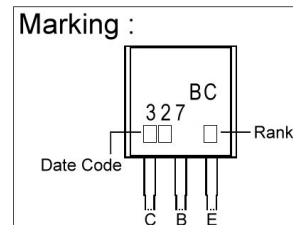
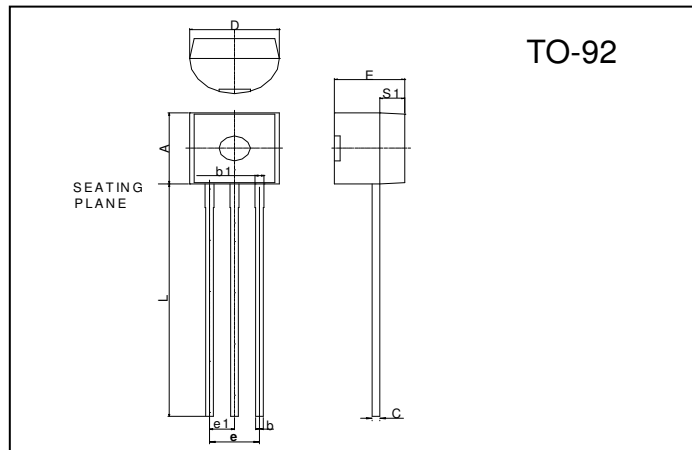


**GBC327****PNP SILICON TRANSISTOR****Description**

The GBC327 is designed for drive and output-stages of audio amplifiers.

**Features**

- High DC Current Gain: 100~630 @  $V_{CE}=-1V$ ,  $I_C=-100mA$
- Complementary to GBC337

**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                      | $V_{CBO}$       | -50        | V               |
| Collector to Emitter Voltage                   | $V_{CEO}$       | -45        | V               |
| Emitter to Base Voltage                        | $V_{EBO}$       | -5         | V               |
| Collector Current (continuous)                 | $I_C$           | -800       | 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)**

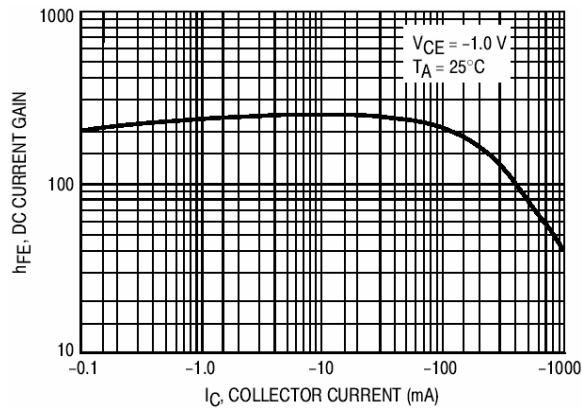
| Symbol          | Min. | Typ. | Max. | Unit | Test Conditions                         |
|-----------------|------|------|------|------|-----------------------------------------|
| $V_{CBO}$       | -50  | -    | -    | V    | $I_C=-100\mu A$ , $I_E=0$               |
| $V_{CEO}$       | -45  | -    | -    | V    | $I_C=-10mA$ , $I_B=0$                   |
| $V_{CES}$       | -50  | -    | -    | V    | $I_C=-100\mu A$ , $I_E=0$               |
| $V_{EBO}$       | -5   | -    | -    | V    | $I_E=-10\mu A$ , $I_C=0$                |
| $I_{CBO}$       | -    | -    | -100 | nA   | $V_{CB}=-30V$ , $I_E=0$                 |
| $I_{CES}$       | -    | -    | -100 | nA   | $V_{CE}=-45V$ , $V_{BE}=0$              |
| $I_{EBO}$       | -    | -    | -100 | nA   | $V_{EB}=-4V$ , $I_C=0$                  |
| * $V_{CE(sat)}$ | -    | -    | -0.7 | V    | $I_C=-500mA$ , $I_B=-50mA$              |
| * $V_{BE(on)}$  | -    | -    | -1.2 | V    | $V_{CE}=-1V$ , $I_C=-300mA$             |
| * $h_{FE1}$     | 100  | -    | 630  |      | $V_{CE}=-1V$ , $I_C=-100mA$             |
| * $h_{FE2}$     | 40   | -    | -    |      | $V_{CE}=-1V$ , $I_C=-300mA$             |
| fT              | -    | 260  | -    | MHz  | $V_{CE}=-5V$ , $I_C=-10mA$ , $f=100MHz$ |
| Cob             | -    | 11   | -    | pF   | $V_{CB}=-10V$ , $I_E=0$ , $f=1MHz$      |

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

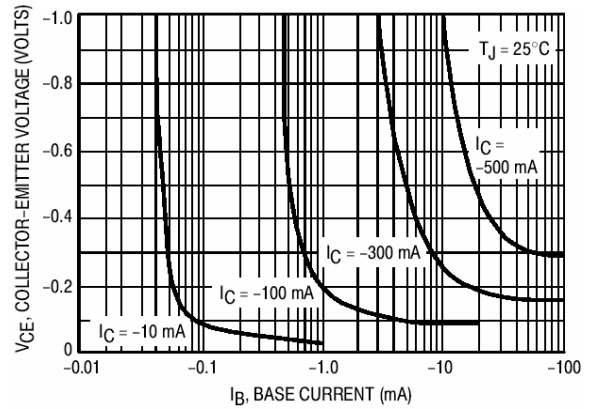
**Classification Of  $h_{FE1}$** 

| Rank  | A         | B         | C         |
|-------|-----------|-----------|-----------|
| Range | 100 ~ 250 | 160 ~ 400 | 250 ~ 630 |

