

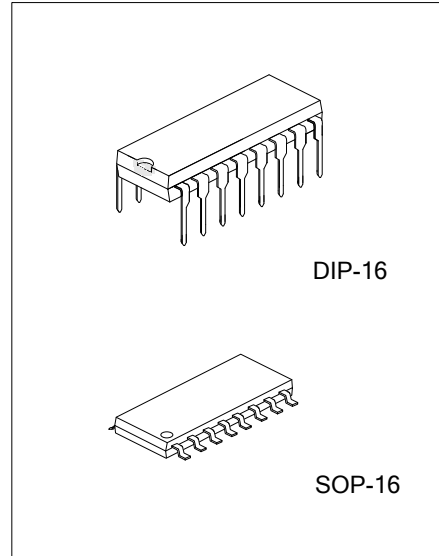


UTC4424

Preliminary

CMOS IC

3A DUAL HIGH-SPEED POWER MOSFET DRIVERS



■ DESCRIPTION

The **UTC4424** contains two independent 3A buffers which perform the function **OUT=IN** in positive logic.

■ FEATURES

- * High Peak Output Current: 3A
- * Power supply voltage: 4.5V to 18V
- * High Capacitive Load Drive Capability: 1800pF in 25 ns
- * Short Delay Times: <40 ns (typ)
- * Low Supply Current:
 - With Logic 'H' Input ---3.5mA (Max.)
 - With Logic 'L' Input ---350uA (Max.)
- * Low Output Impedance: 3.5Ω (Typ.)

■ ORDERING INFORMATION

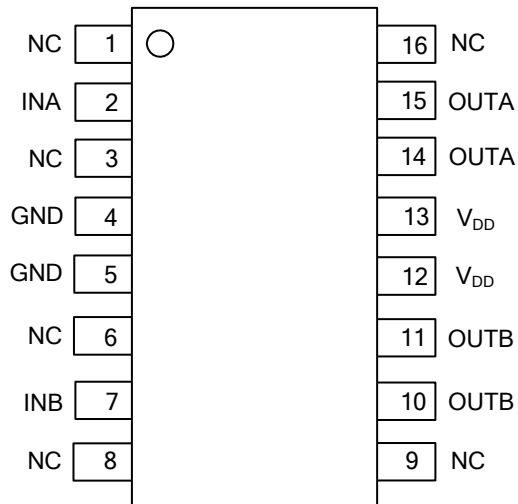
Ordering Number		Package	Packing
Lead Free	Halogen Free		
UTC4424L-D16-T	UTC4424G-D16-T	DIP-16	Tube
-	UTC4424G-S16-R	SOP-16	Tape Reel

<p>UTC4424L-D16-T</p> <p>(1)Packing Type (2)Package Type (3)Green Package</p>	<p>(1) R: Tape Reel, T: Tube (2) D16: DIP-16, S16: SOP-16 (3) L: Lead Free, G: Halogen Free and Lead Free</p>
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■ MARKING

DIP-16	SOP-16
<p>UTC □□□□ → Date Code UTC4424 □ → L: Lead Free □ → G: Halogen Free □□ → Lot Code</p>	<p>UTC □□□□ → Date Code UTC4424G □□ → Lot Code</p>

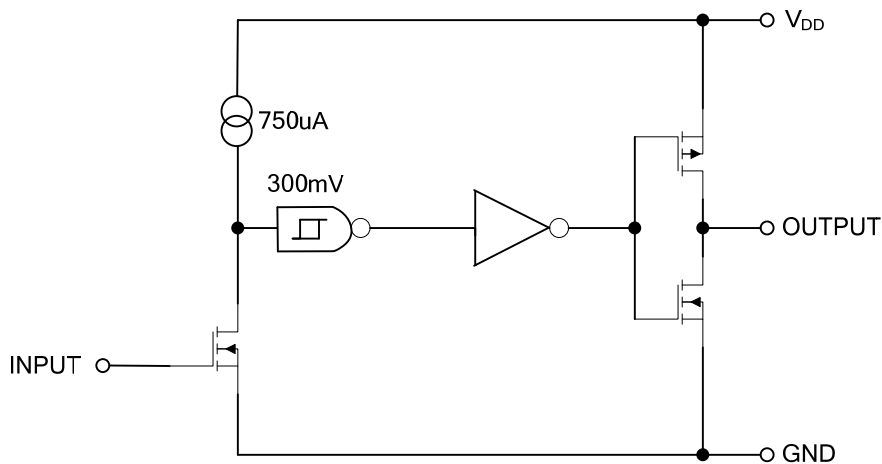
■ PIN CONFIGURATION



■ FUNCTION TABLE (each gate)

