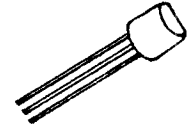


# SILICON SIGNAL TRANSISTORS GENERAL PURPOSE AMPLIFIERS TO-92 PACKAGE



| Device   | Type | BV <sub>CEO</sub>  | h <sub>FE</sub> |      |                       | V <sub>CE(sat)</sub> |                            |                     |       | f <sub>T</sub>                     | C <sub>cb</sub> @ 10V | I <sub>C</sub> | P <sub>T</sub> |
|----------|------|--------------------|-----------------|------|-----------------------|----------------------|----------------------------|---------------------|-------|------------------------------------|-----------------------|----------------|----------------|
|          |      | Type @ 10mA<br>(V) | Min.            | Max. | @ I <sub>C</sub> (mA) | V <sub>CE</sub> (V)  | Max. @ I <sub>C</sub> (mA) | I <sub>B</sub> (mA) | (MHz) | 1 MHz<br>Typical (P <sub>F</sub> ) | Continuous<br>(mA)    | @ 25°C<br>(mW) |                |
| 2N3903   | NPN  | 40                 | 50              | 150  | 10                    | 1                    | .3                         | 50                  | 5     | 300                                | 2.5                   | 200            | 350            |
| 2N3904   | NPN  | 40                 | 100             | 300  | 10                    | 1                    | .3                         | 50                  | 5     | 350                                | 2.5                   | 200            | 350            |
| 2N3905   | PNP  | 40                 | 50              | 150  | 10                    | 1                    | .4                         | 50                  | 5     | 250                                | 2.5                   | 200            | 350            |
| 2N3906   | PNP  | 40                 | 100             | 300  | 10                    | 1                    | .4                         | 50                  | 5     | 300                                | 2.5                   | 200            | 350            |
| 2N4123   | NPN  | 30                 | 50              | 150  | 2                     | 1                    | .3                         | 50                  | 5     | 300                                | 2.5                   | 200            | 350            |
| 2N4124   | NPN  | 25                 | 120             | 360  | 2                     | 1                    | .3                         | 50                  | 5     | 350                                | 2.5                   | 200            | 350            |
| 2N4125   | PNP  | 30                 | 50              | 150  | 2                     | 1                    | .4                         | 50                  | 5     | 250                                | 2.5                   | 200            | 350            |
| 2N4126   | PNP  | 25                 | 120             | 360  | 2                     | 1                    | .4                         | 50                  | 5     | 300                                | 2.5                   | 200            | 350            |
| 2N4400   | NPN  | 40                 | 50              | 150  | 150                   | 1                    | .4                         | 150                 | 15    | 225                                | 3.5                   | 600            | 350            |
| 2N4401   | NPN  | 40                 | 100             | 300  | 150                   | 1                    | .4                         | 150                 | 15    | 275                                | 3.5                   | 600            | 350            |
| 2N4402   | PNP  | 40                 | 50              | 150  | 150                   | 2                    | .4                         | 150                 | 15    | 300                                | 5.0                   | 600            | 350            |
| 2N4403   | PNP  | 40                 | 100             | 300  | 150                   | 2                    | .4                         | 150                 | 15    | 350                                | 5.0                   | 600            | 350            |
| 2N4409   | NPN  | 50                 | 60              | 400  | 10                    | 1                    | .2                         | 1                   | .1    | 100                                | 5.0                   | 250            | 625            |
| 2N4410   | NPN  | 80                 | 60              | 400  | 10                    | 1                    | .2                         | 1                   | .1    | 100                                | 5.0                   | 250            | 625            |
| 2N5088   | NPN  | 30                 | 300             | 900  | .1                    | 5                    | .5                         | 10                  | 1     | 75                                 | 2.0                   | 50             | 350            |
| 2N5089   | NPN  | 25                 | 400             | 1200 | .1                    | 5                    | .5                         | 10                  | 1     | 75                                 | 2.0                   | 50             | 350            |
| 2N5219   | NPN  | 15                 | 35              | 500  | 2                     | 10                   | .4                         | 10                  | 1     | 200                                | 2.0                   | 100            | 350            |
| 2N5220   | NPN  | 15                 | 30              | 600  | 50                    | 10                   | .5                         | 150                 | 15    | 125                                | 5.0                   | 500            | 350            |
| 2N5221   | PNP  | 15                 | 30              | 600  | 50                    | 10                   | .5                         | 150                 | 15    | 125                                | 7.0                   | 500            | 350            |
| 2N5223   | NPN  | 20                 | 50              | 800  | 2                     | 10                   | .7                         | 10                  | 1     | 200                                | 2.0                   | 100            | 350            |
