Ordering number: EN 2265A

SANYO

No.2265A

# 2SB1269/2SD1905

PNP/NPN Epitaxial Planar Type
Silicon Transistors

## HIGH-CURRENT SWITCHING APPLICATIONS

**Applications**

- Suitable for relay drivers, high-speed inverters, converters, and other general high-current switching applications

**Features**

- Suitable for sets whose height is restricted
- Low collector to emitter saturation voltage
- Wide ASO and highly resistant to breakdown

( ): 2SB1269

**Absolute Maximum Ratings** at Ta=25°C

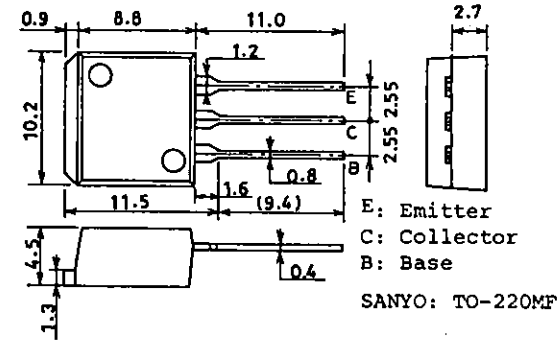
| | | | | unit |
|---|---|---|---|---|
| Collector to Base Voltage | $V_{CBO}$ | | (-)60 | V |
| Collector to Emitter Voltage | $V_{CEO}$ | | (-)50 | V |
| Emitter to Base Voltage | $V_{EBO}$ | | (-)6 | V |
| Collector Current | $I_C$ | | (-)7 | A |
| Peak Collector Current | $i_{cp}$ | | (-)12 | A |
| Collector Dissipation | $P_C$ | | 1.65 | W |
| | | Tc=25°C | 40 | W |
| Junction Temperature | Tj | | 150 | °C |
| Storage Temperature | Tstg | | -55 to +150 | °C |

**Electrical Characteristics** at Ta=25°C

| | | | min | typ | max | unit |
|---|---|---|---|---|---|---|
| Collector Cutoff Current | $I_{CBO}$ | $V_{CB}$=(-)40V, $I_E$=0 | | | (-)0.1 | mA |
| Emitter Cutoff Current | $I_{EBO}$ | $V_{EB}$=(-)4V, $I_C$=0 | | | (-)0.1 | mA |
| DC Current Gain | $h_{FE(1)}$ | $V_{CE}$=(-)2V, $I_C$=(-)1A | 70* | | 280* | |
| | $h_{FE(2)}$ | $V_{CE}$=(-)2V, $I_C$=(-)5A | 30 | | | |
| Gain-Bandwidth Product | $f_T$ | $V_{CE}$=(-)5V, $I_C$=(-)1A | | 10 | | MHz |
| C-E Saturation Voltage | $V_{CE(sat)}$ | $I_C$=(-)4A, $I_B$=(-)0.4A | | | (-)0.4 | V |
| C-B Breakdown Voltage | $V_{(BR)CBO}$ | $I_C$=(-)1mA, $I_E$=0 | (-)60 | | | V |
| C-E Breakdown Voltage | $V_{(BR)CEO}$ | $I_C$=(-)1mA, $R_{BE}$=∞ | (-)50 | | | V |
| E-B Breakdown Voltage | $V_{(BR)EBO}$ | $I_E$=(-)1mA, $I_C$=0 | (-)6 | | | V |

Continued on next page.

**Package Dimensions** 2049B
(unit: mm)



Continued from preceding page.

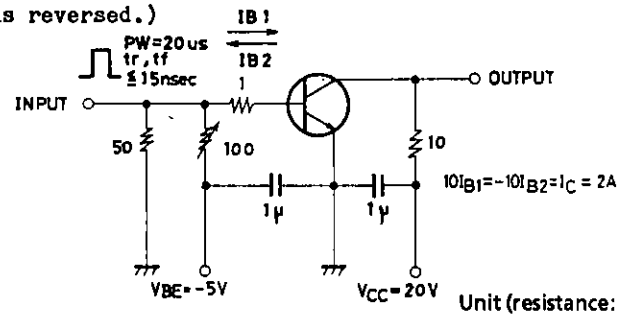
| | | | min | typ | max | unit |
|---|---|---|---|---|---|---|
| Turn-on Time | $t_{on}$ | See specified Test Circuit. | | 0.2 | | μs |
| Storage Time | $t_{stg}$ | " | | (0.1)0.3 | | μs |
| Fall Time | $t_f$ | " | | (0.7)0.9 | | μs |

