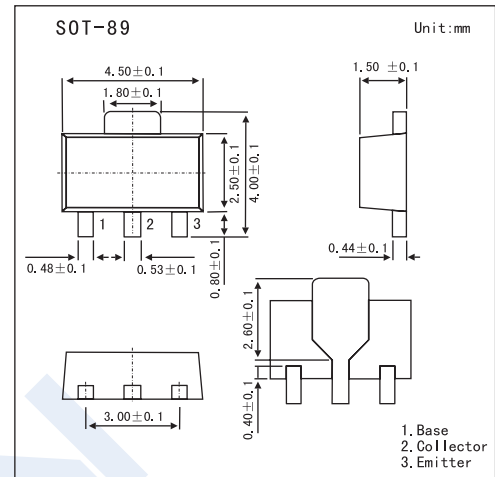


## High Current Drive Applications

## 2SA1363

## ■ Features

- High  $h_{FE}$  :  $h_{FE} = 150$  to  $800$
- High Collector Current ( $I_C = -2A$ )
- High Collector Dissipation  $P_C = 500mW$
- Small Package For Mounting
- Complementary to 2SC3443

■ Absolute Maximum Ratings  $T_a = 25^\circ C$ 

| Parameter                   | Symbol    | Rating      | Unit       |
|-----------------------------|-----------|-------------|------------|
| Collector-Base Voltage      | $V_{CB0}$ | -20         | V          |
| Collector-Emitter Voltage   | $V_{CEO}$ | -16         | V          |
| Emitter-Base Voltage        | $V_{EBO}$ | -6          | V          |
| Collector Current           | $I_C$     | -2          | A          |
| Peak Collector Current      | $I_{CM}$  | -3          | A          |
| Collector Power Dissipation | $P_C$     | 500         | mW         |
| Junction temperature        | $T_j$     | 150         | $^\circ C$ |
| Storage temperature Range   | $T_{stg}$ | -55 to +150 | $^\circ C$ |

■ Electrical Characteristics  $T_a = 25^\circ C$ 

| Parameter                            | Symbol        | Testconditions                     | Min | Typ   | Max  | Unit    |
|--------------------------------------|---------------|------------------------------------|-----|-------|------|---------|
| Collector Cut-off Current            | $I_{CBO}$     | $V_{CB} = -16V, I_E = 0$           |     |       | -0.2 | $\mu A$ |
| Emitter Cut-off Current              | $I_{EBO}$     | $V_{EB} = -4V, I_C = 0$            |     |       | -0.2 | $\mu A$ |
| Collector-Emitter Breakdown Voltage  | $V_{(BR)CEO}$ | $I_C = -2mA, R_{BE} = \infty$      | -16 |       |      | V       |
| Collector-Base Breakdown Voltage     | $V_{(BR)CBO}$ | $I_C = -10\mu A, I_E = 0$          | -20 |       |      | V       |
| Emitter-Base Breakdown Voltage       | $V_{(BR)EBO}$ | $I_E = -10\mu A, I_C = 0$          | -6  |       |      | V       |
| DC Current Gain                      | $h_{FE}$      | $V_{CE} = -4V, I_C = 100mA$        | 150 |       | 800  |         |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = -1A, I_B = -50mA$           |     | -0.17 | -0.3 | V       |
| Transition Frequency                 | $f_T$         | $V_{CE} = -2V, I_E = 10mA$         |     | 80    |      | MHz     |
| Collector Output Capacitance         | $C_{ob}$      | $V_{CB} = -10V, I_E = 0, f = 1MHz$ |     | 42    |      | pF      |

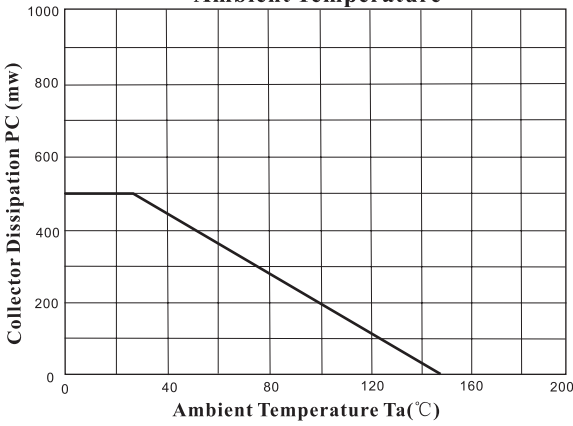
■  $h_{FE}$  Classification

| Marking  | A         |           |           |
|----------|-----------|-----------|-----------|
|          | E         | F         | G         |
| $h_{FE}$ | 150 ~ 300 | 250 ~ 500 | 400 ~ 800 |

