



2SC5353

NPN SILICON TRANSISTOR

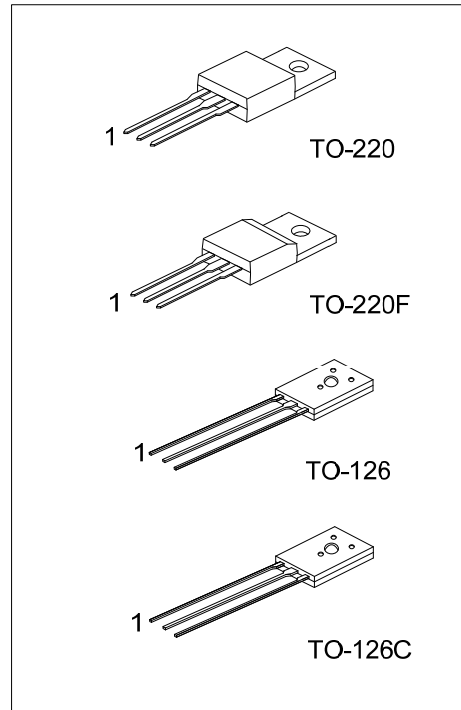
HIGH VOLTAGE NPN TRANSISTOR

■ DESCRIPTION

Switching Regulator and High Voltage Switching Applications
High-Speed DC-DC Converter Applications

■ FEATURES

- * Excellent switching times: $t_R = 0.7\mu s_{(MAX)}$, $t_F = 0.5\mu s_{(MAX)}$
- * High collectors breakdown voltage: $V_{CEO} = 800V$



*Pb-free plating product number: 2SC5353L

■ ORDERING INFORMATION

| Ordering Number | | Package | Pin Assignment | | | Packing |
|-----------------|-------------------|---------|----------------|---|---|---------|
| Normal | Lead Free Plating | | 1 | 2 | 3 | |
| 2SC5353-T60-K | 2SC5353L-T60-K | TO-126 | B | C | E | Bulk |
| 2SC5353-T6C-K | 2SC5353L-T6C-K | TO-126C | B | C | E | Bulk |
| 2SC5353-TA3-T | 2SC5353L-TA3-T | TO-220 | B | C | E | Tube |
| 2SC5353-TF3-T | 2SC5353L-TF3-T | TO-220F | B | C | E | Tube |

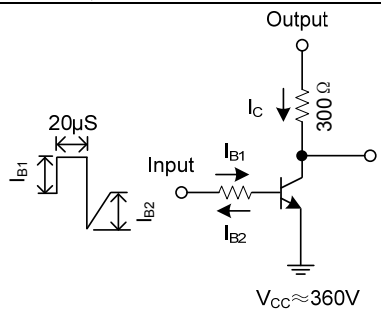
| | |
|--|---|
| <p>2SC5353L-TA3-T</p> <p>(1)Packing Type</p> <p>(2)Package Type</p> <p>(3)Lead Plating</p> | <p>(1) K: Bulk, T: Tube</p> <p>(2) T60: TO-126, T6C: TO-126C, TA3: TO-220, TF3: TO-220F</p> <p>(3) L: Lead Free Plating, Blank: Pb/Sn</p> |
|--|---|

■ ABSOLUTE MAXIMUM RATINGS (T_c = 25°C)

| PARAMETER | | SYMBOL | RATINGS | UNIT |
|-----------------------------|-------------------------|------------------|------------|------|
| Collector-Base Voltage | | V _{CBO} | 900 | V |
| Collector-Emitter Voltage | | V _{CEO} | 800 | V |
| Emitter-Base Voltage | | V _{EBO} | 7 | V |
| Collector Current | DC | I _C | 3 | A |
| | Pulse | I _{CP} | 5 | |
| Base Current | | I _B | 1 | A |
| Collector Power Dissipation | TO-220F/ TO-126/TO-126C | P _D | 20 | W |
| | TO-220 | | 25 | |
| Junction Temperature | | T _J | +150 | °C |
| Storage Temperature | | T _{STG} | -40 ~ +150 | °C |