*: The 2SB1269/2SD1905 are classified by 1A $h_{FE}$ as follows:

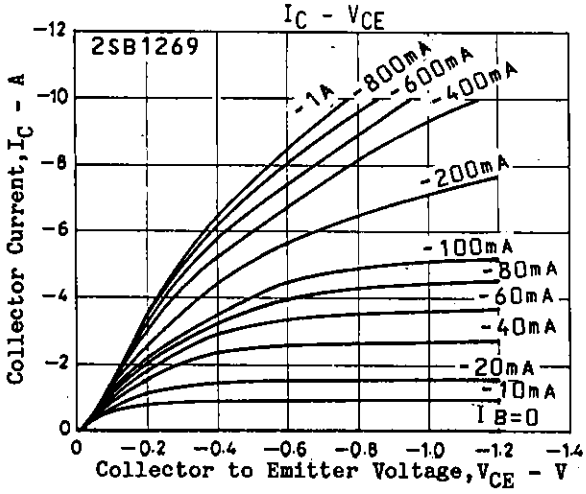
| | | |
|---|---|---|
| 70 Q 140 | 100 R 200 | 140 S 280 |

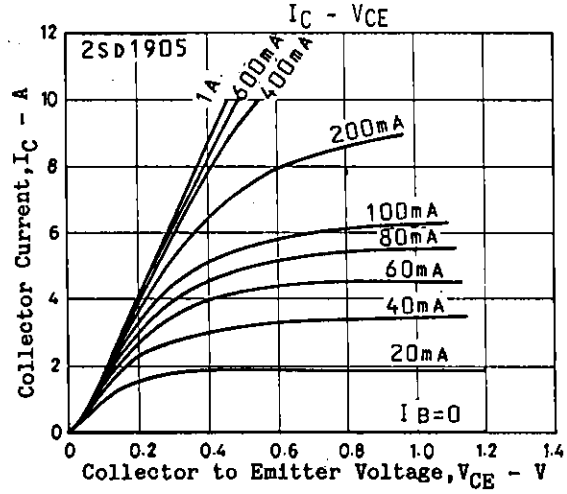
**Switching Time Test Circuit**

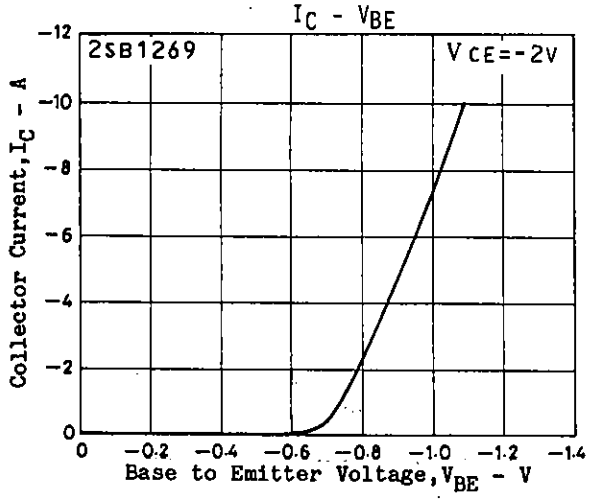
(For PNP, the polarity is reversed.)

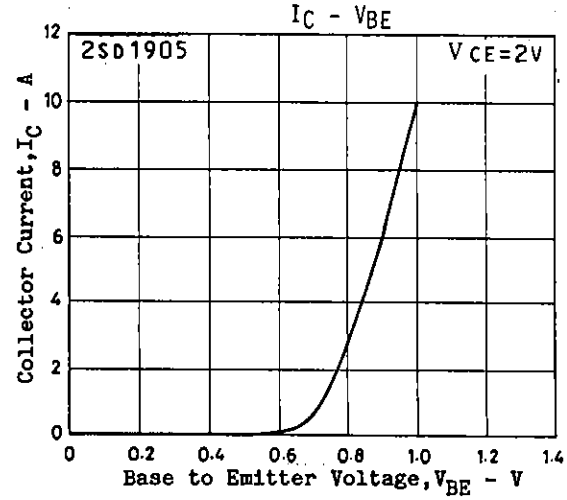



Unit (resistance: Ω, capacitance: F)