| 2N5225   | NPN  | 25                 | 30              | 600  | 50                    | 10                   | .8                         | 100                 | 10    | 75                                 | 6.0                   | 200            | 350            |
| 2N5226   | PNP  | 25                 | 30              | 600  | 50                    | 10                   | .8                         | 100                 | 10    | 100                                | 7.0                   | 500            | 350            |
| 2N5227   | PNP  | 30                 | 50              | 700  | 2                     | 10                   | .4                         | 10                  | 1     | 125                                | 4.0                   | 50             | 350            |
| GES929   | NPN  | 50                 | 60              | 120  | .01                   | 5                    | .125                       | 10                  | 1     | 100                                | 2.0                   | 100            | 360            |
| GES930   | NPN  | 50                 | 100             | 300  | .01                   | 5                    | .125                       | 10                  | 1     | 100                                | 2.0                   | 100            | 360            |
| GES2221  | NPN  | 30                 | 40              | 120  | 150                   | 10                   | .3                         | 150                 | 15    | 275                                | 3.5                   | 400            | 360            |
| GES2221A | NPN  | 40                 | 40              | 120  | 150                   | 10                   | .3                         | 150                 | 15    | 275                                | 3.5                   | 400            | 360            |
| GES2222  | NPN  | 30                 | 100             | 300  | 150                   | 10                   | .3                         | 150                 | 15    | 275                                | 3.5                   | 400            | 360            |
| GES2222A | NPN  | 40                 | 100             | 300  | 150                   | 10                   | .3                         | 150                 | 15    | 325                                | 3.5                   | 400            | 360            |
| GES2483  | NPN  | 60                 | 75              | —    | .1                    | 5                    | .125                       | 10                  | 1     | 100                                | 2.0                   | 100            | 360            |
| GES2906  | PNP  | 40                 | 40              | 120  | 150                   | 10                   | .4                         | 150                 | 15    | 225                                | 3.0                   | 350            | 360            |
| GES2907  | PNP  | 40                 | 100             | 300  | 150                   | 10                   | .4                         | 150                 | 15    | 225                                | 3.0                   | 350            | 360            |
| GES5305  | NPN  | 25                 | 2K              | 20K  | 2                     | 5                    | 1.4                        | 200                 | .2    | 50                                 | 3.5                   | 300            | 400            |
| GES5306  | NPN  | 25                 | 7K              | 70K  | 2                     | 5                    | 1.4                        | 200                 | .2    | 50                                 | 3.5                   | 300            | 400            |
| GES5307  | NPN  | 40                 | 2K              | 20K  | 2                     | 5                    | 1.4                        | 200                 | .2    | 50                                 | 3.5                   | 300            | 400            |
| GES5308  | NPN  | 40                 | 7K              | 70K  | 2                     | 5                    | 1.4                        | 200                 | .2    | 50                                 | 3.5                   | 300            | 400            |
| GES5368  | NPN  | 30                 | 60              | 200  | 150                   | 10                   | .3                         | 150                 | 15    | 200                                | 3.5                   | 500            | 360            |
| GES5369  | NPN  | 30                 | 100             | 300  | 150                   | 10                   | .3                         | 150                 | 15    | 200                                | 3.5                   | 500            | 360            |
| GES5370  | NPN  | 30                 | 200             | 600  | 150                   | 10                   | .3                         | 150                 | 15    | 200                                | 3.5                   | 500            | 360            |
| GES5371  | NPN  | 30                 | 60              | 600  | 150                   | 10                   | .3                         | 150                 | 15    | 200                                | 3.5                   | 500            | 360            |
| GES5372  | PNP  | 30                 | 40              | 200  | 150                   | 10                   | .3                         | 150                 | 15    | 200                                | 4.0                   | 500            | 360            |
| GES5373  | PNP  | 30                 | 100             | 300  | 150                   | 10                   | .3                         | 150                 | 15    | 200                                | 4.0                   | 500            | 360            |
| GES5374  | PNP  | 30                 | 200             | 400  | 150                   | 10                   | .3                         | 150                 | 15    | 200                                | 4.0                   | 500            | 360            |

