



4124D

NPN EPITAXIAL SILICON TRANSISTOR

MIDDLING VOLTAGE FAST-SWITCHING NPN POWER TRANSISTOR

DESCRIPTION

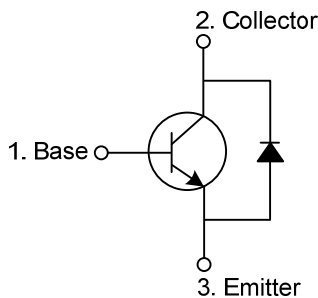
The UTC **4124D** is a middling voltage NPN power transistor. it uses UTC's advanced technology to provide customers with high switching speed and high reliability, etc.

The UTC **4124D** is suitable for electronic ballasts, commonly power amplifier circuit and energy-saving light etc.

FEATURES

- * High switching speed
- * High reliability

SYMBOL

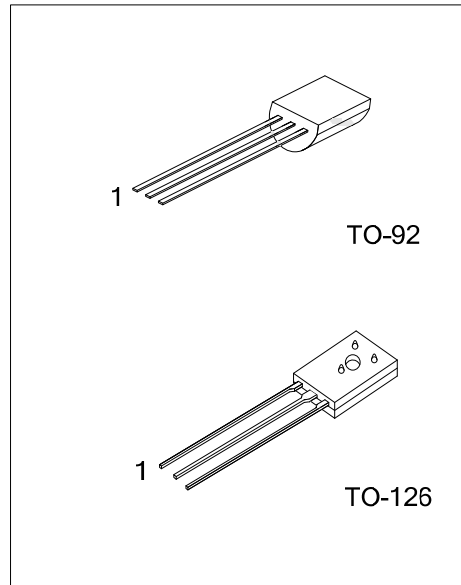


ORDERING INFORMATION

| Ordering Number | | Package | Pin Assignment | | | Packing |
|-----------------|--------------|---------|----------------|---|---|-----------|
| Lead Free | Halogen Free | | 1 | 2 | 3 | |
| 4124DL-T92-B | 4124DG-T92-B | TO-92 | B | C | E | Tape Box |
| 4124DL-T92-K | 4124DG-T92-K | TO-92 | B | C | E | Bulk |
| 4124DL-T92-R | 4124DG-T92-R | TO-92 | B | C | E | Tape Reel |
| 4124DL-T60-K | 4124DG-T60-K | TO-126 | B | C | E | Bulk |

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

| | |
|--|---|
| <p>4124DL-T92-B</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Lead Free</p> | <p>(1) B: Tape Box, K: Bulk, R: Tape Reel</p> <p>(2) T92: TO-92, T60: TO-126</p> <p>(3) L: Lead Free, G: Halogen Free</p> |
|--|---|



■ ABSOLUTE MAXIMUM RATINGS (T_c=25°C)

| PARAMETER | | SYMBOL | RATINGS | UNIT |
|---|----------------|------------------|----------|------|
| Collector-Base Voltage (V _{BE} =0) | | V _{CES} | 350 | V |
| Collector-Emitter Voltage (I _B =0) | | V _{CEO} | 200 | V |
| Emitter-Base Voltage | | V _{EBO} | 7 | V |
| Continuous Collector Current | DC | I _C | 2 | A |
| | Pulse (Note 2) | I _{CP} | 4 | A |
| Base Current | DC | I _B | 1 | A |
| | Pulse (Note 2) | I _{BP} | 2 | A |
| Total Dissipation | TO-92 | P _C | 1.5 | W |
| | TO-126 | | 20 | W |
| Junction Temperature | | T _J | 150 | °C |
| Storage Temperature Range | | T _{STG} | -55~+150 | °C |

Note: 1. Absolute maximum ratings are stress ratings only and functional device operation is not implied. Absolute maximum ratings are those values beyond which the device could be permanently damaged.

