



# 2N6718

## NPN SILICON TRANSISTOR

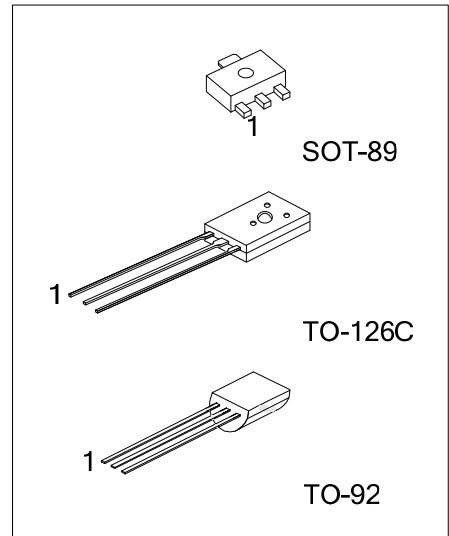
### NPN GENERAL PLANAR TRANSISTOR

■ DESCRIPTION

The UTC **2N6718** is designed for general purpose medium power amplifier and switching applications.

■ FEATURES

- \* High Power: 850mW
- \* High Current: 1A



■ ORDERING INFORMATION

| Ordering Number |                 | Package | Pin Assignment |   |   | Packing   |
|-----------------|-----------------|---------|----------------|---|---|-----------|
| Lead Free       | Halogen Free    |         | 1              | 2 | 3 |           |
| 2N6718L-x-AB3-R | 2N6718G-x-AB3-R | SOT-89  | B              | C | E | Tape Reel |
| 2N6718L-x-T6C-K | 2N6718G-x-T6C-K | TO-126C | E              | C | B | Bulk      |
| 2N6718L-x-T92-B | 2N6718G-x-T92-B | TO-92   | E              | C | B | Tape Box  |
| 2N6718L-x-T92-K | 2N6718G-x-T92-K | TO-92   | E              | C | B | Bulk      |

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

|                        |   |
|------------------------|---|
| <p>2N6718G-x-AB3-R</p> | <p>(1) R: Tape Reel, B: Tape Box, K: Bulk<br/>                 (2) AB3: SOT-89, T6C: TO-126C, T92: TO-92<br/>                 (3) x: refer to Classification of <math>h_{FE2}</math><br/>                 (4) G: Halogen Free and Lead Free, L: Lead Free</p> |
|------------------------|---|

■ MARKING

| SOT-89 | TO-126C | TO-92 |
|--------|---------|-------|
|        |         |       |

■ 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    |         | $V_{CEO}$ | 100        | V                  |
| Emitter-Base Voltage         |         | $V_{EBO}$ | 5          | V                  |
| Collector Current (Continue) |         | $I_C$     | 1          | A                  |
| Collector Current (Pulse)    |         | $I_C$     | 2          | A                  |
| Total Power Dissipation      | SOT-89  | $P_D$     | 1 (Note 2) | W                  |
|                              | TO-126C |           | 1.6        | W                  |
|                              | TO-92   |           | 850        | mW                 |
| Junction Temperature         |         | $T_J$     | +150       | $^{\circ}\text{C}$ |
| Operating Temperature        |         | $T_{OPR}$ | -40 ~ +125 | $^{\circ}\text{C}$ |
| Storage Temperature          |         | $T_{STG}$ | -55 ~ +150 | $^{\circ}\text{C}$ |

Notes: 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. Device mounted on FR-4 substrate PC board, 2oz copper, with 1inch square copper plate.

■ THERMAL DATA

| PARAMETER           |         | SYMBOL        | RATING | UNIT                 |
|---------------------|---------|---------------|--------|----------------------|
| Junction to Ambient | SOT-89  | $\theta_{JA}$ | 125    | $^{\circ}\text{C/W}$ |
|                     | TO-126C |               | 78     | $^{\circ}\text{C/W}$ |
|                     | TO-92   |               | 147    | $^{\circ}\text{C/W}$ |
| Junction to Case    | SOT-89  | $\theta_{JC}$ | 70     | $^{\circ}\text{C/W}$ |
|                     | TO-126C |               | 6.25   | $^{\circ}\text{C/W}$ |
|                     | TO-92   |               | 80     | $^{\circ}\text{C/W}$ |

