

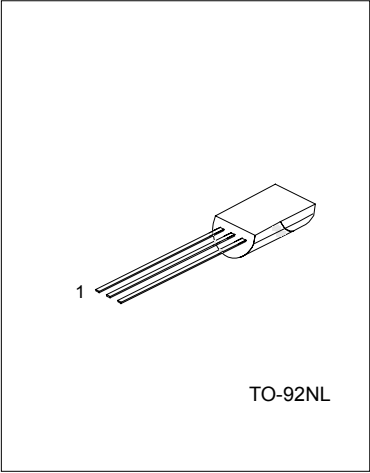
# UTC 2SC2328A

# NPN EPITAXIAL SILICON TRANSISTOR

## AUDIO POWER AMPLIFIER

### FEATURES

- \*Collector Dissipation  $P_c=1$  W
- \*3 W Output Application
- \*Complement of 2SA928A



1: EMITTER 2: COLLECTOR 3: BASE

### ABSOLUTE MAXIMUM RATINGS (Ta=25°C, unless otherwise specified)

| PARAMETER                 | SYMBOL    | RATING     | UNIT |
|---------------------------|-----------|------------|------|
| Collector-base voltage    | $V_{CB0}$ | 30         | V    |
| Collector-emitter voltage | $V_{CE0}$ | 30         | V    |
| Emitter-base voltage      | $V_{EB0}$ | 5          | V    |
| Collector dissipation     | $P_c$     | 1          | W    |
| Collector current         | $I_c$     | 2          | A    |
| Junction Temperature      | $T_j$     | 150        | °C   |
| Storage Temperature       | $T_{STG}$ | -55 ~ +150 | °C   |

### ELECTRICAL CHARACTERISTICS (Ta=25°C, unless otherwise specified)

| PARAMETER                            | SYMBOL        | TEST CONDITIONS             | MIN | TYP | MAX | UNIT |
|--------------------------------------|---------------|-----------------------------|-----|-----|-----|------|
| Collector-base breakdown voltage     | $BV_{CB0}$    | $I_c=100\mu A, I_E=0$       | 30  |     |     | V    |
| Collector-emitter breakdown voltage  | $BV_{CE0}$    | $I_c=10mA, I_B=0$           | 30  |     |     | V    |
| Emitter-base breakdown voltage       | $BV_{EB0}$    | $I_E=1mA, I_c=0$            | 5   |     |     | V    |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB}=30V, I_E=0$         |     |     | 100 | nA   |
| Emitter cut-off current              | $I_{EBO}$     | $V_{BE}=5V, I_c=0$          |     |     | 100 | nA   |
| DC current gain(note)                | $h_{FE}$      | $V_{CE}=2V, I_c=500mA$      | 100 |     | 320 |      |
| Base-emitter on voltage              | $V_{BE(on)}$  | $V_{CE}=2V, I_c=500mA$      |     |     | 1   | V    |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_c=1.5A, I_B=0.03A$       |     |     | 2   | V    |
| Output capacitance                   | $C_{ob}$      | $V_{CB}=10V, I_E=0, f=1MHz$ |     | 30  |     | pF   |
| Current gain bandwidth product       | $f_T$         | $V_{CE}=2V, I_c=500mA$      |     | 120 |     | MHz  |

### CLASSIFICATION OF $h_{FE}$

| RANK  | O       | Y       |
|-------|---------|---------|
| RANGE | 100-200 | 160-320 |

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## TYPICAL CHARACTERISTIC CURVES

FIG.1 STATIC CHARACTERISTIC

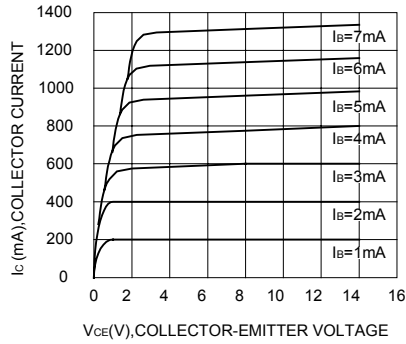


FIG.2 BASE-EMITTER ON VLOTAGE

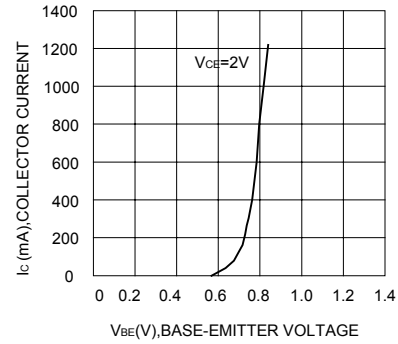


FIG.3 DC CURRENT GAIN

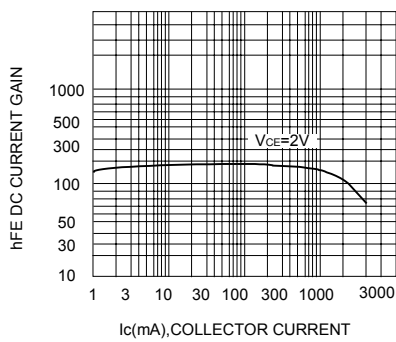


FIG.4 COLLECTOR-EMITTER SATURATION VOLTAGE

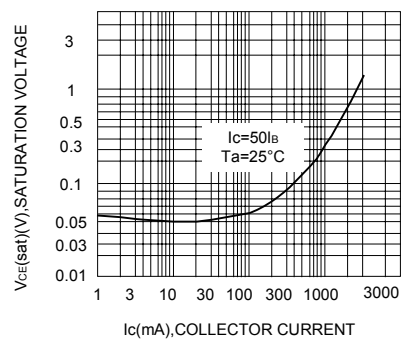


FIG.5 POWER DERATING

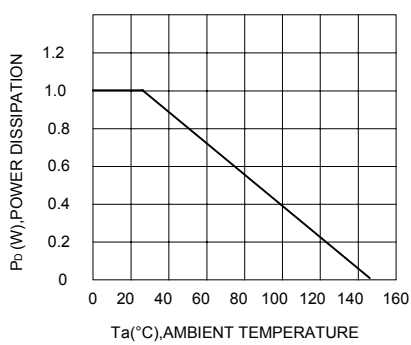


FIG.6 SAFE OPERATING AREA

