2SD1207

Bipolar Transistor 50V, 2A, Low VCE(sat) NPN Single MP



http://onsemi.com

Applications

• Power supplies, relay drivers, lamp drivers, and automotive wiring

Features

- FBET and MBIT processed
- Low saturation voltage
- · Large current capacity and wide SOA

Specifications

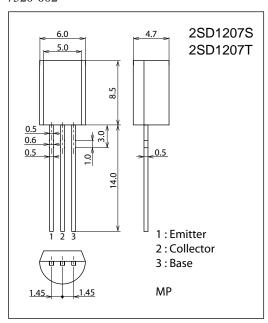
Absolute Maximum Ratings at Ta = 25°C

| Parameter | Symbol | Conditions | Ratings | Unit |
|------------------------------|------------------|------------|-------------|------|
| Collector to Base Voltage | VCBO | | 60 | V |
| Collector to Emitter Voltage | VCEO | | 50 | V |
| Emitter to Base Voltage | V _{EBO} | | 6 | V |
| Collector Current | IC | | 2 | Α |
| Collector Current (Pulse) | ICP | | 4 | Α |
| Collector Dissipation | PC | | 1 | W |
| Junction Temperature | Tj | | 150 | °C |
| Storage Temperature | Tstg | | -55 to +150 | °C |

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

Package Dimensions

unit : mm (typ) 7520-002



Product & Package Information

• Package : MP

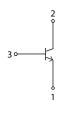
• JEITA, JEDEC : SC-51, TO-92(1-WATT), TO-226AE

• Minimum Packing Quantity : 1,000 pcs./box

Marking

D1207

Electrical Connection



Electrical Characteristics at Ta = 25°C

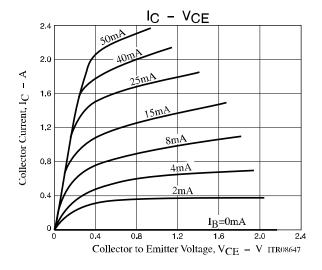
| Dozometer | Symbol | O and this is a | Ratings | | | 1.1 |
|---|-----------------------|---|---------|-----|-----|------|
| Parameter | | Conditions | min | typ | max | Unit |
| Collector Cutoff Current | ICBO | V _{CB} =50V, I _E =0A | | | 0.1 | μΑ |
| Emitter Cutoff Current | I _{EBO} | V _{EB} =4V, I _C =0A | | | 0.1 | μΑ |
| DC Current Gain | hFE1 | V _{CE} =2V, I _C =100mA | 140 | | 400 | |
| | hFE2 | V _{CE} =2V, I _C =1.5A | 40 | | | |
| Gain-Bandwidth Product | fT | V _{CE} =10V, I _C =50mA | | 150 | | MHz |
| Output Capacitance | Cob | V _{CB} =10V, f=1MHz | | 12 | | pF |
| Collector to Emitter Saturation Voltage | V _{CE} (sat) | I _C =1A, I _B =50mA 0.15 | | 0.4 | V | |
| Base to Emitter Saturation Voltage | V _{BE} (sat) | I _C =1A, I _B =50mA | | 0.9 | 1.2 | V |
| Collector to Base Breakdown Voltage | V(BR)CBO | I _C =10μA, I _E =0A 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 =0A | 6 | | | V |

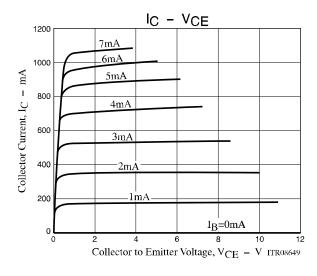
^{*:} The 2SD1207 is graded as follows by $h_{\mbox{\scriptsize FE}}$ at 100mA :