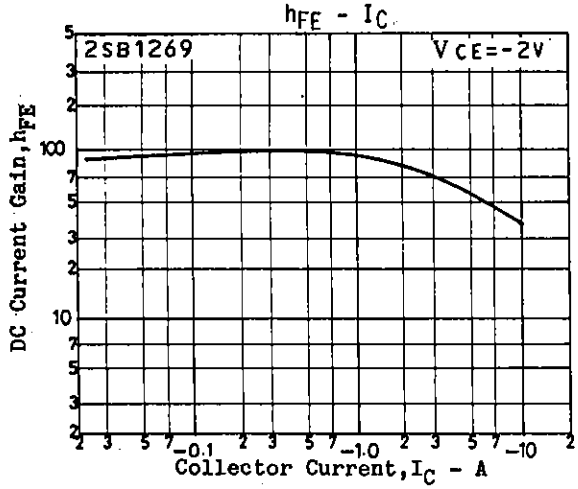


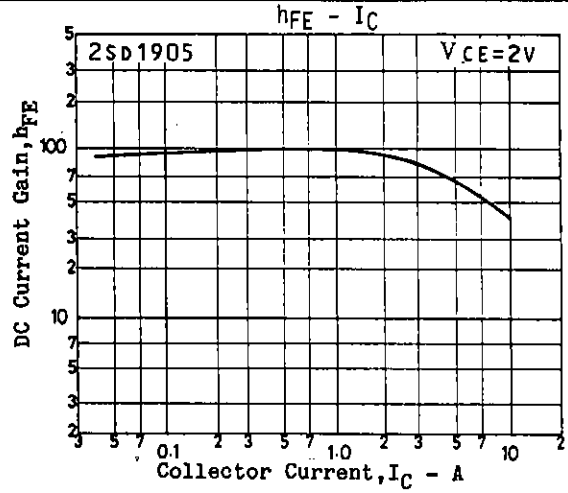



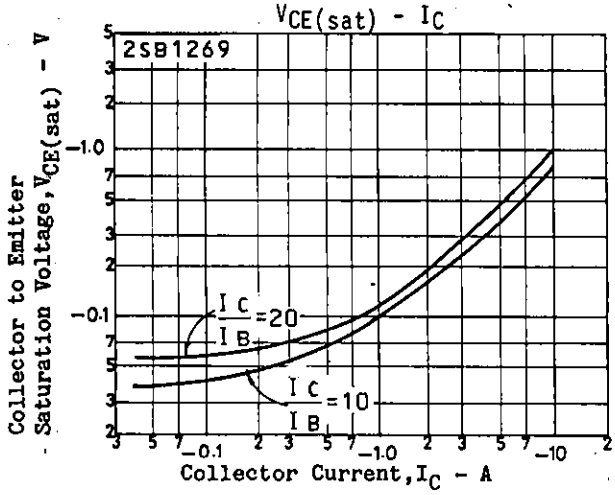
$h_{FE}$ - $I_C$



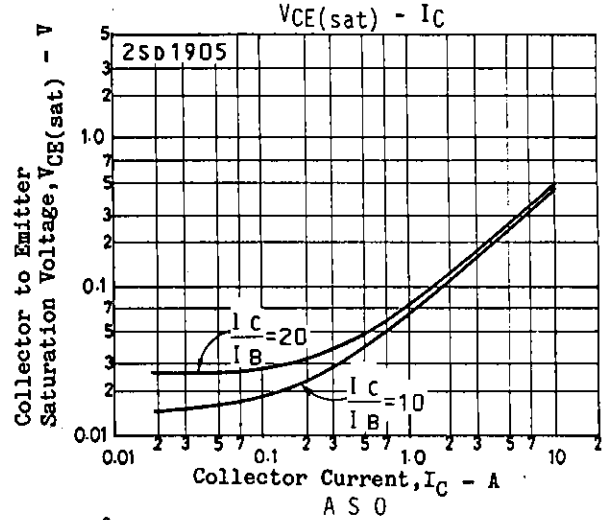

$h_{FE}$ - $I_C$



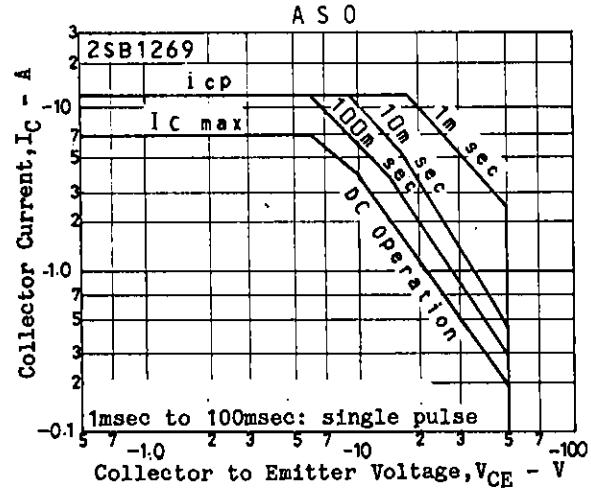

$V_{CE(sat)}$ - $I_C$