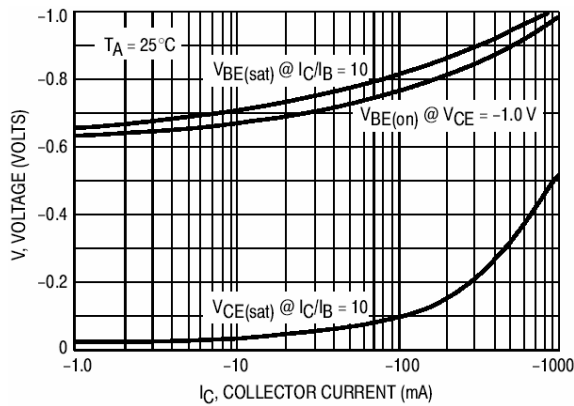
## Characteristics Curve



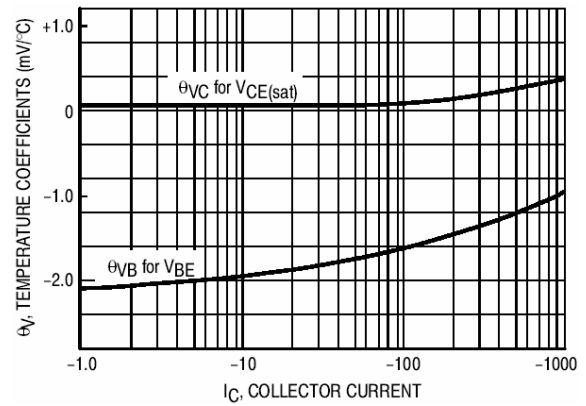
**Fig 1. DC Current Gain**



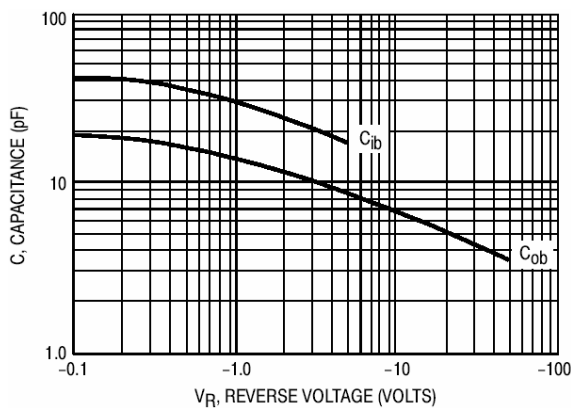
**Fig 2. Saturation Region**



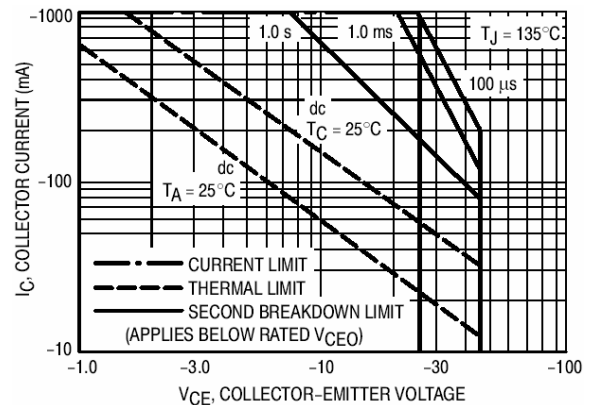
**Fig 3. "On" Voltages**



**Fig 4. Temperature Coefficients**



**Fig 5. Capacitances**



**Fig 6. Safe Operating Area**

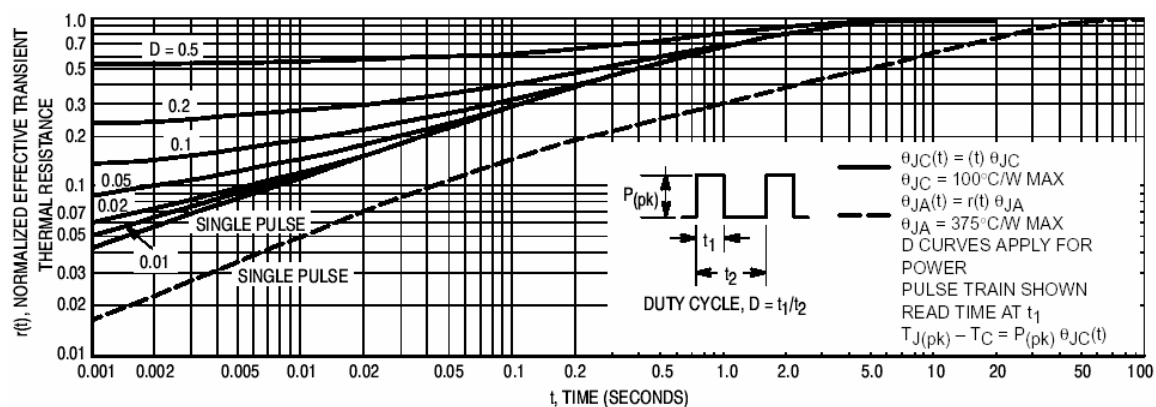


Fig 7. Thermal Response

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**Head Office And Factory:**

- **Taiwan:** No. 17-1 Tatung Rd. Fu Kou Hsin-Chu Industrial Park, Hsin-Chu, Taiwan, R. O. C.  
TEL : 886-3-597-7061 FAX : 886-3-597-9220, 597-0785
- **China:** (201203) No.255, Jang-Jiang Tsai-Lueng RD. , Pu-Dung-Hsin District, Shang-Hai City, China  
TEL : 86-21-5895-7671 ~ 4 FAX : 86-21-38950165