



4128D

Preliminary

NPN EPITAXIAL SILICON TRANSISTOR

MIDDLING VOLTAGE FAST-SWITCHING NPN POWER TRANSISTOR

■ DESCRIPTION

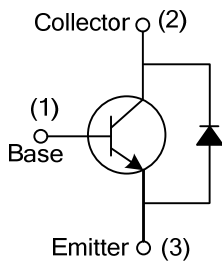
The UTC **4128D** is a middling voltage NPN power transistor. it uses UTC's advanced technology to provide customers with high switching speed and high reliability, etc.

The UTC **4128D** is suitable for commonly power amplifier circuit, electronic ballasts and energy-saving light etc.

■ FEATURES

- * High switching speed
- * High reliability

■ SYMBOL

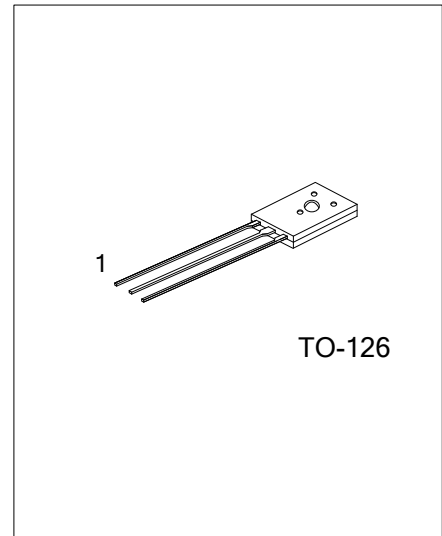


■ ORDERING INFORMATION

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> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Lead Free</p>	<p>(1) B: Bulk</p> <p>(2) T60: TO-126</p> <p>(3) L: Lead Free, G: Halogen Free</p>
--	--



■ ABSOLUTE MAXIMUM RATINGS ($T_c=25^{\circ}\text{C}$)

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	A
	Pulse (Note 2)	I_{CP}	10	A
Base Current	DC	I_B	2	A
	Pulse (Note 2)	I_{BP}	4	A
Total Dissipation		P_C	40	W
Junction Temperature		T_J	150	$^{\circ}\text{C}$
Storage Temperature Range		T_{STG}	-55~+150	$^{\circ}\text{C}$

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	$^{\circ}\text{C/W}$

■ ELECTRICAL CHARACTERISTICS

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C=1\text{mA}$, $I_B=0$	350			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C=10\text{mA}$, $I_B=0$	200			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E=1\text{mA}$, $I_C=0$	7			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=350\text{V}$, $I_E=0$			100	μA
Collector-Emitter Cut-Off Current	I_{CEO}	$V_{CE}=200\text{V}$, $I_B=0$			50	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=7\text{V}$, $I_C=0$			10	μA
Collector-Emitter Saturation Voltage	$V_{CE(SAT)1}$	$I_C=1\text{A}$, $I_B=0.2\text{A}$			0.8	V
	$V_{CE(SAT)2}$	$I_C=3\text{A}$, $I_B=0.6\text{A}$			1.5	V
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C=3\text{A}$, $I_B=0.6\text{A}$			1.6	V
DC Current Gain	h_{FE1}	$I_C=0.8\text{A}$, $V_{CE}=5\text{V}$	8		50	
	h_{FE2}	$I_C=3\text{A}$, $V_{CE}=5\text{V}$	8			
Transition Frequency	f_T	$I_C=0.5\text{A}$, $V_{CE}=10\text{V}$	4			MHz
Storage Time	t_s	$V_{CC}=24\text{V}$, $I_C=0.5\text{A}$, $I_{B1}=-I_{B2}=0.1\text{A}$			4	μs
Fall Time	t_f				0.7	μs

UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice.