



2SC3332

Bipolar Transistor 160V, 0.7A, Low VCE(sat) NPN Single NP

ON Semiconductor®

<http://onsemi.com>

Features

- High breakdown voltage
- Excellent hFE linearity
- Wide SOA and highly resistant to breakdown
- Adoption of MBIT process

Specifications

Absolute Maximum Ratings at Ta=25°C

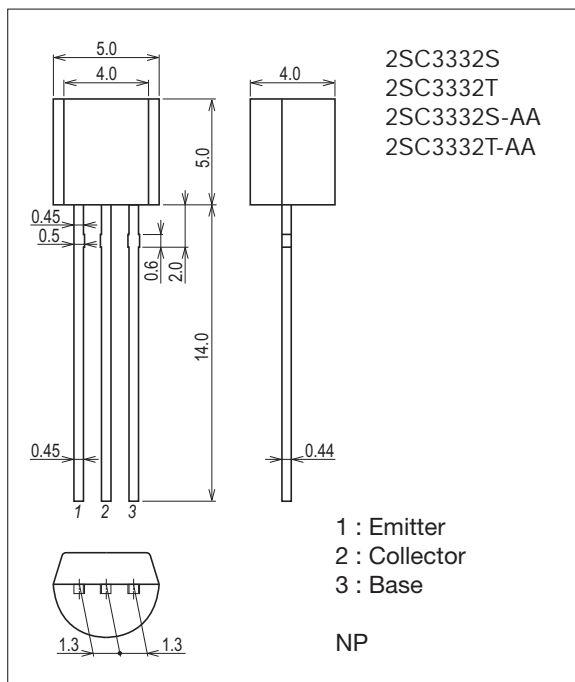
| Parameter | Symbol | Conditions | Ratings | Unit |
|------------------------------|------------------|------------|-------------|------|
| Collector to Base Voltage | V _{CB0} | | 180 | V |
| Collector to Emitter Voltage | V _{CE0} | | 160 | V |
| Emitter to Base Voltage | V _{EB0} | | 6 | V |
| Collector Current | I _C | | 0.7 | A |
| Collector Current (Pulse) | I _{CP} | | 1.5 | A |
| Collector Dissipation | P _C | | 700 | mW |
| Junction Temperature | T _j | | 150 | °C |
| Storage Temperature | T _{stg} | | -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)

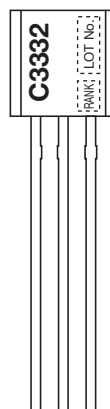
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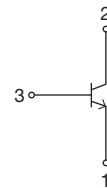
Product & Package Information

- Package : NP
- JEITA, JEDEC : SC-34A, TO-92, TO-226AA, SOT-54
- Minimum Packing Quantity : 1,500 pcs./box, 500pcs./bag

Marking



Electrical Connection



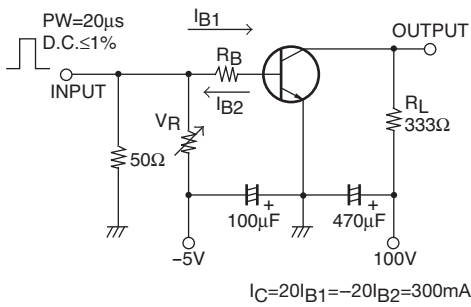
Electrical Characteristics at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|----------------------|---|---------|------|------|------|
| | | | min | typ | max | |
| Collector Cutoff Current | ICBO | V _{CB} =120V, I _E =0A | | | 0.1 | μA |
| Emitter Cutoff Current | I _{EBO} | V _{EB} =4V, I _C =0A | | | 0.1 | μA |
| DC Current Gain | h _{FE1} | V _{CE} =5V, I _C =100mA | 140* | | 400* | |
| | h _{FE2} | V _{CE} =5V, I _C =10mA | 80 | | | |
| Gain-Bandwidth Product | f _T | V _{CE} =10V, I _C =50mA | | 120 | | MHz |
| Output Capacitance | C _{ob} | V _{CB} =10V, f=1MHz | | 8 | | pF |
| Collector to Emitter Saturation Voltage | V _{CE(sat)} | I _C =250mA, I _B =25mA | | 0.12 | 0.4 | V |
| Base to Emitter Saturation Voltage | V _{BE(sat)} | I _C =250mA, I _B =25mA | | 0.85 | 1.2 | V |
| Collector to Base Breakdown Voltage | V _{(BR)CBO} | I _C =10μA, I _E =0A | 180 | | | V |
| Collector to Emitter Breakdown Voltage | V _{(BR)CEO} | I _C =1mA, R _{BE} =∞ | 160 | | | V |
| Emitter to Base Breakdown Voltage | V _{(BR)EBO} | I _E =10μA, I _C =0A | 6 | | | V |
| Turn-ON Time | t _{on} | See specified Test Circuit. | | 50 | | ns |
| Storage Time | t _{stg} | | | 1000 | | ns |
| Fall Time | t _f | | | 60 | | ns |