## SILICON SIGNAL DARLINGTON TRANSISTORS

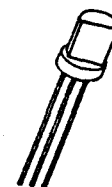
### TO-92 PACKAGE

| Device   | Type | $BV_{CEO}$<br>(V) | $h_{FE}$  |                     | $V_{CE(SAT)}$ |              |  |
|----------|------|-------------------|-----------|---------------------|---------------|--------------|--|
|          |      |                   | Min.-Max. | @ $I_C, V_{CE}$ (V) | (V) Max. @    | $I_C, I_B$   |  |
| GES5305  | NPN  | 25                | 2K-20K    | 2mA, 5              | 1.4           | 200mA, 200μA |  |
| GES5306  | NPN  | 25                | 7K-70K    | 2mA, 5              | 1.4           | 200mA, 200μA |  |
| GES5306A | NPN  | 25                | 7K-70K    | 2mA, 5              | 1.4           | 200mA, 200μA |  |
| GES5307  | NPN  | 40                | 2K-20K    | 2mA, 5              | 1.4           | 200mA, 200μA |  |
| GES5308  | NPN  | 40                | 7K-70K    | 2mA, 5              | 1.4           | 200mA, 200μA |  |
| GES5308A | NPN  | 40                | 7K-70K    | 2mA, 5              | 1.4           | 200mA, 200μA |  |
| D38L1-3  | NPN  | 40                | 2K-70K    | 2mA, 5              | 1.5           | 500mA, 500μA |  |
| D39C1-3  | PNP  | 40                | 2K-70K    | 2mA, 5              | 1.75          | 500mA, 500μA |  |
| D39C4-6  | PNP  | 25                | 2K-70K    | 2mA, 5              | 1.75          | 500mA, 500μA |  |



### TO-98 PACKAGE

| Device  | Type | $BV_{CEO}$<br>(V) | $h_{FE}$  |                     | $V_{CE(SAT)}$ |              |  |
|---------|------|-------------------|-----------|---------------------|---------------|--------------|--|
|         |      |                   | Min.-Max. | @ $I_C, V_{CE}$ (V) | (V) Max. @    | $I_C, I_B$   |  |
| 2N5305  | NPN  | 25                | 2K-20K    | 2mA, 5              | 1.4           | 200mA, 200μA |  |
| 2N5306  | NPN  | 25                | 7K-70K    | 2mA, 5              | 1.4           | 200mA, 200μA |  |
| 2N5306A | NPN  | 25                | 7K-70K    | 2mA, 5              | 1.4           | 200mA, 200μA |  |
| 2N5307  | NPN  | 40                | 2K-20K    | 2mA, 5              | 1.4           | 200mA, 200μA |  |
| 2N5308  | NPN  | 40                | 7K-70K    | 2mA, 5              | 1.4           | 200mA, 200μA |  |
| 2N5308A | NPN  | 40                | 7K-70K    | 2mA, 5              | 1.4           | 200mA, 200μA |  |
| D16P1   | NPN  | 12                | 2K-70K    | 2mA, 5              | 1.4           | 200mA, 200μA |  |



## SILICON SIGNAL HIGH VOLTAGE TYPES

### TO-92 PACKAGE

| Device  | $BV_{CEO}$<br>(V) | $h_{FE}$ | $I_{CBO}$ |                     | $V_{CE(SAT)}$       |            |            |
|---------|-------------------|----------|-----------|---------------------|---------------------|------------|------------|
|         |                   |          | Min.-Max. | @ $I_C, V_{CE}$ (V) | Max. @ $V_{CE}$ (V) | (V) Max. @ | $I_C, I_B$ |
| GES6218 | 300               | 20       | 20mA, 10  | 500nA               | 250                 | 1.0        | 10mA, 1mA  |
| GES6219 | 250               | 20       | 20mA, 10  | 1μA                 | 200                 | 1.0        | 10mA, 1mA  |
| GES6220 | 200               | 20       | 20mA, 10  | 1μA                 | 150                 | 2.0        | 20mA, 2mA  |
| GES6221 | 150               | 20       | 20mA, 10  | 10μA                | 100                 | 2.3        | 20mA, 2mA  |