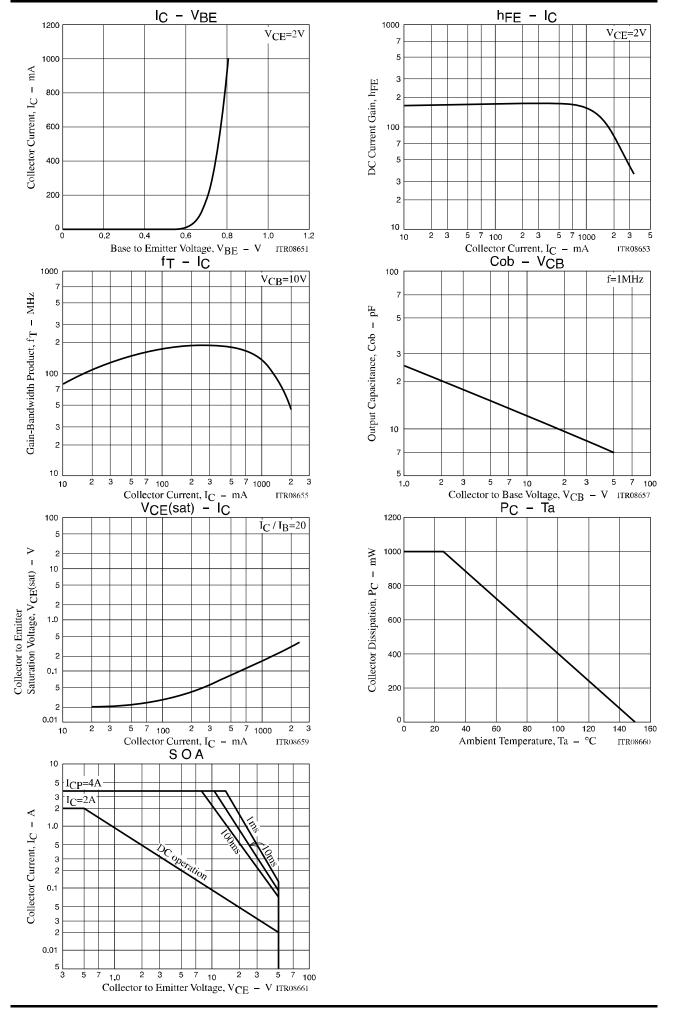
| Rank | S | T |
|------|------------|------------|
| hFE | 140 to 280 | 200 to 400 |

Ordering Information

| Device | Package | Shipping | Memo |
|-------------|---------|---------------|---------|
| 2SD1207S | | 500pcs./bag | |
| 2SD1207S-AE | MP | 1,000pcs./box | DI- E |
| 2SD1207T | | 500pcs./bag | Pb Eree |
| 2SD1207T-AE | | 1,000pcs./box | |

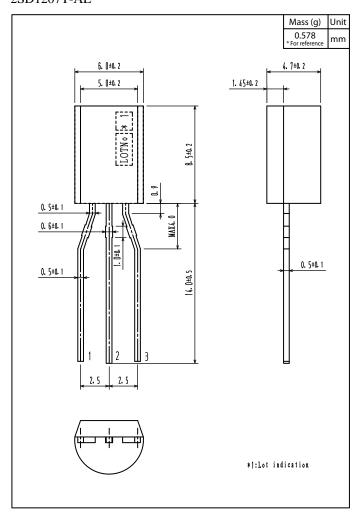






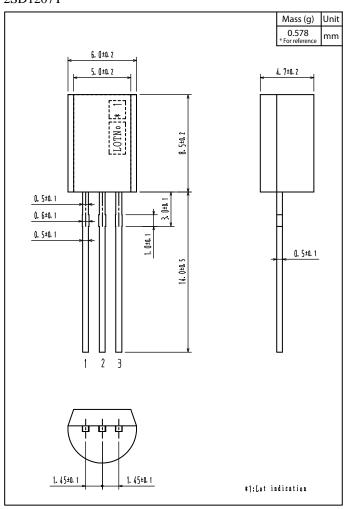
Outline Drawing

2SD1207S-AE 2SD1207T-AE



Outline Drawing

2SD1207S 2SD1207T



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