* : The 2SC3332 is classified by 100mA h_{FE} as follows :

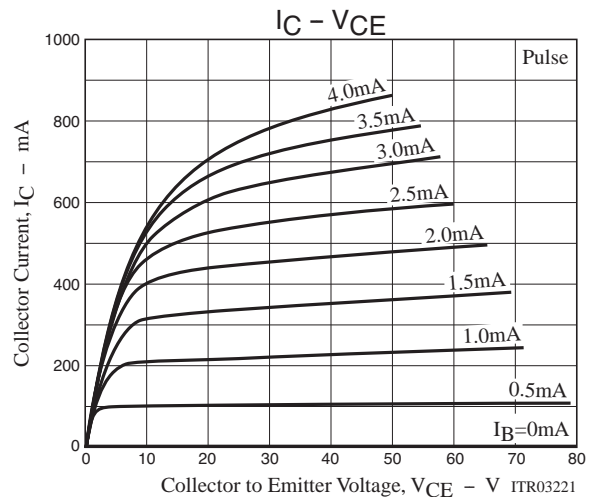
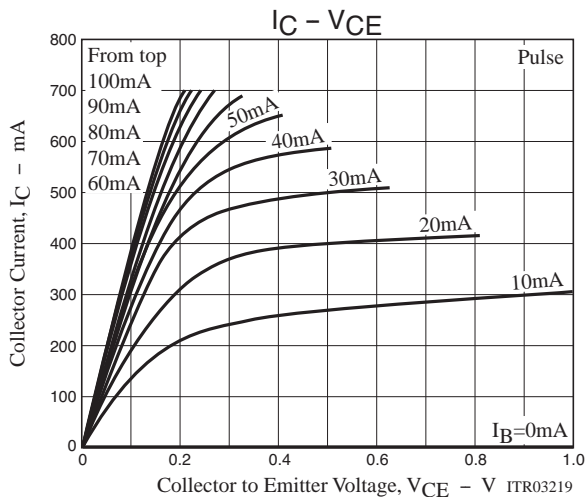
| Rank | S | T |
|-----------------|------------|------------|
| h _{FE} | 140 to 280 | 200 to 400 |