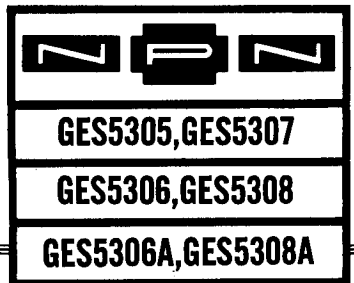
### TO-98 PACKAGE

| Device  | $BV_{CEO}$<br>(V) | $h_{FE}$ | $I_{CBO}$ |                     | $V_{CE(SAT)}$       |            |            |
|---------|-------------------|----------|-----------|---------------------|---------------------|------------|------------|
|         |                   |          | Min.-Max. | @ $I_C, V_{CE}$ (V) | Max. @ $V_{CE}$ (V) | (V) Max. @ | $I_C, I_B$ |
| 2N3877  | 70                | 20       | 2mA, 5    | 100nA*              | 40                  | .125       | 10mA, 1mA  |
| 2N3877A | 85                | 20       | 2mA, 5    | 100nA*              | 40                  | .125       | 10mA, 1mA  |
| 2N5174  | 75                | 40-600   | 10mA, 5   | 500nA               | 60                  | .950       | 10mA, 1mA  |
| 2N5175  | 100               | 55-160   | 10mA, 5   | 500nA               | 60                  | .950       | 10mA, 1mA  |
| 2N5176  | 100               | 140-300  | 10mA, 5   | 500nA               | 60                  | .950       | 10mA, 1mA  |



# Silicon Monolithic Darlington Amplifiers

CONSUMER-INDUSTRIAL



The General Electric GES5305, 6, 6A, 7, 8, 8A are NPN, silicon, planar, epitaxial, passivated Darlington monolithic amplifiers. These devices are especially suited for preamplifier input stages requiring input impedances of several megohms or extremely low level, high gain, low noise amplifier applications. Additional applications include medium speed switching circuits in consumer and industrial control applications.

absolute maximum ratings: (25°C) (unless otherwise specified)

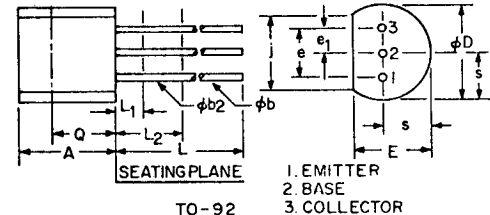
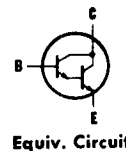
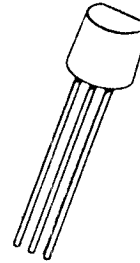
|                                                      | GES5305<br>GES5306<br>GES5306A | GES5307<br>GES5308<br>GES5308A |       |
|------------------------------------------------------|--------------------------------|--------------------------------|-------|
| <b>Voltages</b>                                      |                                |                                |       |
| Collector to Base                                    | V <sub>CBO</sub> 25            | 40                             | Volts |
| Collector to Emitter                                 | V <sub>CEO</sub> 25            | 40                             | Volts |
| Emitter to Base                                      | V <sub>EBO</sub> 12            | 12                             | Volts |
| <b>Current</b>                                       |                                |                                |       |
| Collector (Steady State)                             | I <sub>C</sub> 300             | mA                             |       |
| Collector (Pulsed)*                                  | I <sub>C</sub> 500             | mA                             |       |
| Base (Steady State)                                  | I <sub>B</sub> 50              | mA                             |       |
| <b>Dissipation</b>                                   |                                |                                |       |
| Total Power (T <sub>A</sub> ≤ 25°C)†                 | P <sub>T</sub> 400             | mW                             |       |
| Total Power with Heatsink (T <sub>A</sub> ≤ 25°C)††  | P <sub>T</sub> 600             | mW                             |       |
| Total Power with Heatsink (T <sub>C</sub> ≤ 25°C)††† | P <sub>T</sub> 900             | mW                             |       |
| <b>Temperature</b>                                   |                                |                                |       |
| Storage                                              | T <sub>stg</sub> -65 to +150°C |                                |       |
| Operating                                            | T <sub>j</sub> -65 to +125°C   |                                |       |
| Lead, 1/16" ± 1/32" from case for 10 sec. max.       | T <sub>L</sub> +260°C          |                                |       |

\*Pulse conditions: 300 μsec, pulse width, 2% duty cycle.

†Derate 4.0 mW/°C for increase in ambient temperature above 25°C.

††Derate 6.0 mW/°C for increase in ambient temperature above 25°C.

