



SANYO Semiconductors

DATA SHEET

PNP/NPN Epitaxial Planar Silicon Transistors

2SA1317/2SC3330 — AF Amp Applications

Use

- . Capable of being used in the low frequency to high frequency range.

Features

- . Large current capacity and wide ASO.

(): 2SA1317

Absolute Maximum Ratings at Ta=25°C

| | | | unit |
|------------------------------|------------------|-------------|------|
| Collector to Base Voltage | V _{CB0} | (-)60 | V |
| Collector to Emitter Voltage | V _{CEO} | (-)50 | V |
| Emitter to Base Voltage | V _{EB0} | (-)6 | V |
| Collector Current | I _C | (-)200 | mA |
| Collector Current (Pulse) | I _{CP} | (-)400 | mA |
| Collector Dissipation | P _C | 300 | mW |
| Junction Temperature | T _J | 150 | °C |
| Storage Temperature | T _{stg} | -55 to +150 | °C |

Electrical Characteristics at Ta=25°C

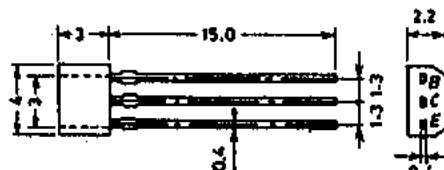
| | | | min | typ | max | unit |
|--------------------------|---------------------|---|-------|-------|--------|------|
| Collector Cutoff Current | I _{CB0} | V _{CB} =(-)40V, I _E =0 | | | (-)0.1 | μA |
| Emitter Cutoff Current | I _{EB0} | V _{EB} =(-)5V, I _C =0 | | | (-)0.1 | μA |
| DC Current Gain | h _{FE} (1) | V _{CE} =(-)6V, I _C =(-)1mA | 100* | | 800* | |
| | | | (100) | | (560) | |
| Gain-Bandwidth Product | f _T | V _{CE} =(-)6V, I _C =(-)10mA | 70 | | | |
| | | | 200 | | | MHz |
| Output Capacitance | C _{ob} | V _{CB} =(-)6V, f=1MHz | | 3.0 | | pF |
| | | | | (4.0) | | |

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* The 2SA1317/2SC3330 are classified by 1mA h_{FE} as follows:

| | | | | | | | | | | | | | | | |
|---------|-----|---|-----|-----|---|-----|-----|---|-----|-----|---|-----|-----|---|-----|
| 2SA1317 | 100 | R | 200 | 140 | S | 280 | 200 | T | 400 | 280 | U | 560 | | | |
| 2SC3330 | 100 | R | 200 | 140 | S | 280 | 200 | T | 400 | 280 | U | 560 | 400 | V | 800 |

Case Outline 2033
(unit:mm)



SANYO: SPA
 B: Base
 C: Collector
 E: Emitter

Specifications and information herein are subject to change without notice.

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Continued from preceding page.

| | | min | typ | max | unit |
|---|---------------|---------------------------------|-----|--------|------|
| Collector to Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = (-)100mA, I_B = (-)10mA$ | | (-)0.3 | V |
| Base to Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C = (-)100mA, I_B = (-)10mA$ | | (-)1.0 | V |
| Collector to Base Breakdown Voltage | $V_{(BR)CBO}$ | $I_C = (-)10\mu A, I_E = 0$ | | (-)60 | V |
| Collector to Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C = (-)1mA, R_{BE} = \infty$ | | (-)50 | V |
| Emitter to Base Breakdown Voltage | $V_{(BR)EBO}$ | $I_E = (-)10\mu A, I_C = 0$ | | (-)6 | V |