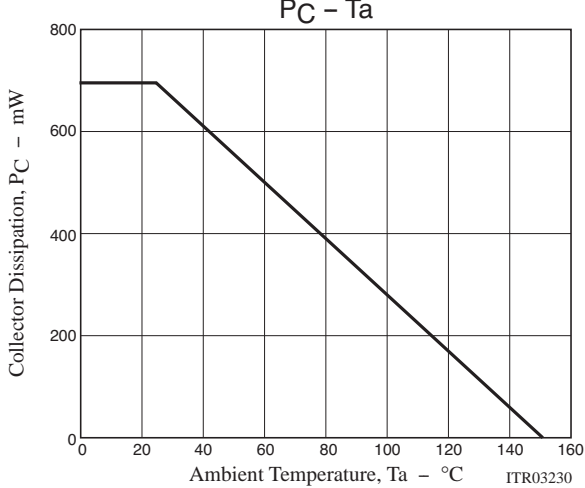
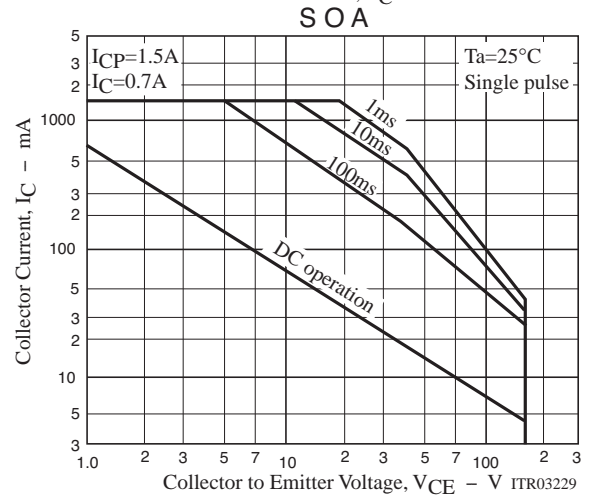
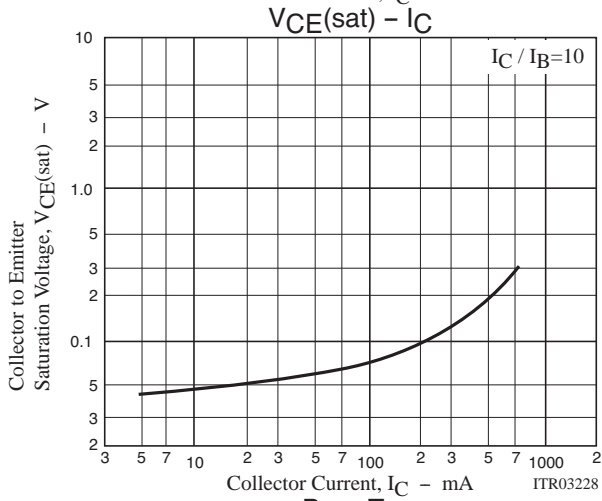
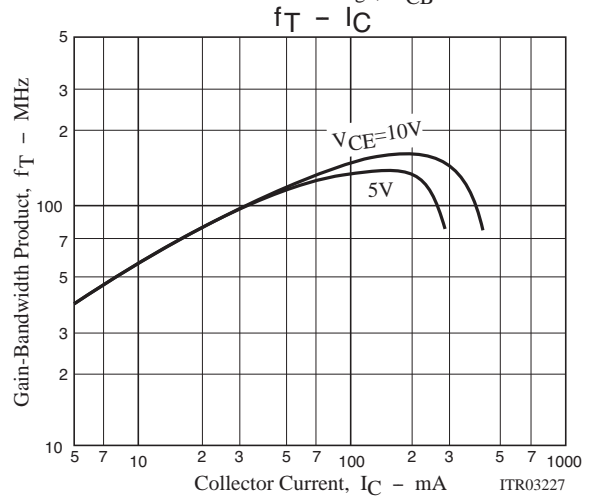
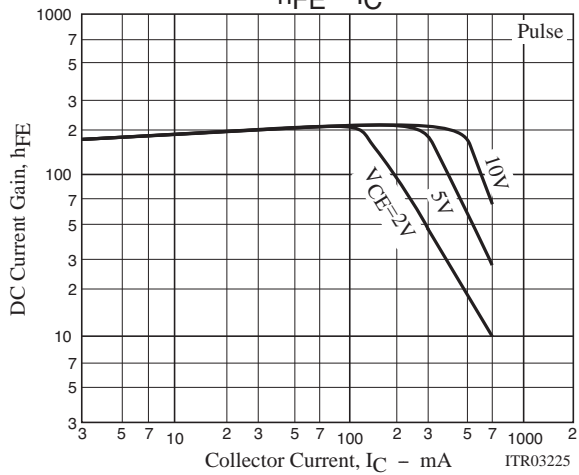
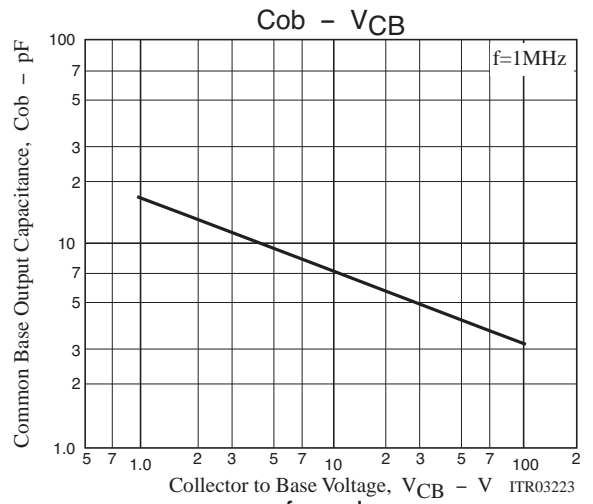
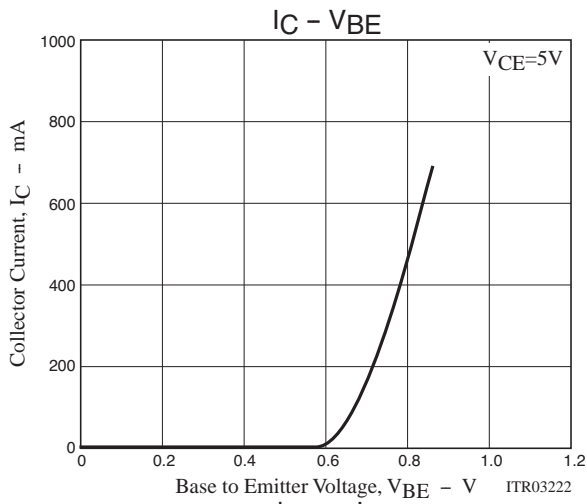
Switching Time Test Circuit