†††Derate 9.0 mW/°C for increase in case temperature above 25°C.



| SYMBOL | MILLIMETERS |       | INCHES |      | NOTES |
|--------|-------------|-------|--------|------|-------|
|        | MIN.        | MAX.  | MIN.   | MAX. |       |
| A      | 4.320       | 5.330 | 1.70   | 2.10 |       |
| φb     | 4.07        | 5.50  | 0.16   | 0.22 | 1,3   |
| φb2    | 4.07        | 4.82  | 0.16   | 0.19 | 3     |
| φD     | 4.450       | 5.200 | 1.75   | 2.05 |       |
| E      | 3.180       | 4.190 | 1.25   | 1.65 |       |
| e      | 2.410       | 2.670 | 0.95   | 1.05 |       |
| e1     | 1.150       | 1.395 | 0.45   | 0.55 |       |
| l      | 3.430       | 4.320 | 1.35   | 1.70 |       |
| L      | 12.700      | —     | 5.00   | —    | 1,3   |
| L1     | —           | 1.270 | —      | 0.50 | 3     |
| L2     | 6.350       | —     | 2.50   | —    | 3     |
| Q      | 2.920       | —     | 1.15   | —    | 2     |
| s      | 2.030       | 2.670 | 0.80   | 1.05 |       |

NOTES:

1. THREE LEADS

2. CONTOUR OF PACKAGE UNCONTROLLED OUTSIDE THIS SIDE.

3. (THREE LEADS) φb2 APPLIES BETWEEN L1 AND L2. φb APPLIES BETWEEN L2 AND 12.70 MM (.500") FROM THE SEATING PLANE. DIAMETER IS UNCONTROLLED IN L1 AND BEYOND 12.70 MM (.500") FROM SEATING PLANE.

electrical characteristics: (25°C) (unless otherwise specified)

## STATIC CHARACTERISTICS

|                                                                                                          | MIN.                     | MAX.  |       |
|----------------------------------------------------------------------------------------------------------|--------------------------|-------|-------|
| <b>Collector to Base Breakdown Voltage</b> (I <sub>C</sub> = 0.1 μA, I <sub>C</sub> = 0) GES5305, 6, 6A  | V <sub>(BR)CBO</sub> 25  |       | Volts |
| <b>Collector to Emitter Breakdown Voltage</b> (I <sub>C</sub> = 10mA, I <sub>B</sub> = 0) GES5305, 6, 6A | V <sub>(BR)CEO</sub> 25  |       | Volts |
| <b>Collector to Base Breakdown Voltage</b> (I <sub>C</sub> = 0.1 μA, I <sub>C</sub> = 0) GES5307, 8, 8A  | V <sub>(BR)CBO</sub> 40  |       | Volts |
| <b>Collector to Emitter Breakdown Voltage</b> (I <sub>C</sub> = 10mA, I <sub>B</sub> = 0) GES5307, 8, 8A | V <sub>(BR)CEO</sub> 40  |       | Volts |
| <b>Emitter to Base Breakdown Voltage</b> (I <sub>E</sub> = 0.1 μA, I <sub>E</sub> = 0)                   | V <sub>(BR)EBO</sub> 12  |       | Volts |
| <b>Forward Current Transfer Ratio</b>                                                                    |                          |       |       |
| (V <sub>CE</sub> = 5V, I <sub>C</sub> = 2mA) GES5305, 7                                                  | h <sub>FE</sub> 2000     | 20000 |       |
| (V <sub>CE</sub> = 5V, I <sub>C</sub> = 100mA) GES5305, 7                                                | h <sub>FE</sub> 6000     |       |       |
| (V <sub>CE</sub> = 5V, I <sub>C</sub> = 2mA) GES5306, 6A, 8, 8A                                          | h <sub>FE</sub> 7000     | 70000 |       |
| (V <sub>CE</sub> = 5V, I <sub>C</sub> = 100mA) GES5306, 6A, 8, 8A                                        | h <sub>FE</sub> 20000    |       |       |
| <b>Collector Cutoff Current</b>                                                                          |                          |       |       |
| (V <sub>CB</sub> = 25V, I <sub>E</sub> = 0)                                                              | I <sub>CBO</sub> 100     | nA    |       |
| (V <sub>CB</sub> = 25V, I <sub>E</sub> = 0, T <sub>A</sub> = 100°C)                                      | I <sub>CBO</sub> 20      | μA    |       |
| (V <sub>CB</sub> = 40V, I <sub>E</sub> = 0)                                                              | I <sub>CBO</sub> 100     | nA    |       |
| (V <sub>CB</sub> = 40V, I <sub>E</sub> = 0, T <sub>A</sub> = 100°C)                                      | I <sub>CBO</sub> 20      | μA    |       |
| <b>Emitter Cutoff Current</b> (V <sub>EB</sub> = 12V, I <sub>C</sub> = 0)                                | I <sub>EBO</sub> 100     | nA    |       |
| <b>Collector Emitter Saturation Voltage</b>                                                              |                          |       |       |
| (I <sub>C</sub> = 200mA, I <sub>B</sub> = 0.2mA)                                                         | V <sub>BE(SAT)</sub> 1.4 |       | Volts |
| <b>Base Emitter Saturation Voltage</b>                                                                   |                          |       |       |
| (I <sub>C</sub> = 200mA, I <sub>B</sub> = 0.2mA)                                                         | V <sub>CE(SAT)</sub> 1.6 |       | Volts |
| <b>Base Emitter Voltage</b> (V <sub>CE</sub> = 5V, I <sub>C</sub> = 200mA)                               | V <sub>BE</sub> 1.5      |       | Volts |

