



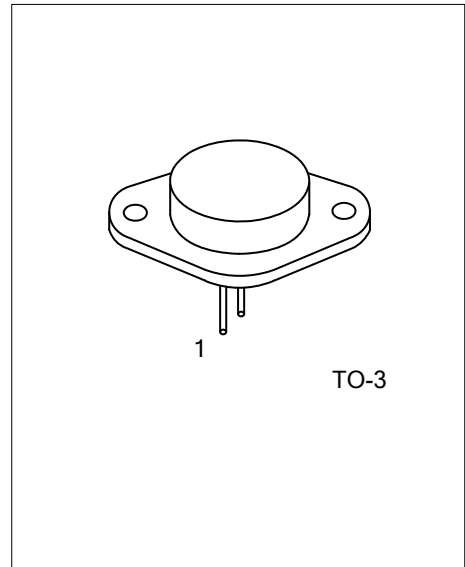
2N3772

SILICON NPN TRANSISTOR

SILICON NPN TRANSISTORS

DESCRIPTION

The UTC **2N3772** is a silicon power transistor in TO-3 metal case. It is designed for linear amplifiers, series pass regulators, and inductive switching applications.



ORDERING INFORMATION

| Ordering Number | | Package | Pin Assignment | | | Packing |
|-----------------|---------------|---------|----------------|---|---|---------|
| Lead Free | Halogen Free | | 1 | 2 | 3 | |
| 2N3772L-T30-Y | 2N3772G-T30-Y | TO-3 | B | E | C | Tray |

| | |
|--|--|
| <p>2N2955L-T30-Y</p> <p>(1)Packing Type</p> <p>(2)Package Type</p> <p>(3)Lead Free</p> | <p>(1) Y: Tray</p> <p>(2) T30: TO-3</p> <p>(3) G: Halogen Free, L: Lead Free</p> |
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■ ABSOLUTE MAXIMUM RATING ($T_A=25^\circ\text{C}$, unless otherwise specified)

| PARAMETER | SYMBOL | RATINGS | UNIT |
|--|-----------|------------|------------------|
| Collector-Base Voltage | V_{CBO} | 100 | V |
| Collector-Emitter Voltage | V_{CEO} | 60 | V |
| Emitter-Base Voltage | V_{EBO} | 7 | V |
| Collector-Emitter Voltage | V_{CEV} | 80 | V |
| Collector Current | I_C | 30 | A |
| Collector Peak Current (Note 1) | I_{CM} | 30 | A |
| Base Current | I_B | 5 | A |
| Base Peak Current (Note 1) | I_{BM} | 15 | A |
| Power Dissipation ($T_A=25^\circ\text{C}$) | P_D | 150 | W |
| Junction Temperature | T_J | 150 | $^\circ\text{C}$ |
| Storage Temperature | T_{STG} | -55 ~ +150 | $^\circ\text{C}$ |

Note 1. Pulse Test: $P_W \leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$

2. 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 ($T_A=25^\circ\text{C}$, unless otherwise specified)

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|---|----------------|--|---------|-----|------------|------|
| OFF CHARACTERISTICS | | | | | | |
| Collector-Emitter Sustaining Voltage | $V_{CEX(SUS)}$ | $I_C=0.2A, V_{BE(OFF)}=1.5V, R_{BE}=100\Omega$ | 80 | | | V |
| Collector-Emitter Sustaining Voltage | $V_{CER(SUS)}$ | $I_C=0.2A, R_{BE}=100\Omega$ | 70 | | | V |
| Collector-Emitter Sustaining Voltage | $V_{CEO(SUS)}$ | $I_C=0.2A, I_B=0$ | 60 | | | V |
| Collector Cut-off Current | I_{CEO} | $V_{CE}=50V, I_B=0$ | | | 10 | mA |
| Collector Cut-off Current | I_{CEX} | $V_{CE}=100V, V_{BE(OFF)}=1.5V$ $V_{CE}=30V, V_{BE(OFF)}=1.5V, T_A=150^\circ\text{C}$ | | | 5 10 | mA |
| Collector Cut-off Current | I_{CBO} | $V_{CE}=50V, I_E=0$ | | | 5 | mA |
| Emitter Cut-off Current | I_{EBO} | $V_{BE}=7V, I_C=0$ | | | 5 | mA |
| ON CHARACTERISTICS | | | | | | |
| DC Current Gain (Note) | h_{FE} | $I_C=10A, V_{CE}=4V$ $I_C=20A, V_{CE}=4V$ | 15 5 | | 60 | |
| Collector-Emitter Saturation Voltage | $V_{CE(SAT)}$ | $I_C=10A, I_B=1.5A$ $I_C=20A, I_B=4A$ | | | 1.4 4.0 | V |
| Base-Emitter On Voltage | $V_{BE(ON)}$ | $I_C=10A, V_{CE}=4V$ | | | 2.2 | V |
| SECOND BREAKDOWN | | | | | | |
| Second Breakdown Collector with Base Forward Biased | $I_{S/b}$ | $V_{CE}=60V, T=1.0s, \text{Non-repetitive}$ | 2.5 | | | A |
| DYNAMIC CHARACTERISTICS | | | | | | |
| Current Gain-Bandwidth Product | f_T | $I_C=1A, V_{CE}=4V, f=50\text{kHz}$ | 0.2 | | | MHz |
| Small-Signal Current Gain | h_{FE} | $I_C=1A, V_{CE}=4V, f=1\text{kHz}$ | 40 | | | |

Note: Pulse Test: $P_W \leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$

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