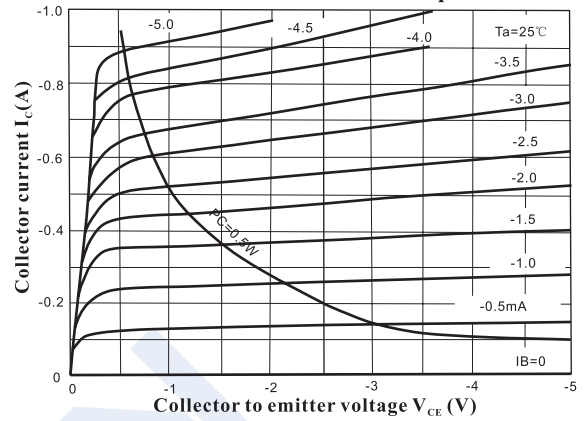
# 2SA1363

## Electrical Characteristics Curves

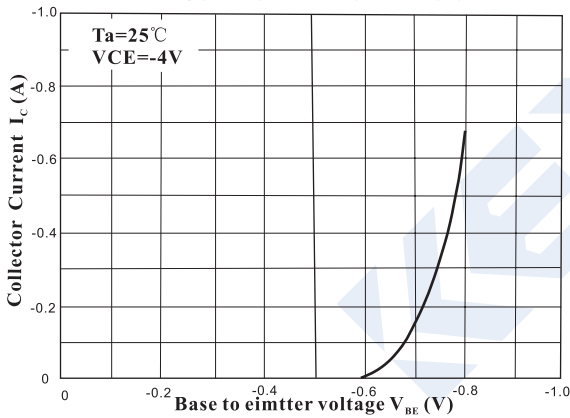
**Collector Dissipation vs Ambient Temperature**



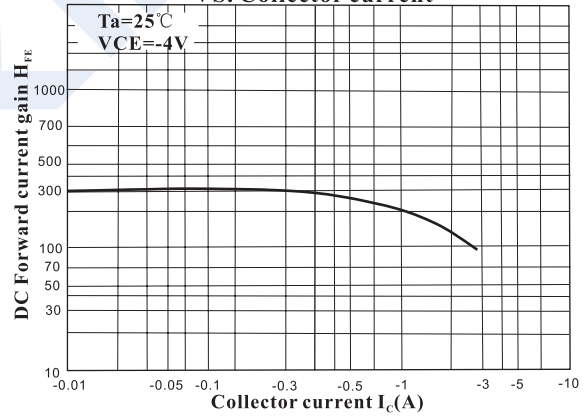
**Common emitter output**



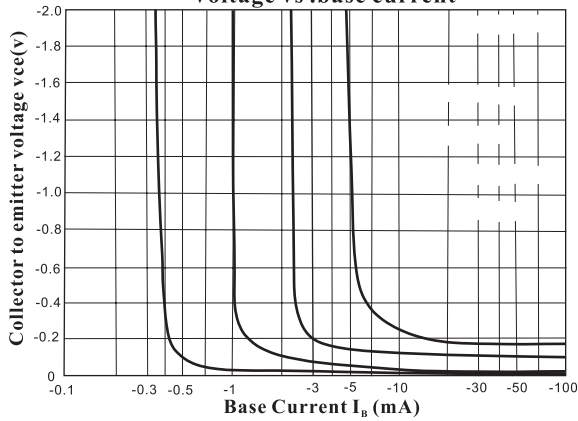
**Common Emitter Transfer**



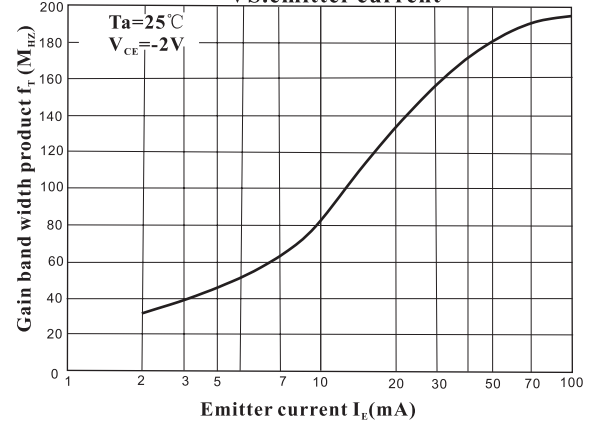
**DC Forward current gain VS. Collector current**



**Collector to emitter saturation Voltage vs. base current**



**Gain band width product VS. emitter current**



## 2SA1363