## DYNAMIC CHARACTERISTICS

|                                                                                        | MIN.                                                                                                           | TYP.               | MAX. |        |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|--------------------|------|--------|
| <b>Forward Current Transfer Ratio</b>                                                  |                                                                                                                |                    |      |        |
| (V <sub>CE</sub> = 5V, I <sub>C</sub> = 2mA, f = 1kHz) GES5305, 7                      | h <sub>fe</sub> 2000                                                                                           |                    |      |        |
| (V <sub>CE</sub> = 5V, I <sub>C</sub> = 2mA, f = 1kHz) GES5306, 6A, 8, 8A              | h <sub>fe</sub> 7000                                                                                           |                    |      |        |
| (V <sub>CE</sub> = 5V, I <sub>C</sub> = 2mA, f = 1kHz)                                 | h <sub>fe</sub>   15.6                                                                                         |                    |      | dB     |
| <b>Gain Bandwidth Product</b> (V <sub>CE</sub> = 5V, I <sub>C</sub> = 2mA, f = 10 MHz) | f <sub>T</sub> 30                                                                                              |                    |      | MHz    |
| <b>Input Impedance</b> (V <sub>CE</sub> = 5V, I <sub>C</sub> = 2mA, f = 1 kHz)         | h <sub>ie</sub> 650                                                                                            |                    |      | kohms  |
| <b>Collector Base Capacitance</b> (V <sub>CB</sub> = 10V, f = 1 MHz)                   | C <sub>cb</sub> 7.6                                                                                            | 10                 |      | pF     |
| <b>Emitter Capacitance</b> (V <sub>EB</sub> = 0.5V, f = 1 MHz)                         | C <sub>eb</sub> 10.5                                                                                           |                    |      | pF     |
| <b>GES5306A, 8A only:</b>                                                              |                                                                                                                |                    |      |        |
| <b>Noise Voltage</b>                                                                   | (I <sub>C</sub> = 0.6 mA, V <sub>CE</sub> = 5V, R <sub>G</sub> = 160kΩ<br>f = 10 Hz to 10kHz, B.W. = 15.7 kHz) | e <sub>n</sub> 195 | 230  | nV/√Hz |

NOTE: As measured on a Quan-Tech Model 2283/2181M test set with 10 Hz filter modified by Quan-Tech to a wideband (f = 10 Hz to 10 kHz, B.W. = 15.7 kHz) filter.

