

**SANYO**

No.4625

**2SA1815**

PNP Epitaxial Planar Silicon Transistor  
 FM, RF, MIX, IF Amp, High-Frequency  
 General-Purpose Amp Applications

**Features**

- High power gain : PG = 25dB typ (f = 100MHz)
- High cutoff frequency :  $f_T = 750\text{MHz}$  typ
- Low collector-to-emitter saturation voltage.
- Complementary pair with the 2SC4432.

**Absolute Maximum Ratings at  $T_a = 25^\circ\text{C}$** 

|                              |           |             | unit             |
|------------------------------|-----------|-------------|------------------|
| Collector to Base Voltage    | $V_{CB0}$ | -15         | V                |
| Collector to Emitter Voltage | $V_{CE0}$ | -12         | V                |
| Emitter to Base Voltage      | $V_{EB0}$ | -3          | V                |
| Collector Current            | $I_C$     | -50         | mA               |
| Collector Dissipation        | $P_C$     | 250         | mW               |
| Junction Temperature         | $T_j$     | 150         | $^\circ\text{C}$ |
| Storage Temperature          | $T_{stg}$ | -55 to +150 | $^\circ\text{C}$ |

**Electrical Characteristics at  $T_a = 25^\circ\text{C}$** 

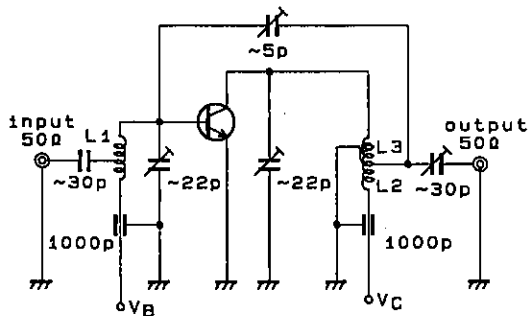
|                              |               |   | min  | typ | max  | unit          |
|------------------------------|---------------|---|------|-----|------|---------------|
| Collector Cutoff Current     | $I_{CBO}$     | $V_{CB} = -12\text{V}, I_E = 0$                               |      |     | -0.1 | $\mu\text{A}$ |
| Emitter Cutoff Current       | $I_{EBO}$     | $V_{EB} = -2\text{V}, I_C = 0$                                |      |     | -0.1 | $\mu\text{A}$ |
| DC Current Gain              | $h_{FE}$      | $V_{CE} = -10\text{V}, I_C = -5\text{mA}$                     | 60*  |     | 270* |               |
| Gain-Bandwidth Product       | $f_T$         | $V_{CE} = -10\text{V}, I_C = -5\text{mA}$                     |      | 750 |      | MHz           |
| Output Capacitance           | $C_{ob}$      | $V_{CB} = -10\text{V}, f = 1\text{MHz}$                       |      | 1.2 | 1.6  | pF            |
| Reverse Transfer Capacitance | $C_{re}$      | $V_{CB} = -10\text{V}, f = 1\text{MHz}$                       |      | 0.9 |      | pF            |
| C-E Saturation Voltage       | $V_{CE(sat)}$ | $I_C = -10\text{mA}, I_B = -1\text{mA}$                       | -0.1 |     | -0.3 | V             |
| Power Gain                   | PG            | $V_{CE} = -10\text{V}, I_C = -10\text{mA}, f = 100\text{MHz}$ |      | 25  |      | dB            |

\* The 2SA1815 is classified by 5mA  $h_{FE}$  as follows:

|          |          |           |
|----------|----------|-----------|
| 60 3 120 | 90 4 180 | 135 5 270 |
|----------|----------|-----------|

Marking : JS

$h_{FE}$  rank : 3, 4, 5

**PG Test Circuit**

Unit (Capacitance : F)

A01884

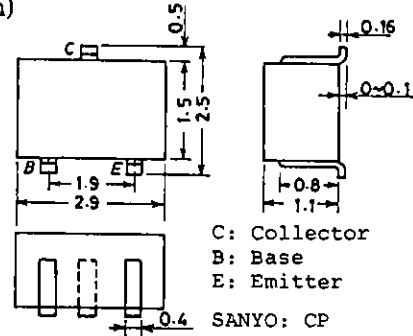
L1 : 1mm $\phi$  plated wire 10mm $\phi$  5T, pitch 15mm,  
tap : 2T from base side

L2 : 1mm $\phi$  plated wire 10mm $\phi$  7T, pitch 10mm,  
tap : 2T from  $V_C$  side

L3 : 1mm $\phi$  enamel wire 10mm $\phi$  3T, pitch 10mm

**Package Dimensions 2018A**

(unit : mm)