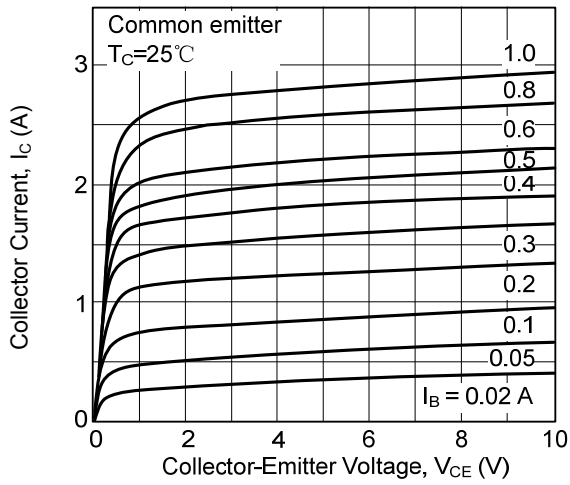
Note Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS (T_c = 25°C)

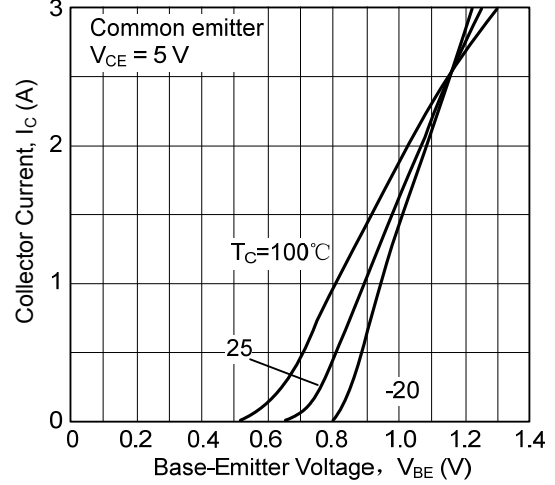
| PARAMETER | | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|--------------------------------------|--------------|----------------------|--|-----|-----|-----|------|
| Collector-Base Breakdown Voltage | | BV _{CBO} | I _C =1 mA, I _E = 0 | 900 | | | V |
| Collector-Emitter Breakdown Voltage | | BV _{CEO} | I _C =10 mA, I _B = 0 | 800 | | | V |
| Collector Cut-off Current | | I _{CBO} | V _{CB} =720V, I _E = 0 | | | 100 | μA |
| Emitter Cut-off Current | | I _{EBO} | V _{EB} =7V, I _C = 0 | | | 10 | μA |
| DC Current Gain | | h _{FE1} | V _{CE} =5 V, I _C =1 mA | 10 | | | |
| | | h _{FE2} | V _{CE} =5 V, I _C =0.15 A | 15 | | | |
| Collector-Emitter Saturation Voltage | | V _{CE(SAT)} | I _C =1.2 A, I _B =0.24 A | | | 1.0 | V |
| Base-Emitter Saturation Voltage | | V _{BE(SAT)} | I _C =1.2 A, I _B =0.24 A | | | 1.3 | V |
| Switching Time | Rise Time | t _R |  <p>I_{B1} = 0.24 A, I_{B2} = -0.48 A, duty cycle ≤ 1%</p> | | | 0.7 | μS |
| | Storage Time | t _{STG} | | | | 4.0 | |
| | Fall Time | t _F | | | | 0.5 | |

■ TYPICAL CHARACTERISTICS

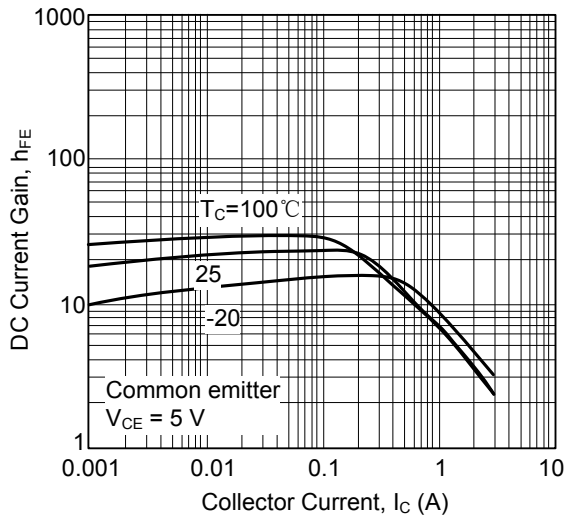
Collector Current vs. Collector-Emitter Voltage



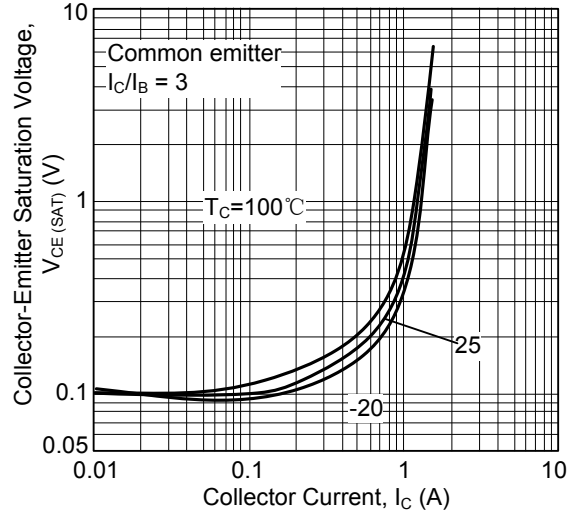
Collector Current vs. Base-Emitter Voltage