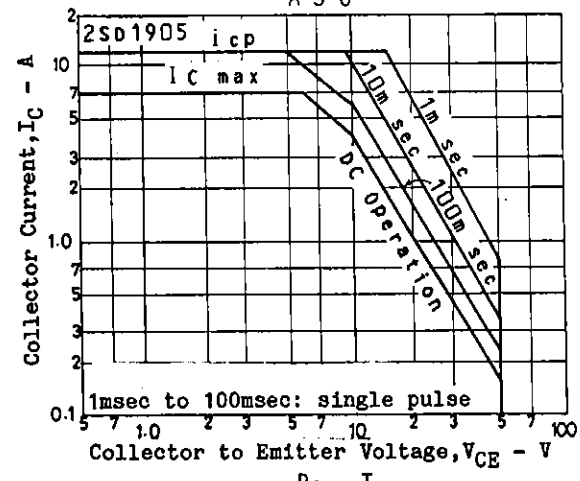

$V_{CE(sat)}$ - $I_C$



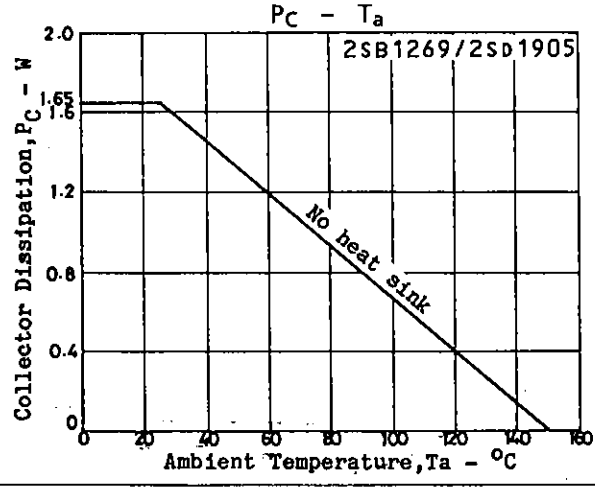

A S O



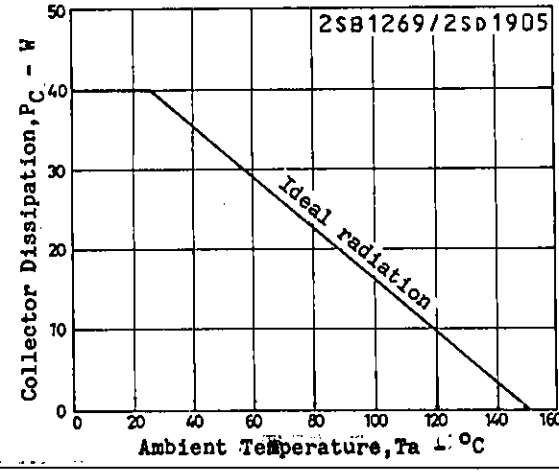

A S O




$P_C$ - $T_a$




$P_C$ - $T_a$



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