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

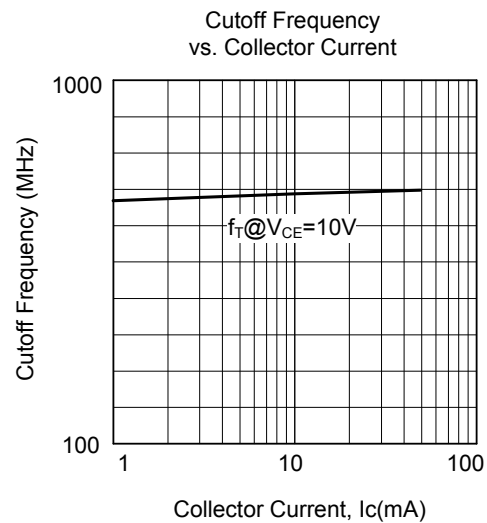
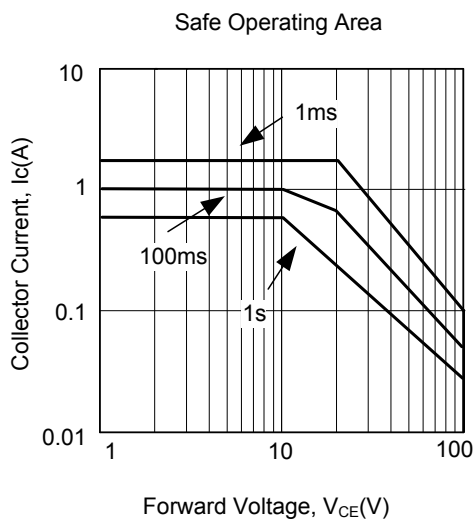
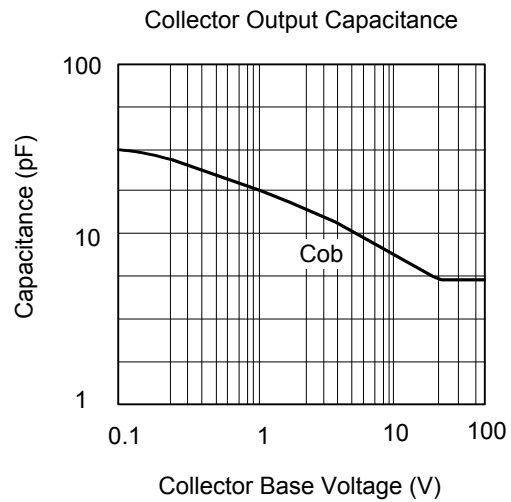
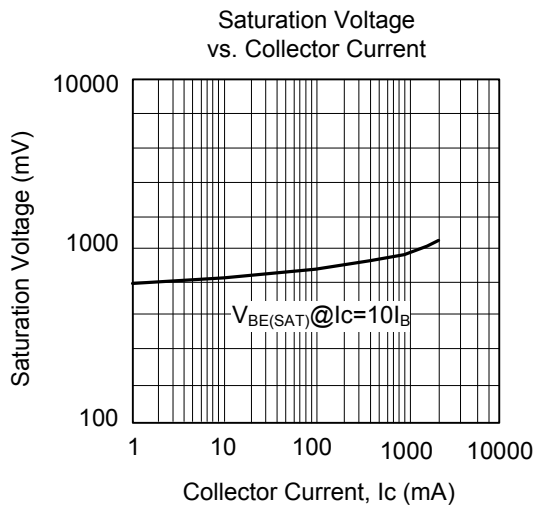
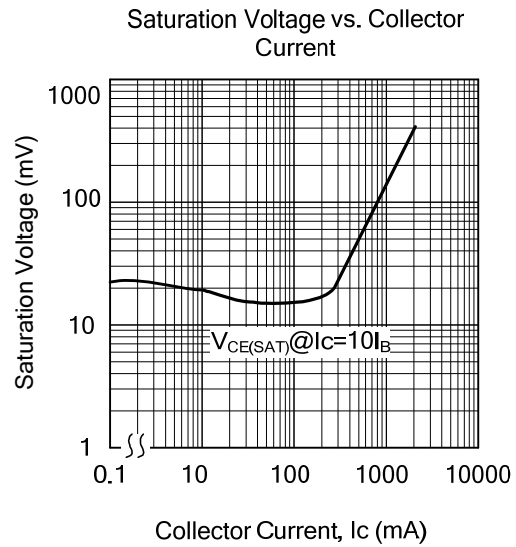
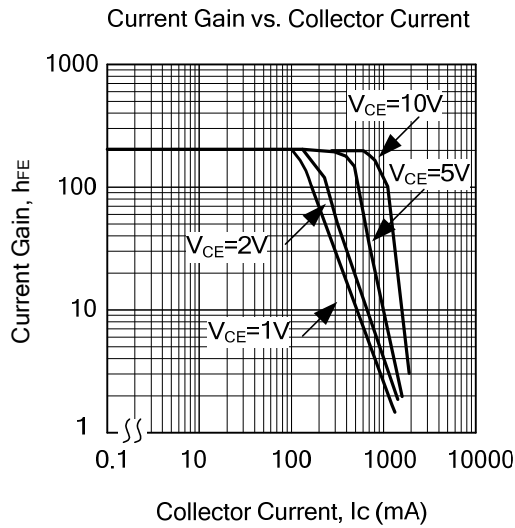
| PARAMETER                                  | SYMBOL        | TEST CONDITIONS                                       | MIN | TYP | MAX | UNIT |
|--|---------------|---|-----|-----|-----|------|
| Collector-Base Breakdown Voltage           | $BV_{CBO}$    | $I_C=100\mu\text{A}$                                  | 100 |     |     | V    |
| Collector-Emitter Breakdown Voltage (note) | $BV_{CEO}$    | $I_C=1\text{mA}$                                      | 100 |     |     | V    |
| Emitter-Base Breakdown Voltage             | $BV_{EBO}$    | $I_E=10\mu\text{A}$                                   | 5   |     |     | V    |
| Collector-Emitter Saturation Voltage       | $V_{CE(SAT)}$ | $I_C=350\text{mA}, I_B=35\text{mA}$                   |     |     | 350 | mV   |
| Collector Cut-Off Current                  | $I_{CBO}$     | $V_{CB}=80\text{V}$                                   |     |     | 100 | nA   |
| DC Current Gain                            | $h_{FE1}$     | $V_{CE}=1\text{V}, I_C=50\text{mA}$                   | 80  |     |     |      |
|  | $h_{FE2}$     | $V_{CE}=1\text{V}, I_C=250\text{mA}$                  | 50  |     | 300 |      |
|  | $h_{FE3}$     | $V_{CE}=1\text{V}, I_C=500\text{mA}$                  | 20  |     |     |      |
| Current Gain - Bandwidth Product           | $f_T$         | $V_{CE}=10\text{V}, I_C=50\text{mA}, f=100\text{MHz}$ | 50  |     |     | MHz  |
| Output Capacitance                         | $C_{ob}$      | $V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$             |     |     | 20  | pF   |

