



MMBTA14

NPN SILICON TRANSISTOR

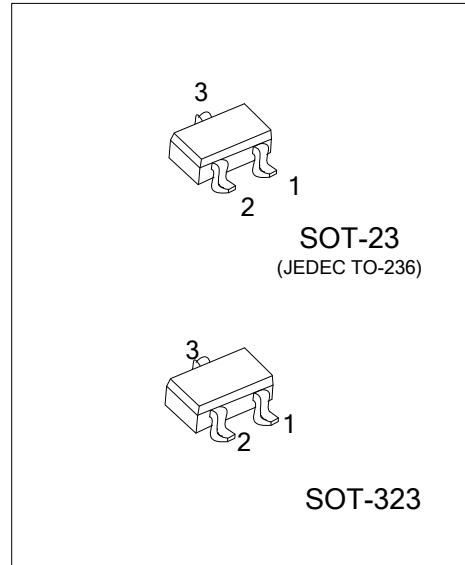
DARLINGTON TRANSISTOR

DESCRIPTION

The UTC **MMBTA14** is a Darlington transistor.

FEATURES

- * Collector-Emitter Voltage: $V_{CES} = 30V$
- * Collector Dissipation: $P_{C(MAX)} = 350\text{ mW}$



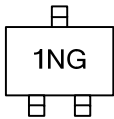
ORDERING INFORMATION

| Ordering Number | Package | Pin Assignment | | | Packing |
|------------------|---------|----------------|---|---|-----------|
| | | 1 | 2 | 3 | |
| MMBTA14G-AE3-R | SOT-23 | E | B | C | Tape Reel |
| MMBTA14G-x-AL3-R | SOT-323 | E | B | C | Tape Reel |

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

| | | |
|----------------|------------------|-----------------------------------|
| MMBTA14G-AE3-R | (1)Packing Type | (1) R: Tape Reel |
| | (2)Package Type | (2) AE3: SOT-23, AL3: SOT-323 |
| | (3)Green Package | (3) G: Halogen Free and Lead Free |

MARKING



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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} | 30 | V |
| Collector-Emitter Voltage | V_{CES} | 30 | V |
| Emitter-Base Voltage | V_{EBO} | 10 | V |
| Collector Dissipation ($T_C=25^{\circ}\text{C}$) | P_C | 350 | mW |
| Collector Current | I_C | 500 | mA |
| Junction Temperature | T_J | +150 | $^{\circ}\text{C}$ |
| Storage Temperature | T_{STG} | -40 ~ +150 | $^{\circ}\text{C}$ |

Note: 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 |
|--------------------------------------|---------------|--|-------|-----|-----|------|
| Collector-Emitter Breakdown Voltage | BV_{CES} | $I_C=100\mu\text{A}$, $I_B=0$ | 30 | | | V |
| Collector CutOff Current | I_{CBO} | $V_{CB}=30\text{V}$, $I_E=0$ | | | 100 | nA |
| Emitter CutOff Current | I_{EBO} | $V_{EB}=10\text{V}$, $I_C=0$ | | | 100 | nA |
| DC Current Gain | h_{FE} | $V_{CE}=5\text{V}$, $I_C=100\text{ mA}$ (Note) | 20000 | | | |
| Collector-Emitter Saturation Voltage | $V_{CE(SAT)}$ | $I_C=100\text{mA}$, $I_B=0.1\text{mA}$ (Note) | | | 1.5 | V |
| Base-Emitter on Voltage | $V_{BE(ON)}$ | $V_{CE}=5\text{V}$, $I_C=100\text{mA}$ (Note) | | | 2.0 | V |
| Current Gain Bandwidth Product | f_T | $V_{CE}=5\text{V}$, $I_C=10\text{mA}$, $f=100\text{MHz}$ | 125 | | | MHz |

Note: Pulse Width < 300 μs , Duty Cycle \leq 2%

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