2SA1824/2SC4728



50V/5A Switching Applications

Applications

· Relay drivers, high-speed inverters, converters, and other general high-current switching applications.

Features

- · Low collector-to-emitter saturation voltage.
- · High Gain-Bandwidth Product.
- · Excellent linearity of DC Current Gain.
- · Fast switching speed.

(): 2SA1824

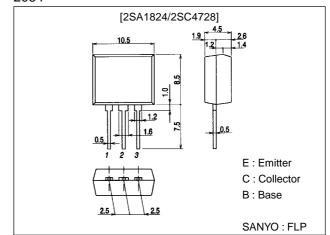
Specifications

Absolute Maximum Ratings at Ta = 25°C

Package Dimensions

unit:mm

2084



| Parameter | Symbol | Conditions | Ratings | Unit |
|------------------------------|------------------|------------|-------------|------|
| Collector-to-Base Voltage | V _{CBO} | | (–)60 | V |
| Collector-to-Emitter Voltage | VCEO | | (-)50 | V |
| Emitter-to-Base Voltage | V _{EBO} | | (-)6 | V |
| Collector Current | IC | | (-)5 | Α |
| Collector Current (Pulse) | ICP | | (–)8 | Α |
| Base Current | ΙB | | (-)1 | Α |
| Collector Dissipation | PC | | 1.5 | W |
| Junction Temperature | Tj | | 150 | °C |
| Storage Temperature | Tstg | | -55 to +150 | °C |

Electrical Characteristics at Ta = 25°C

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|--------------------------|-------------------|--|---------|--------|------|------|
| | | | min | typ | max | |
| Collector Cutoff Current | I _{CBO} | V _{CB} =(-)40V, I _E =0 | | | (–)1 | μA |
| Emitter Cutoff Current | IEBO | V _{EB} =(-)4V, I _C =0 | | | (-)1 | μA |
| DC Current Gain | h _{FE} 1 | V _{CE} =(-)2V, I _C =(-)500mA | 100* | | 400* | |
| | h _{FE} 2 | V _{CE} =(-)2V, I _C =(-)4A | 35 | | | |
| Gain-Bandwidth Product | fΤ | V _{CE} =(-)5V, I _C =(-)1A | | (130) | | MHz |
| | | | | 180 | | MHz |
| Output Capacitance | C _{ob} | V _{CB} =(-)10V, f=1MHz | | (60)40 | | pF |

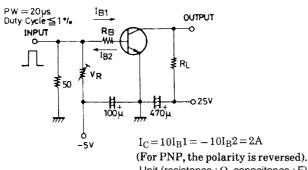
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| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|----------------------|--|---------|---------|--------|-------|
| | | | min | typ | max | Offic |
| Collector-to-Emitter Saturation Voltage | V _{CE(sat)} | I _C =(-)3A, I _B =(-)0.15A | | (–280) | (-550) | mV |
| | | | | 220 | 400 | mV |
| Base-to-Emitter Saturation Voltage | V _{BE(sat)} | I _C =(-)3mA, I _B =(-)0.15A | | (–)0.95 | (–)1.3 | V |
| Collector-to-Base Breakdown Voltage | V(BR)CBO | I _C =(-)10μΑ, I _E =0 | (–)60 | | | V |
| Collector-to-Emitter Breakdown Voltage | V(BR)CEO | I _C =(-)1mA, R _{BE} =∞ | (–)50 | | | V |
| Emitter-to-Base Breakdown Voltage | V _{(BR)EBO} | I _E =(-)10μA, I _C =0 | (–)6 | | | V |
| Turn-ON Time | ton | See specified Test Circuit | | 50 | | ns |
| Storage Time | t _{stg} | See specified Test Clrcuit | | (450) | | ns |
| | | | | 500 | | ns |
| Fall Time | t _f | See specified Test Circuit | | 20 | | ns |

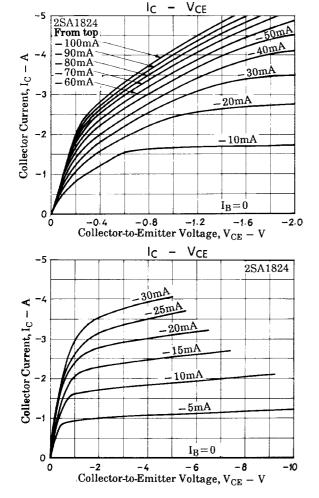
^{*:} The 2SA1824/2SC4728 are classified by 500mA hFE as follows:

