



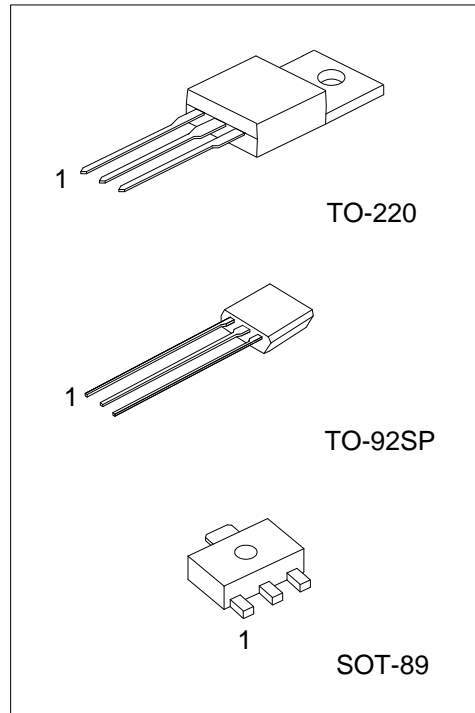
2SD2470

NPN SILICON TRANSISTOR

STROBO AND DC/DC CONVERTERS

■ FEATURES

- * Low saturation voltage
 $V = 0.25V(\text{typ})$ at $I_C/I_B = 3A/0.1A$
- * Collector current of 5A is possible



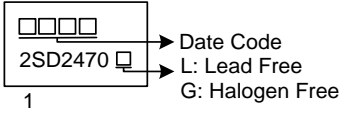
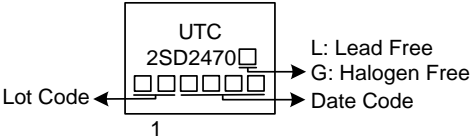
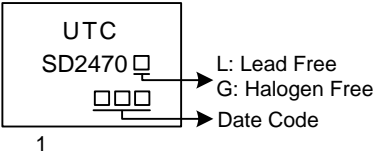
■ ORDERING INFORMATION

| Ordering Number | | Package | Pin Assignment | | | Packing |
|------------------|------------------|---------|----------------|---|---|-----------|
| Lead Free | Halogen Free | | 1 | 2 | 3 | |
| 2SD2470L-x-AB3-R | 2SD2470G-x-AB3-R | SOT-89 | B | C | E | Tape Reel |
| 2SD2470L-x-TA3-T | 2SD2470G-x-TA3-T | TO-220 | E | C | B | Tube |
| 2SD2470L-x-T9S-B | 2SD2470G-x-T9S-B | TO-92SP | E | C | B | Tape Box |
| 2SD2470L-x-T9S-K | 2SD2470G-x-T9S-K | TO-92SP | E | C | B | Bulk |

Note: Pin Assignment: E: Emitter C: Collector B: Base

| | |
|-------------------------|---|
| <p>2SD2470G-x-AB3-R</p> | <p>(1) R: Tape Reel, T: Tube, B: Tape Box, K: Bulk (2) AB3: SOT-89, TA3: TO-220, T9S: TO-92SP (3) refer to Classification of hFE (4) G: Halogen Free and Lead Free, L: Lead Free</p> |
|-------------------------|---|

MARKING INFORMATION

| PACKAGE | MARKING |
|---------|--|
| SOT-89 |  |
| TO-220 |  |
| TO-92SP |  |

■ **ABSOLUTE MAXIMUM RATING** ($T_A=25^{\circ}\text{C}$, unless otherwise noted)

| PARAMETER | SYMBOL | RATINGS | UNIT |
|------------------------------------|-----------|------------|--------------------|
| Collector-Base Voltage | V_{CBO} | 15 | V |
| Collector-Emitter Voltage | V_{CEO} | 10 | V |
| Emitter-Base Voltage | V_{EBO} | 10 | V |
| Collector Current (DC) | I_C | 5 | A |
| Collector Current (PULSE) (Note 2) | I_{CP} | 8 | A |
| Collector Power Dissipation | SOT-89 | 0.5 | W |
| | TO-220 | 2 | W |
| | TO-92SP | 0.4 | W |
| Junction Temperature | T_J | +150 | $^{\circ}\text{C}$ |
| Storage Temperature | T_{STG} | -55 ~ +150 | $^{\circ}\text{C}$ |

Note: 1. 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.
 2. Single Pulse =10ms

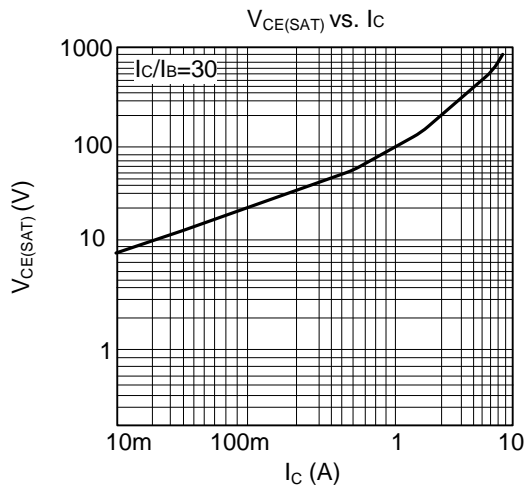
■ **ELECTRICAL CHARACTERISTICS** ($T_A=25^{\circ}\text{C}$, unless otherwise specified)

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|--------------------------------------|---------------|---|-----|------|-----|---------------|
| Collector Base Breakdown Voltage | BV_{CBO} | $I_C=50\mu\text{A}$ | 15 | | | V |
| Collector Emitter Breakdown Voltage | BV_{CEO} | $I_C=1\text{mA}$ | 10 | | | V |
| Emitter Base Breakdown Voltage | BV_{EBO} | $I_E=50\mu\text{A}$ | 10 | | | V |
| Collector Cut-Off Current | I_{CBO} | $V_{CB}=10\text{V}, I_E=0$ | | | 0.1 | μA |
| Emitter Cut-Off Current | I_{EBO} | $V_{EB}=8\text{V}, I_C=0$ | | | 0.5 | μA |
| DC Current Gain | h_{FE} | $V_{CE}=2\text{V}, I_C=2\text{A}$ | 270 | | 820 | |
| Collector-Emitter Saturation Voltage | $V_{CE(SAT)}$ | $I_C/I_B=3\text{A}/0.1\text{A}$ | | 0.25 | 0.5 | V |
| Transition Frequency | f_T | $V_{CE}=6\text{V}, I_E=0.05\text{A}, f=100\text{MHz}$ | | 170 | | MHz |
| Output Capacitance | C_{ob} | $V_{CB}=10\text{V}, I_E=0\text{A}, f=1\text{MHz}$ | | 30 | | pF |

■ **CLASSIFICATION OF h_{FE}**

| RANK | S | E |
|-------|---------|---------|
| RANGE | 270~560 | 450~820 |

■ TYPICAL CHARACTERISTICS



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