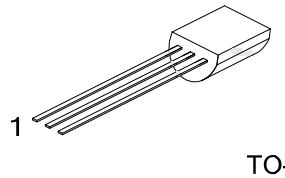
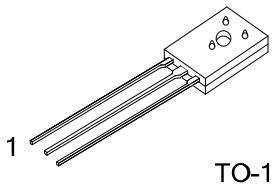
4124D

NPN EPITAXIAL SILICON TRANSISTOR

MIDDLING VOLTAGE FAST-SWITCHING NPN POWER TRANSISTOR



TO-92



TO-126

■ DESCRIPTION

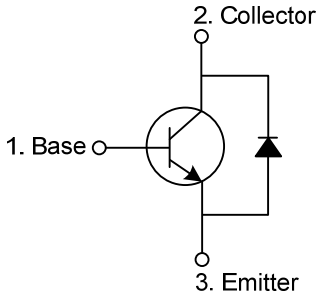
The UTC **4124D** is a middling voltage NPN power transistor. it uses UTC's advanced technology to provide customers with high switching speed and high reliability, etc.

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

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

■ 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

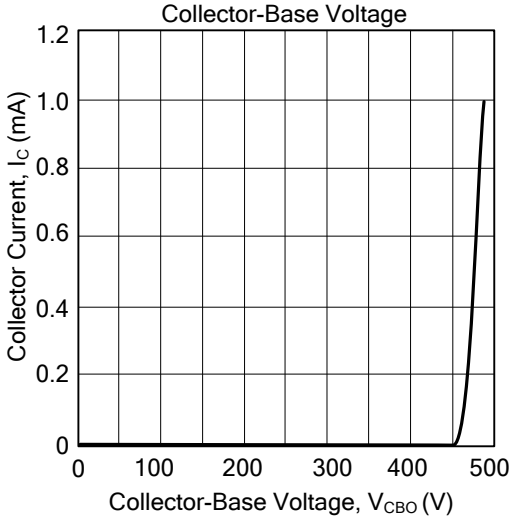
PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Case	TO-92	θ_{JC}	80	°C/W
	TO-126		6.25	°C/W

■ ELECTRICAL CHARACTERISTICS

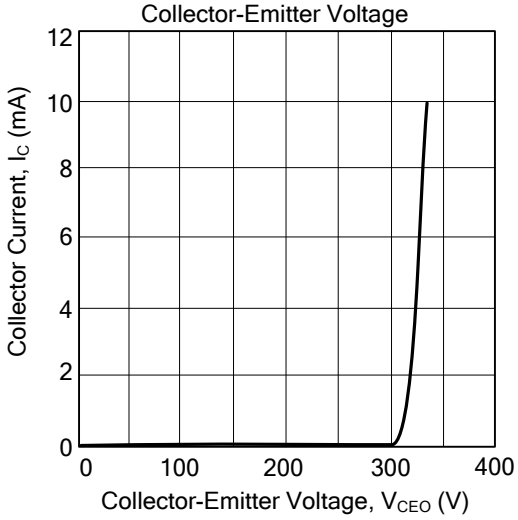
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	I_C=1mA, I_B=0	350			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C=10mA, I_B=0	200			V
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E=1mA, I_C=0	7			V
Collector Cut-Off Current	I_{CBO}	V_{CB}=350V, I_E=0			100	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

Collector Current vs.
Collector-Base Voltage



Collector Current vs.
Collector-Emitter Voltage



Collector Current vs.
Collector-Emitter Voltage