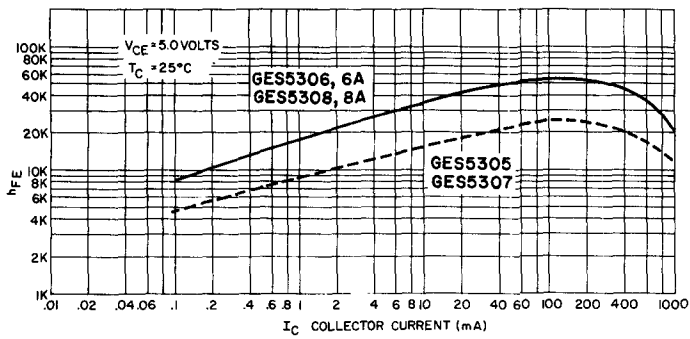
GES5305, GES5307

GES5306, GES5308

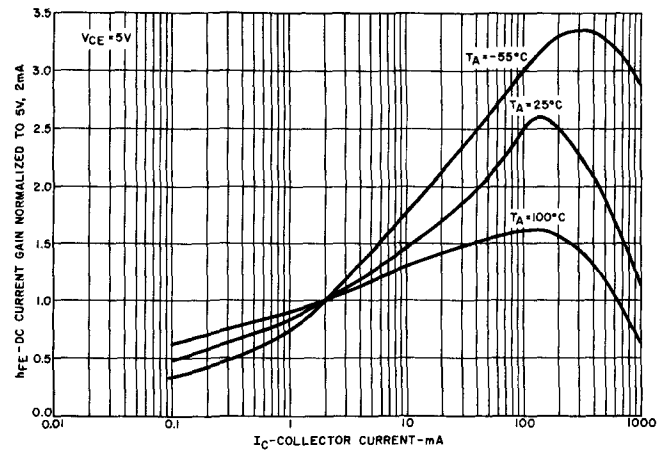
GES5306A, GES5308A

## Typical Curves

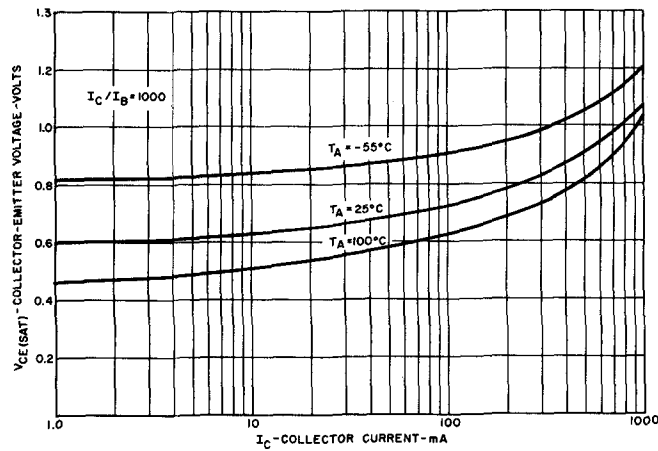
Typical  $h_{FE}$  vs.  $I_C$



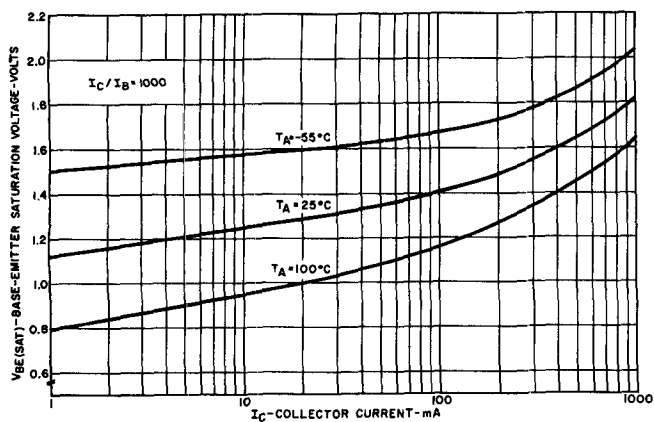
Normalized  $h_{FE}$  vs.  $I_C$



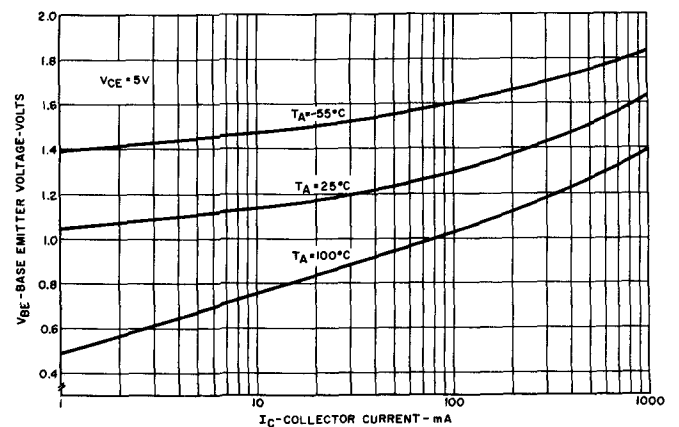
$V_{CE}$  vs.  $I_C$



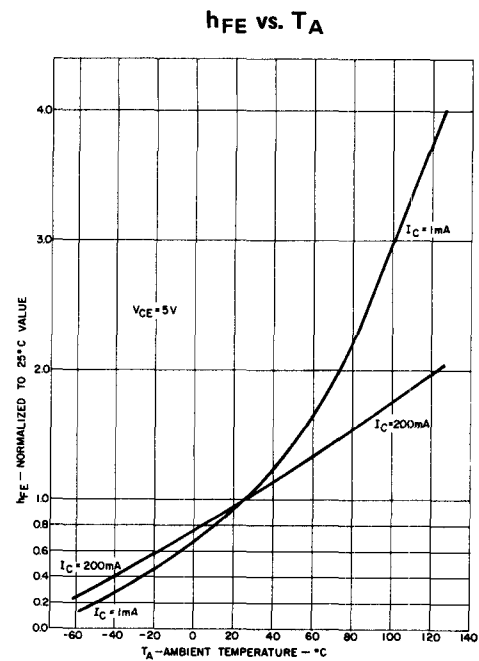
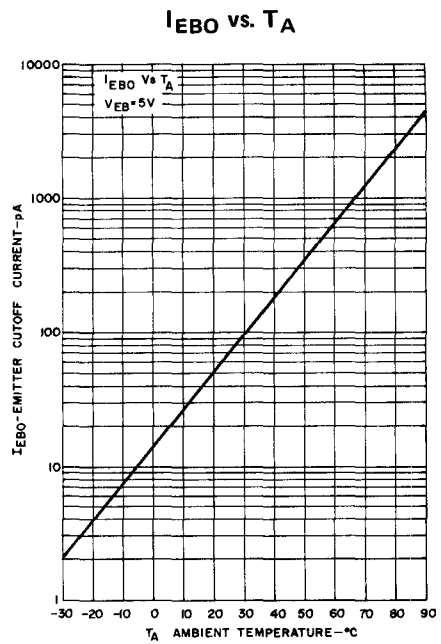
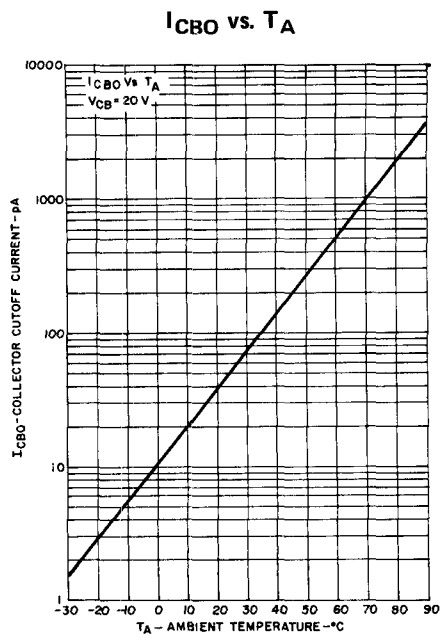
$V_{BE(SAT)}$  vs.  $I_C$