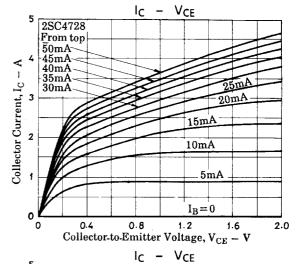
| 100 R 200 | 140 S 280 | 200 T 400 |
|-----------|-----------|-----------|
|-----------|-----------|-----------|

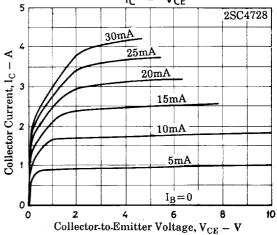
Switching Time Test Circuit



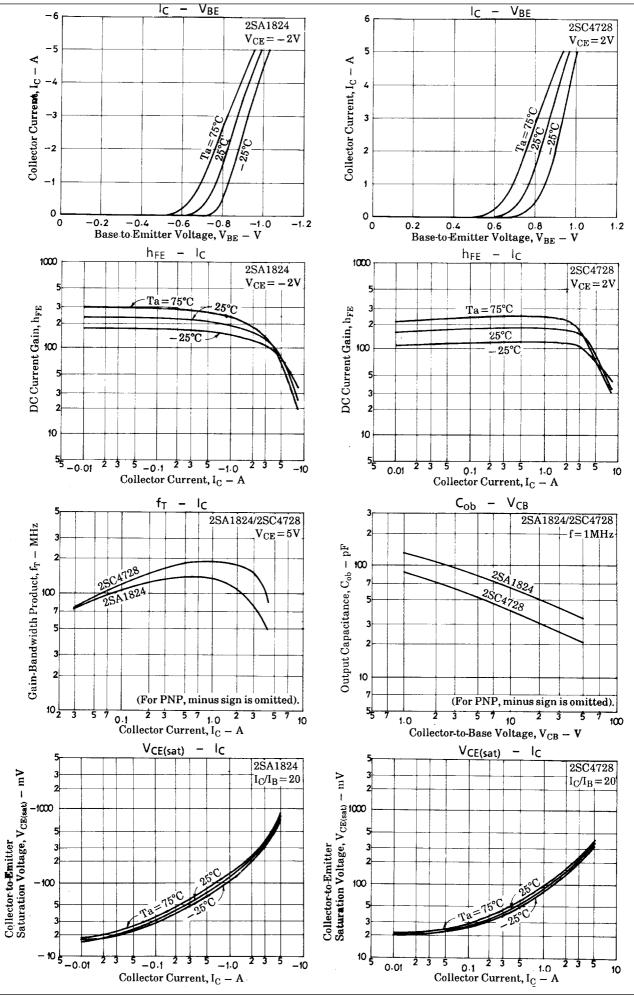
Unit (resistance : Ω , capacitance : F)



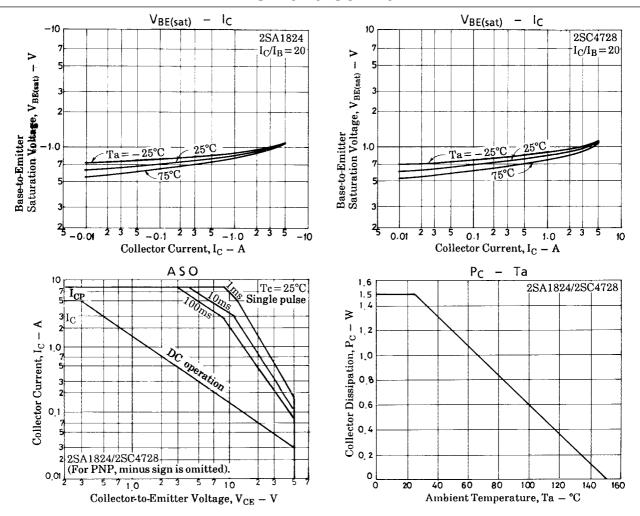




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