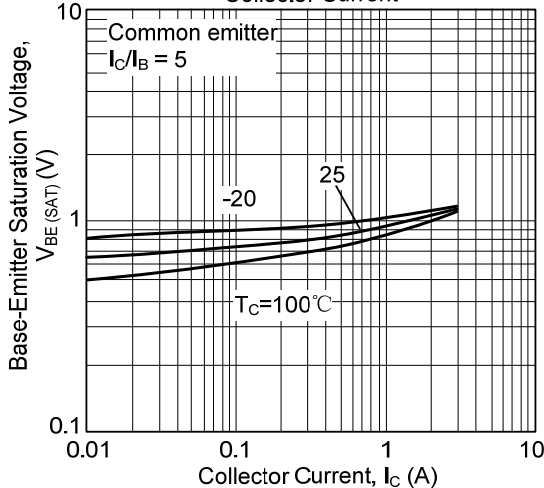
DC Current Gain vs. Collector Current



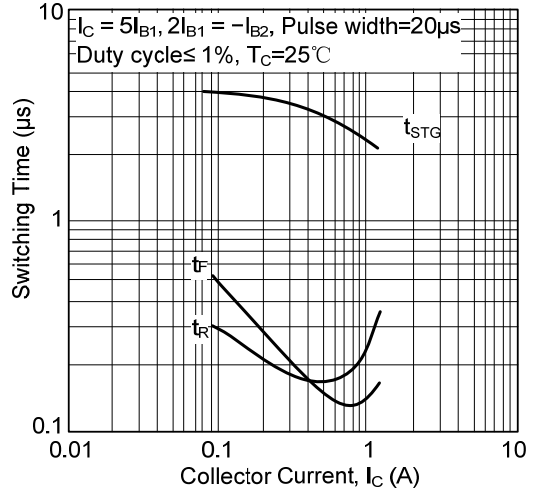
Collector-Emitter Saturation Voltage vs. Collector Current



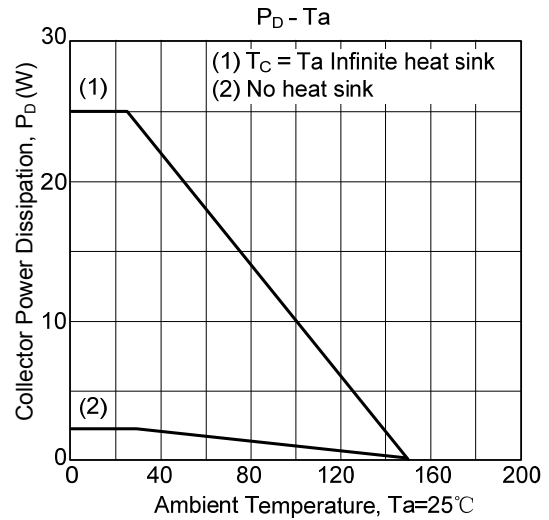
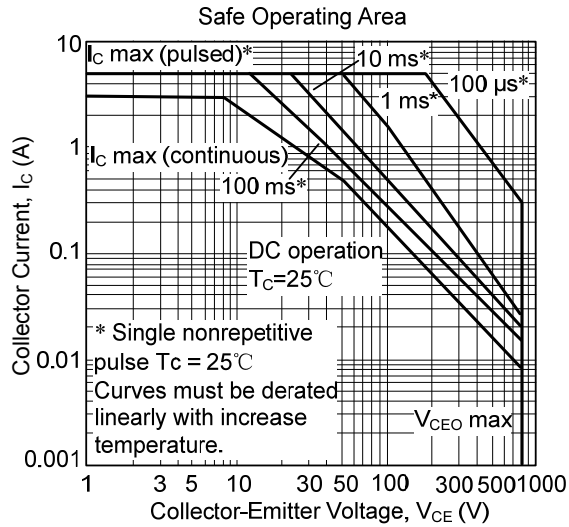
Base-Emitter Saturation Voltage vs. Collector Current



Switching Characteristics



■ TYPICAL CHARACTERISTICS(Cont.)



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