INPUT(INA or INB)	OUTPUT(OUTA or OUTB)
H	H
L	L

■ FUNCTIONAL BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATING (T_A=25°C, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V _{DD}	22	V
Input Voltage	V _(INA,INB)	GND - 5 ~ V _{DD} +0.3	V

Note: 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.

■ RECOMMENDED OPERATING CONDITIONS

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V _{DD}	4.5 ~ 18	V
Operating Temperature	T _{OPR}	-40 ~ 125	°C

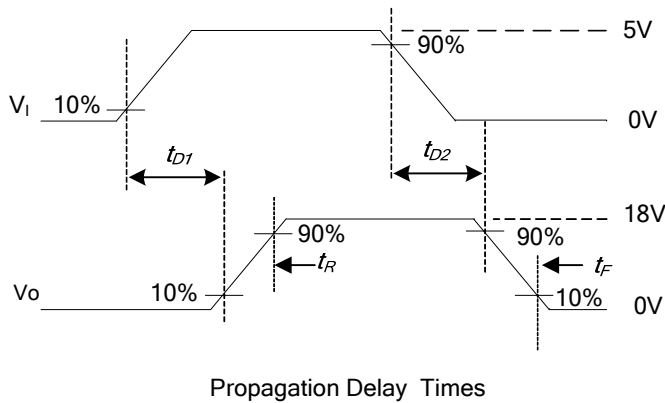
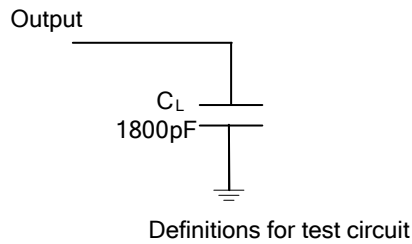
■ DC ELECTRICAL CHARACTERISTICS(V_{DD}=4.5V to 18V ,T_a=25°C,unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Input Voltage	High	V _{IH}	2.4			V
	Low	V _{IL}			0.8	V
Input Current	I _{IN}	0V ≤ V _{IN} ≤ V _{DD}	-1		1	uA
Output Voltage	High	V _{OH}	V _{DD} -0.025			V
	Low	V _{OL}			0.025	V
Output Resistance	High	R _{OH}	I _{OUT} =10mA, V _{DD} =18V	2.8	5	Ω
	Low	R _{OL}	I _{OUT} =10mA, V _{DD} =18V	3.5	5	Ω
Peak Output Current	I _{PK}			3		A
Latch-Up Protection Withstand Reverse Current	I _{REV}	Duty Cycle ≤ 2%, t ≤ 300 usec		>1.5		A
Power Supply Current	I _S	V _{IN} =3V(Both inputs)		1.5	2.5	mA
		V _{IN} =0V(Both inputs)		0.15	0.25	mA

■ SWITCHING CHARACTERISTICS(T_A=25°C, Input: t_R=t_F ≤ 10ns,unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Rise Time	t _R	V _{DD} =18V, C _L =1800pF		23	35	ns
Fall Time	t _F	V _{DD} =18V, C _L =1800pF		25	35	ns
Delay Time	t _{D1}	V _{DD} =18V, C _L =1800pF		33	75	ns
Delay Time	t _{D2}	V _{DD} =18V, C _L =1800pF		38	75	ns

■ TEST CIRCUIT AND WAVEFORMS



Note: CL includes probe and jig capacitance.
 Input: 100kHz, square wave, $t_R = t_F \leq 10\text{ns}$

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