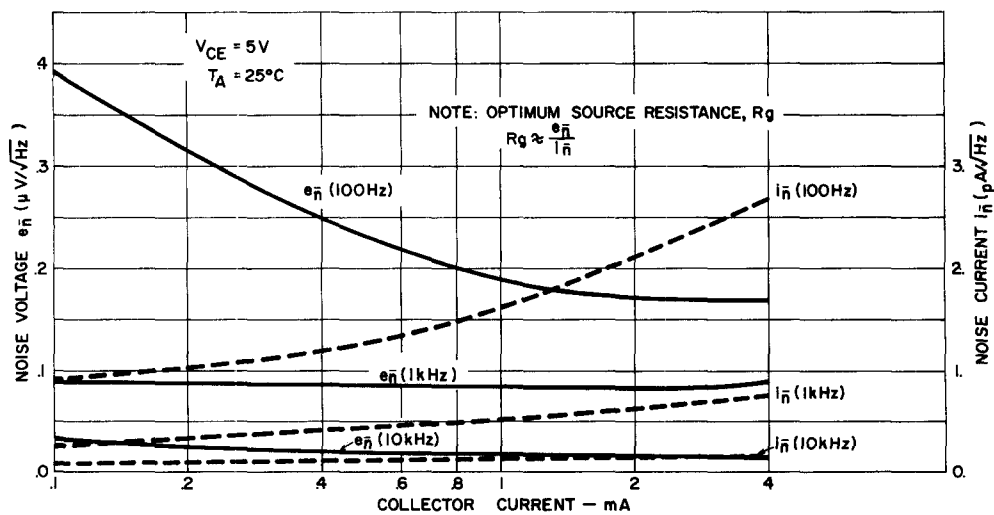
Transconductance Characteristic,  $V_{BE}$  vs.  $I_C$



GES5305, GES5307  
GES5306, GES5308  
GES5306A, GES5308A



### Equivalent Input Noise Voltage and Current vs. Bias Current



NOTE: Due to the noise characteristics of this device versus frequency, calculation of noise figure (N.F.) from  $e_n$ ,  $i_n$  values is not accurate [as is the case with field effect transistors (F.E.T.'s)].

GES5305, GES5307

GES5306, GES5308

GES5306, GES5308A

## Typical Collector Characteristics

