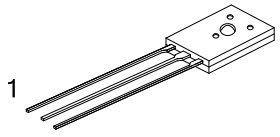
D4203D Preliminary ***NPN SILICON TRANSISTOR***

HIGH VOLTAGE FAST-SWITCHING NPN POWER TRANSISTOR



TO-126

■ DESCRIPTION

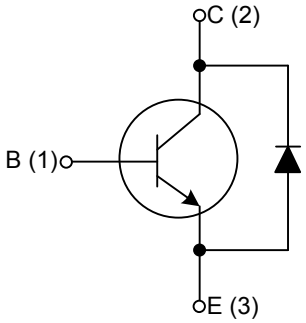
The UTC **D4203D** is a high voltage fast-switching NPN power transistor. It is characterized by high breakdown voltage, high current capability, high switching speed and high reliability.

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	

D4203DG-T60-K

(1)Packing Type — (1) K: Bulk

(2)Package Type — (2) T60: TO-126

(3)Halogen Free — (3) G: Halogen Free

■ ABSOLUTE MAXIMUM RATINGS (T_C=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector- Base Voltage	V_{CBO}	700	V
Collector-Emitter Voltage (I_B=0)	V_{CEO}	400	V
Emitter-Base Voltage	V_{EBO}	9	V
Collector Current (DC)	I_C	2.0	A
Collector Current (pulse)	I_{CP}	4.0	A
Total Power Dissipation	P_C	20	W
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-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_{JC}	6.25	°C/W

■ ELECTRICAL CHARACTERISTICS

PARAMETER		SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Emitter Sustaining Voltage		$V_{CEO(SUS)}$	I_C=10mA, I_B=0	400			V
Collector -Base Breakdown Voltage		BV_{CBO}	I_C=1mA, I_E=0	700			V
Emitter-Base Breakdown Voltage		BV_{EBO}	I_E =1mA, I_C=0	9			V
Collect - Base Cut-off Current		I_{CBO}	V_{CB}=680V, I_E=0			100	μA
Collect - Emitter Cut-off Current		I_{CEO}	V_{CE}=400V,I_B=0			50	μA
Emitter - Base Cut-off Current		I_{EBO}	V_{EB}=7V, I_C=0			10	μA
DC Current Gain		h_{FE1}	V_{CE} =5V, I_C=5mA	6		40	
		h_{FE2}	V_{CE} =10V, I_C=200 mA	8		40	
Collector-Emitter Saturation Voltage		$V_{CE(SAT)1}$	I_C=0.5A, I_B=0.1A			0.5	V
		$V_{CE(SAT)2}$	I_C=1.5A, I_B=0.5A			2	V
Base-Emitter Saturation Voltage		$V_{BE(SAT)}$	I_C=1A, I_B=0.25A			1.8	V
Resistive Load	Fall Time	t_F	V_{CC}=24 V, I_C=2A, I_{B1}=-I_{B2}=0.4A			0.7	μs
	Storage Time	t_S				4	μs
Current Gain Bandwidth Product		f_T	V_{CE}=10V, I_C=0.5A	4			MHz