



## D4203D

Preliminary

**NPN SILICON TRANSISTOR**

### HIGH VOLTAGE FAST-SWITCHING NPN POWER TRANSISTOR

#### ■ DESCRIPTION

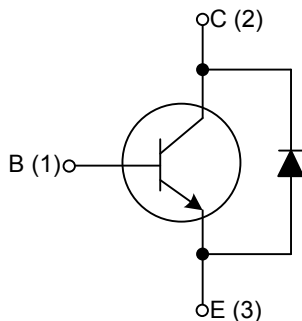
The UTC **D4203D** is a high voltage fast-switching NPN power transistor. It is characterized by high breakdown voltage, high current capability, high switching speed and high reliability.

The UTC **D4203D** is intended to be used in energy-saving lights, electronic ballasts, high frequency switching power supplies, high frequency power transforms or common power amplifier, etc.

#### ■ FEATURES

- \* High Breakdown Voltage
- \* High Current Capability
- \* High Switching Speed
- \* High Reliability
- \* High Resistance to Shock
- \* Built-In Diode

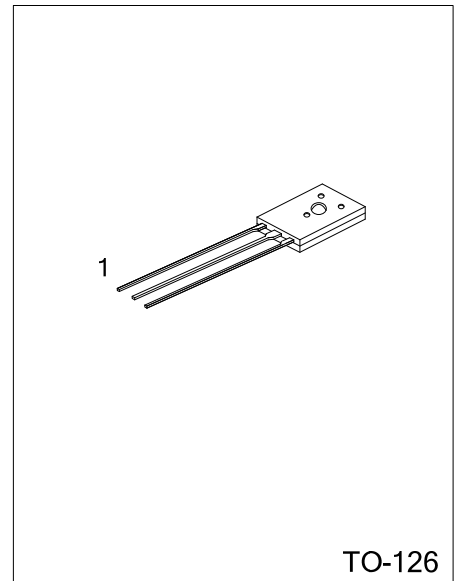
#### ■ INTERNAL SCHEMATIC DIAGRAM



#### ■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen-Free	TO-126	1	2	3	Bulk
D4203DL-T60-K	D4203DG-T60-K		B	C	E	

<div><div>D4203DG-T60-K</div><div><div></div><div></div><div></div></div><div>(1)Packing Type</div><div>(2)Package Type</div><div>(3)Halogen Free</div></div> <div><div>(1) K: Bulk</div><div>(2) T60: TO-126</div><div>(3) G: Halogen Free</div></div>	
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# ■ ABSOLUTE MAXIMUM RATINGS (T<sub>C</sub>=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector- Base Voltage	V <sub>CBO</sub>	700	V
Collector-Emitter Voltage (I <sub>B</sub> =0)	V <sub>CEO</sub>	400	V
Emitter-Base Voltage	V <sub>EBO</sub>	9	V
Collector Current (DC)	I <sub>C</sub>	2.0	A
Collector Current (pulse)	I <sub>CP</sub>	4.0	A
Total Power Dissipation	P <sub>C</sub>	20	W
Junction Temperature	T <sub>J</sub>	150	°C
Storage Temperature	T <sub>STG</sub>	-55 ~ +150	°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. Pulse Test: Pulse Width = 5.0ms, Duty Cycle < 10%.

# ■ THERMAL DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Case	θ <sub>JC</sub>	6.25	°C/W

# ■ ELECTRICAL CHARACTERISTICS

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Emitter Sustaining Voltage	V <sub>CEO(SUS)</sub>	I <sub>C</sub> =10mA, I <sub>B</sub> =0	400			V
Collector -Base Breakdown Voltage	BV <sub>CBO</sub>	I <sub>C</sub> =1mA, I <sub>E</sub> =0	700			V
Emitter-Base Breakdown Voltage	BV <sub>EBO</sub>	I <sub>E</sub> =1mA, I <sub>C</sub> =0	9			V
Collect - Base Cut-off Current	I <sub>CBO</sub>	V <sub>CB</sub> =680V, I <sub>E</sub> =0			100	μA
Collect - Emitter Cut-off Current	I <sub>CEO</sub>	V <sub>CE</sub> =400V, I <sub>B</sub> =0			50	μA
Emitter - Base Cut-off Current	I <sub>EBO</sub>	V <sub>EB</sub> =7V, I <sub>C</sub> =0			10	μA
DC Current Gain	h <sub>FE1</sub>	V <sub>CE</sub> =5V, I <sub>C</sub> =5mA	6		40	
	h <sub>FE2</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =200 mA	8		40	
Collector-Emitter Saturation Voltage	V <sub>CE(SAT)1</sub>	I <sub>C</sub> =0.5A, I <sub>B</sub> =0.1A			0.5	V
	V <sub>CE(SAT)2</sub>	I <sub>C</sub> =1.5A, I <sub>B</sub> =0.5A			2	V
Base-Emitter Saturation Voltage	V <sub>BE(SAT)</sub>	I <sub>C</sub> =1A, I <sub>B</sub> =0.25A			1.8	V
Resistive Load	Fall Time	V <sub>CC</sub> =24 V, I <sub>C</sub> =2A, I <sub>B1</sub> =-I <sub>B2</sub> =0.4A			0.7	μs
	Storage Time				4	μs
Current Gain Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =0.5A	4			MHz

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