

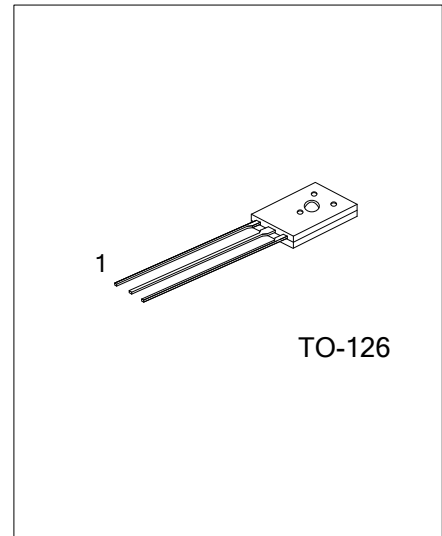


4128D

Preliminary

NPN EPITAXIAL SILICON TRANSISTOR

MIDDLING VOLTAGE
FAST-SWITCHING NPN
POWER TRANSISTOR



■ DESCRIPTION

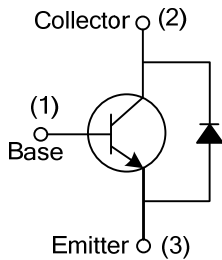
The UTC **4128D** is a middling voltage NPN power transistor. it uses UTC's advanced technology to provide customers with high switching speed and high reliability, etc.

The UTC **4128D** is suitable for commonly power amplifier circuit, electronic ballasts 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 | |
| 4128DL-T60-K | 4128DG-T60-K | TO-126 | B | C | E | Bulk |

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

| | |
|---|---|
| <p>4128DL-T60-T</p> <ul style="list-style-type: none"> (1) Packing Type (2) Package Type (3) Lead Free | <ul style="list-style-type: none"> (1) B: Bulk (2) T60: TO-126 (3) L: Lead Free, G: Halogen Free |
|---|---|

■ ABSOLUTE MAXIMUM RATINGS (T_c=25°C)

| PARAMETER | SYMBOL | RATINGS | UNIT |
|--|------------------|-----------------|------|
| Collector-Emitter 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 |
| Collector Current | DC | I _C | 5 |
| | Pulse (Note 2) | I _{CP} | 10 |
| Base Current | DC | I _B | 2 |
| | Pulse (Note 2) | I _{BP} | 4 |
| Total Dissipation | P _C | 40 | W |
| Junction Temperature | T _J | 150 | °C |
| Storage Temperature Range | T _{STG} | -55~+150 | °C |

Notes: 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 | θ _{JC} | 3.125 | °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 =1A, I _B =0.2A | | | 0.8 | V |
| | V _{CE(SAT)2} | I _C =3A, I _B =0.6A | | | 1.5 | V |
| Base-Emitter Saturation Voltage | V _{BE(SAT)} | I _C =3A, I _B =0.6A | | | 1.6 | V |
| DC Current Gain | h _{FE1} | I _C =0.8A, V _{CE} =5V | 8 | | 50 | |
| | h _{FE2} | I _C =3A, V _{CE} =5V | 8 | | | |
| 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 |

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