Note: Pulse test: PulseWidth $\leq 380\mu\text{s}$ , Duty Cycle $\leq 2\%$

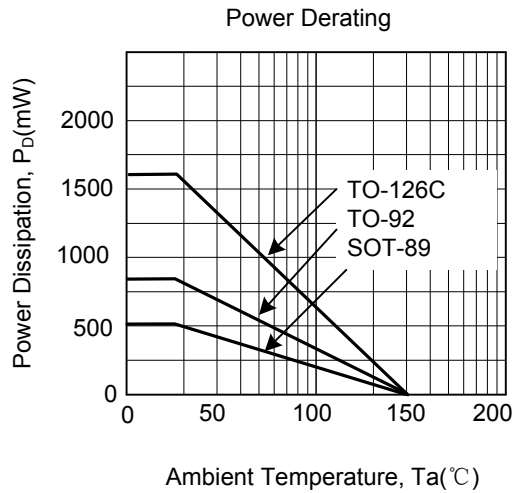
■ CLASSIFICATION OF  $h_{FE2}$

| RANK  | A      | B      |
|-------|--------|--------|
| RANGE | 50~115 | 95~300 |

## TYPICAL CHARACTERISTICS



### ■ TYPICAL CHARACTERISTICS



UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. UTC reserves the right to make changes to information published in this document, including without limitation specifications and product descriptions, at any time and without notice. This document supersedes and replaces all information supplied prior to the publication hereof.