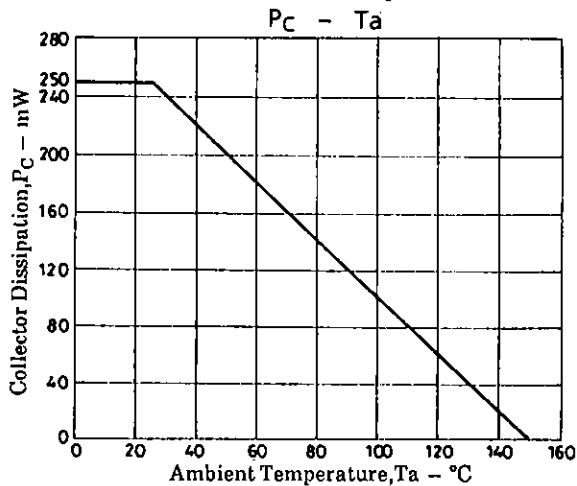
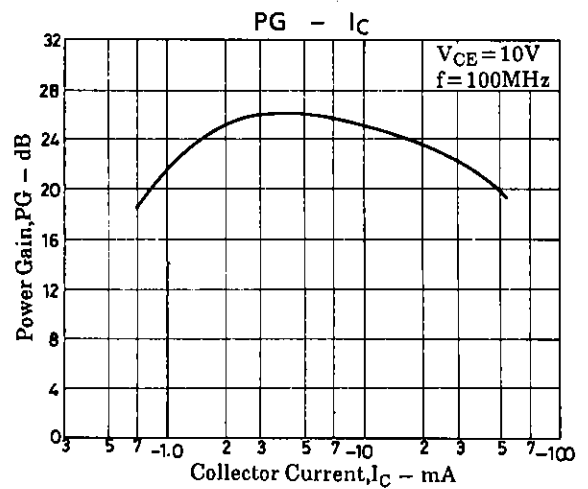
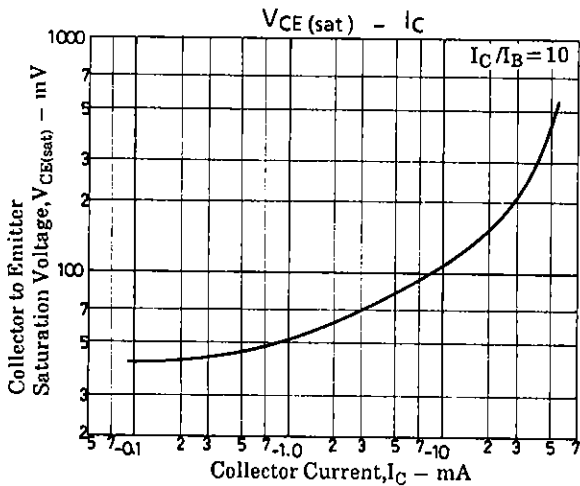
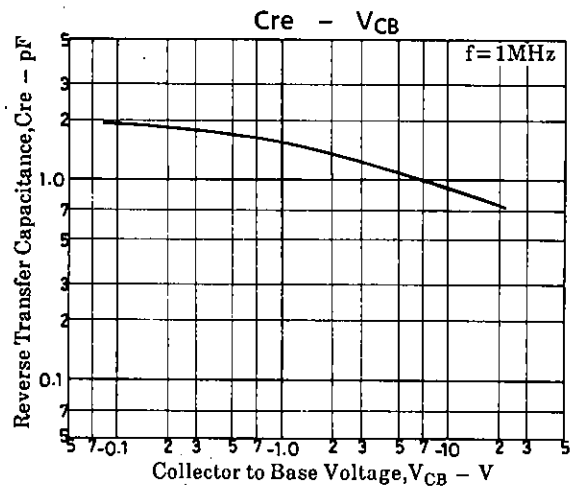
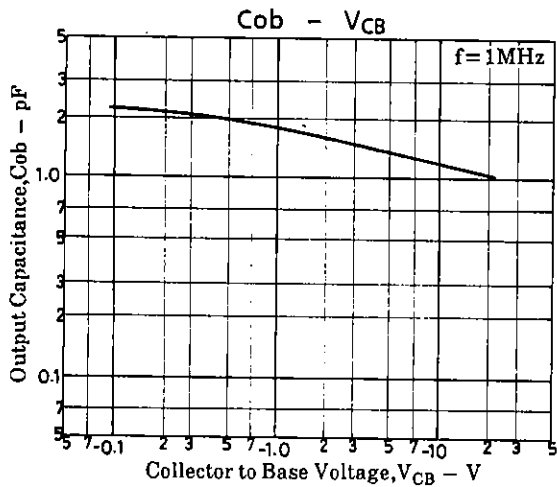
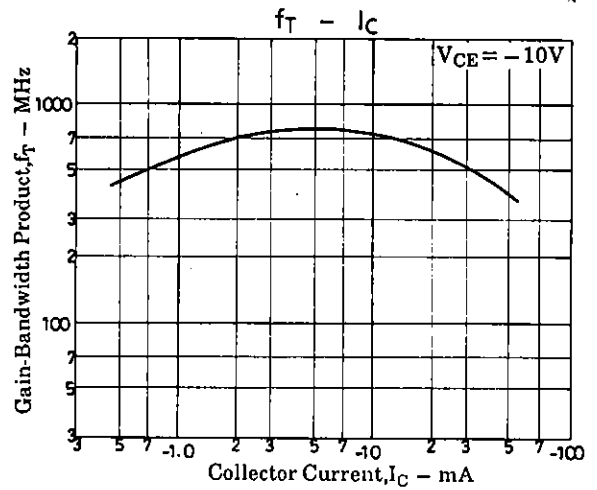
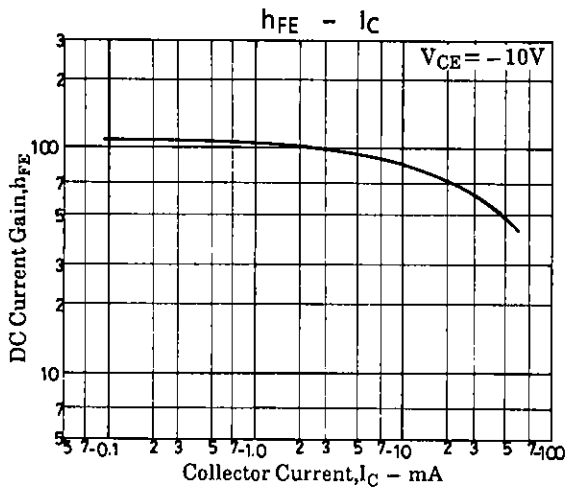
C: Collector  
 B: Base  
 E: Emitter

SANYO: CP

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