



## UD3018

Preliminary

**NPN EPITAXIAL SILICON TRANSISTOR**

## NPN POWER BIPOLAR TRANSISTORS

### DESCRIPTION

The UTC **UD3018** is an NPN transistor. it uses UTC's advanced technology to provide customers with high collector-emitter breakdown voltage and high frequency, etc.

The UTC **UD3018** is suitable for professional audio amplifiers and high-end consumer audio products, etc.

### FEATURES

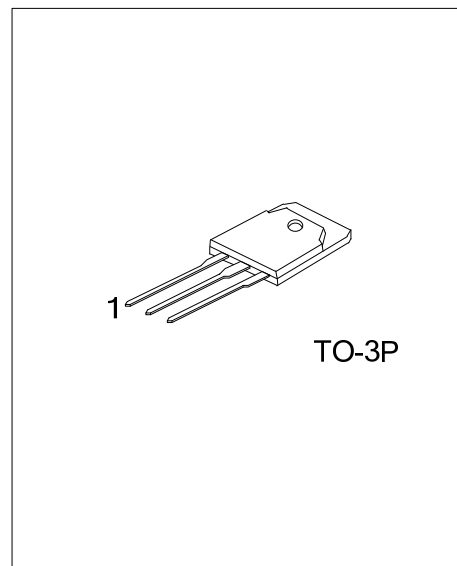
- \* High collector-emitter breakdown voltage
- \* High frequency
- \* Excellent gain linearity

### ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
UD3018L-T3P-T	UD3018G-T3P-T	TO-3P	B	C	E	Tube

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

UD3018L-T3P-T	(1)Packing Type (2)Package Type (3)Halogen Free	(1) T: Tube (2) T3P: TO-3P (3) L: Lead Free, G: Halogen Free
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# ■ ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	$V_{CBO}$	250	V
Collector-Emitter Voltage	$V_{CEO}$	250	V
Emitter-Base Voltage	$V_{EBO}$	5.0	V
Collector-Emitter Voltage - 1.5V	$V_{CEX}$	250	V
Continuous Collector Current	$I_C$	15	A
Peak Collector Current (Note 1)		30	A
Continuous Base Current	$I_B$	1.5	A
Total Power Dissipation @ $T_C=25^{\circ}\text{C}$	$P_D$	150	W
Operating Junction Temperature	$T_J$	-65~+150	$^{\circ}\text{C}$
Storage Temperature Range	$T_{STG}$	-65~+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	$\theta_{JC}$	0.83	$^{\circ}\text{C/W}$

# ■ ELECTRICAL CHARACTERISTICS ( $T_C=25^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
<b>OFF CHARACTERISTICS</b>						
Collector-Emitter Sustaining Voltage	$BV_{CEO(SUS)}$	$I_C=30\text{mA}$ , $I_B=0$	250			V
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=250\text{V}$ , $I_E=0$			10	$\mu\text{A}$
Emitter Cut-Off Current	$I_{EBO}$	$V_{EB}=5.0\text{V}$ , $I_C=0$			5.0	$\mu\text{A}$
<b>ON CHARACTERISTICS</b>						
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=5.0\text{A}$ , $I_B=0.5\text{A}$			1.0	V
DC Current Gain	$h_{FE}$	$I_C=0.5\text{A}$ , $V_{CE}=5.0\text{V}$	75		150	
		$I_C=1.0\text{A}$ , $V_{CE}=5.0\text{V}$	75		150	
		$I_C=3.0\text{A}$ , $V_{CE}=5.0\text{V}$	75		150	
Base-Emitter On Voltage	$V_{BE(on)}$	$I_C=5.0\text{A}$ , $V_{CE}=5.0\text{V}$			1.2	V
<b>DYNAMIC CHARACTERISTICS</b>						
Current-Gain-Bandwidth Product	$f_T$	$I_C=1.0\text{A}$ , $V_{CE}=5.0\text{V}$ , $f_{test}=1.0\text{MHz}$	30			MHz
Output Capacitance	$C_{ob}$	$V_{CB}=10\text{V}$ , $I_E=0$ , $f_{test}=1.0\text{MHz}$			400	pF

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