Ordering Information

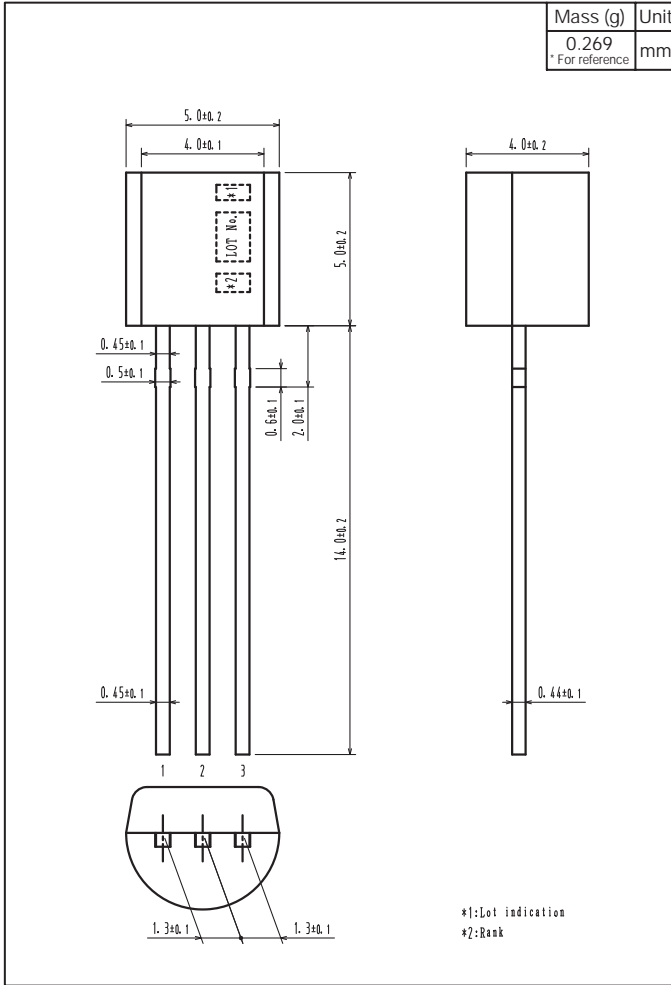
| Device | Package | Shipping | memo |
|-------------|---------|---------------|---------|
| 2SC3332S | NP | 500pcs./bag | Pb Free |
| 2SC3332T | NP | 500pcs./bag | |
| 2SC3332S-AA | NP | 1,500pcs./box | |
| 2SC3332T-AA | NP | 1,500pcs./box | |





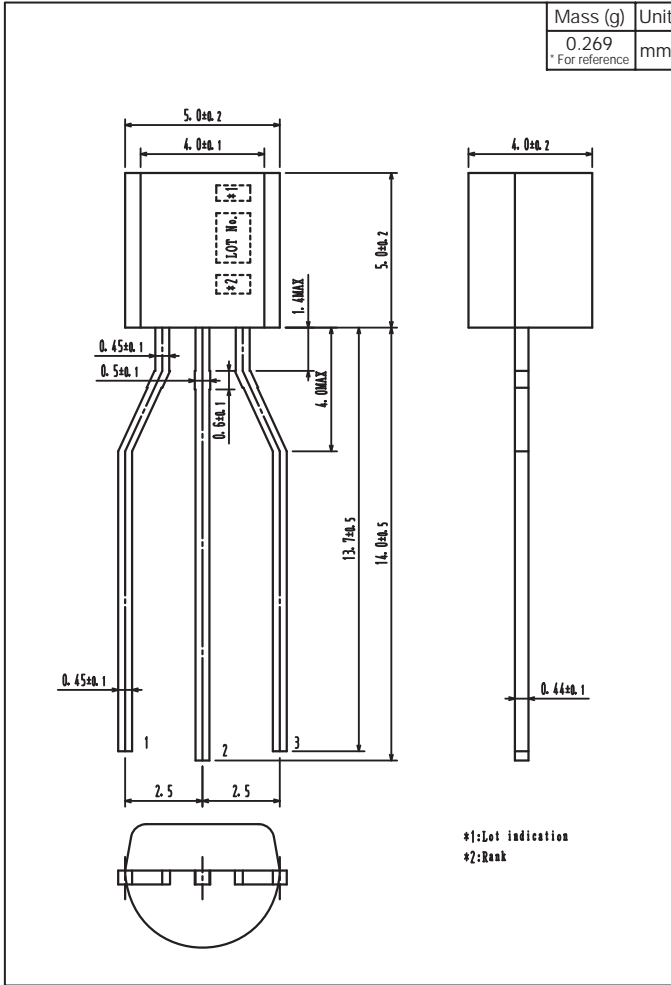
Outline Drawing

2SC3332S, 2SC3332T



Outline Drawing

2SC3332S-AA, 2SC3332T-AA



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