2. Pulse Test: Pulse Width=5.0ms, Duty Cycle<10%.

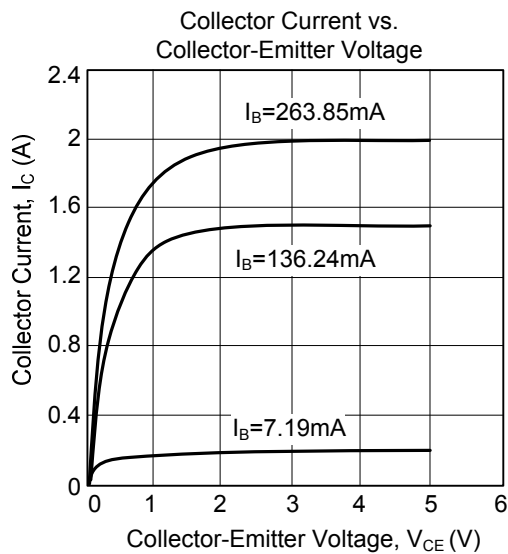
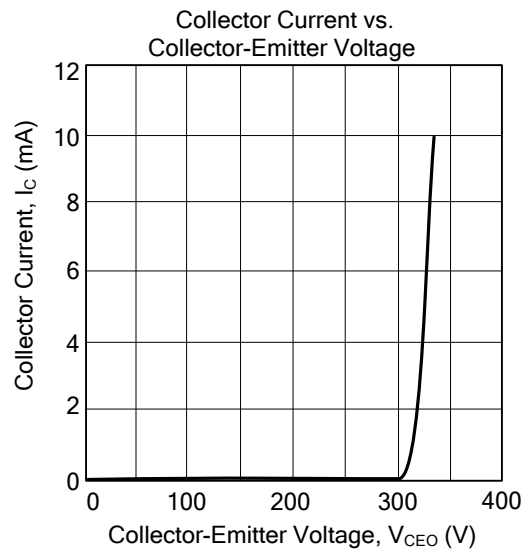
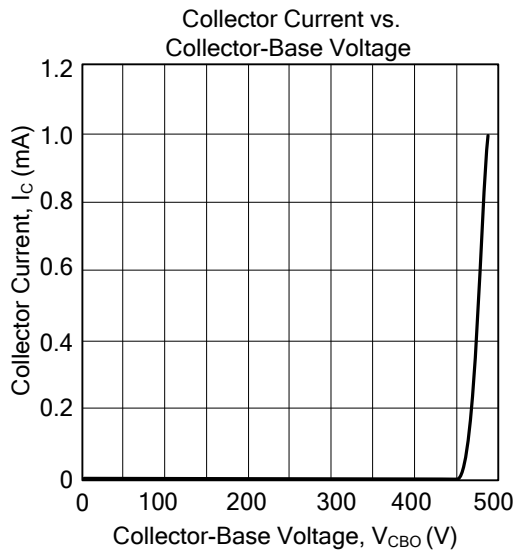
■ THERMAL CHARACTERISTICS

| PARAMETER | | SYMBOL | RATINGS | UNIT |
|------------------|--------|-----------------|---------|------|
| Junction to Case | TO-92 | θ _{JC} | 80 | °C/W |
| | TO-126 | | 6.25 | °C/W |

■ ELECTRICAL CHARACTERISTICS

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|--------------------------------------|-----------------------|---|-----|-----|-----|------|
| Collector-Base Breakdown Voltage | BV _{CBO} | I _C =1mA, I _B =0 | 350 | | | V |
| Collector-Emitter Breakdown Voltage | BV _{CEO} | I _C =10mA, I _B =0 | 200 | | | V |
| Emitter-Base Breakdown Voltage | BV _{EBO} | I _E =1mA, I _C =0 | 7 | | | V |
| Collector Cut-Off Current | I _{CBO} | V _{CB} =350V, I _E =0 | | | 100 | μA |
| Collector-Emitter Cut-Off Current | I _{CEO} | V _{CE} =200V, I _B =0 | | | 50 | μA |
| Emitter Cut-Off Current | I _{EBO} | V _{EB} =7V, I _C =0 | | | 10 | μA |
| Collector-Emitter Saturation Voltage | V _{CE(SAT)1} | I _C =0.5A, I _B =0.1A | | | 0.8 | V |
| | V _{CE(SAT)2} | I _C =1.5A, I _B =0.5A | | | 1.0 | V |
| Base-Emitter Saturation Voltage | V _{BE(SAT)} | I _C =1A, I _B =0.25A | | | 1.5 | V |
| DC Current Gain | h _{FE1} | I _C =0.2A, V _{CE} =5V | 8 | | 50 | |
| | h _{FE2} | I _C =2A, V _{CE} =5V | 5 | | | |
| Transition Frequency | f _T | I _C =0.5A, V _{CE} =10V | 4 | | | MHz |
| Storage Time | t _S | V _{CC} =24V, I _C =0.5A, I _{B1} =-I _{B2} =0.1A | | | 4 | μs |
| Fall Time | t _F | | | | 0.7 | μs |

■ TYPICAL CHARACTERISTICS



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