients

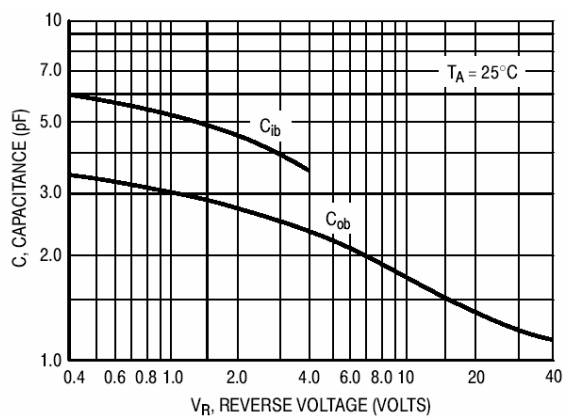


Fig 5. Capacitances

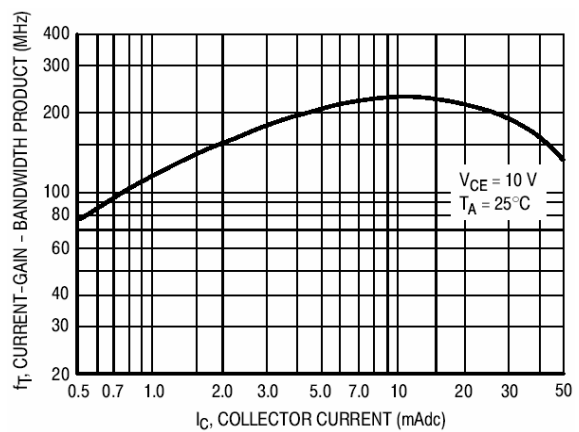


Fig 6. Bandwidth Product

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