

NPN Power Silicon Transistor

2N3055



Features

- Available in JAN, JANTX, and JANTXV per MIL-PRF-19500/407
- TO-3 (TO-204AA) Package



Maximum Ratings

| Ratings | Symbol | Value | Units |
|--|-------------------|-------------|------------------|
| Collector - Emitter Voltage | V_{CEO} | 70 | Vdc |
| Collector - Base Voltage | V_{CBO} | 100 | Vdc |
| Emitter - Base Voltage | V_{EBO} | 7.0 | Vdc |
| Base Current | I_B | 7.0 | Adc |
| Collector Current | I_C | 15 | Adc |
| Total Power Dissipation @ $T_A = 25\text{ }^\circ\text{C}$ (1) | P_T | 6.0 | W |
| Operating & Storage Temperature Range | T_{op}, T_{stg} | -65 to +200 | $^\circ\text{C}$ |

1) Derate linearly @ 34.2 mW / $^\circ\text{C}$ for $T_A = 25\text{ }^\circ\text{C}$

Thermal Characteristics

| Characteristics | Symbol | Maximum | Units |
|--------------------------------------|-----------------|---------|--------------------|
| Thermal Resistance, Junction-to-Case | $R_{\theta JC}$ | 1.5 | $^\circ\text{C/W}$ |

Electrical Characteristics

| OFF Characteristics | Symbol | Mimimum | Maximum | Units |
|--|---------------|---------------|------------------|-------|
| Collector - Emitter Breakdown Voltage $I_C = 200\text{ mAdc}$ | $V_{(BR)CEO}$ | 70 | --- | Vdc |
| Collector - Emitter Breakdown Voltage $I_C = 200\text{ mAdc}, R_{BE} = 100\ \Omega$ | $V_{(BR)CER}$ | 80 | --- | Vdc |
| Collector - Emitter Breakdown Voltage $V_{BE} = -1.5\text{ Vdc}, I_C = 200\text{ mAdc}$ | $V_{(BR)CEX}$ | 90 | --- | Vdc |
| Collector - Emitter Cutoff Current $V_{CE} = 60\text{ Vdc}$ | I_{CEO} | --- | 1.0 | mAdc |
| Collector - Emitter Cutoff Current $V_{BE} = -1.5\text{ Vdc}, V_{CE} = 100\text{ Vdc}$ | I_{CEX} | --- | 1.0 | mAdc |
| Emitter - Base Cutoff Current $V_{EB} = 7.0\text{ Vdc}$ | I_{EBO} | --- | 1.0 | mAdc |
| ON Characteristics | | | | |
| Forward Current Transfer Ratio $I_C = 0.5\text{ Adc}, V_{CE} = 4.0\text{ Vdc}$ $I_C = 4.0\text{ Adc}, V_{CE} = 4.0\text{ Vdc}$ $I_C = 10.0\text{ Adc}, V_{CE} = 4.0\text{ Vdc}$ | H_{FE} | 40 20 5 | --- 60 --- | --- |
| Collector - Emitter Saturation Voltage $I_C = 4.0\text{ Adc}, I_B = 0.4\text{ Adc}$ $I_C = 10.0\text{ Adc}, I_B = 3.3\text{ Adc}$ | $V_{CE(sat)}$ | --- | 0.75 2.0 | Vdc |
| Emitter - Base Saturation Voltage $I_C = 4.0\text{ Adc}, V_{CE} = 4.0\text{ Vdc}$ | $V_{BE(sat)}$ | --- | 1.4 | Vdc |



