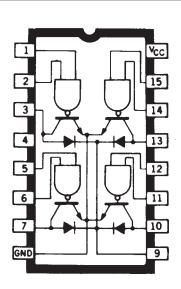
QUAD 2-INPUT PERIPHERAL/POWER DRIVER —TRANSIENT-PROTECTED OUTPUTS



Dwg. No. A-9866

ABSOLUTE MAXIMUM RATINGS at $T_A = +25^{\circ}C$

Supply Voltage, V _{CC}
Input Voltage, V _{IN} 30 V
Output Off-State Voltage,
V _{OFF}
Output On-State Sink Current,
I _{ON} 600 mA
Suppression Diode Off-StateVoltage,
V _{OFF} 80 V
Suppression Diode On-State Current,
I _{ON} 600 mA
Power Dissipation, P _D 2.0 W*
Each Driver
Operating Free-Air Temperature Range,
T _A 40°C to +85°C
Storage Temperature Range,
T _S 55°C to +150°C
-
*Derate at the rate of 16.7 mW/°C above

 $T_A = +25^{\circ}C$

This 16-lead quad 2-input peripheral/power driver is a bipolar monolithic integrated circuit containing logic gates, high-current switching transistors, and transient-suppression diodes on the same chip. The four output transistors are capable of simultaneously sinking 300 mA continuously at ambient temperatures of up to +70°C. In the OFF state, this driver will withstand at least 80 V.

The UDQ5706A quad driver is ideally suited for interface between low-level or high-level logic and high-current/high-voltage loads. Typical applications include driving peripheral loads such as incandescent lamps, light-emitting diodes, memories, and heaters.

The integral transient-suppression diodes allow its use with inductive loads such as relays, solenoids, or stepping motors without the need of discrete diodes.

This device is furnished in a 16-pin DIP package with a copper leadframe for improved thermal characteristics.

FEATURES

- DTL/TTL/PMOS/CMOS Compatible Inputs
- Low Input Current
- 300 mA Continuous Output Current
- Standoff Voltage of 80 V

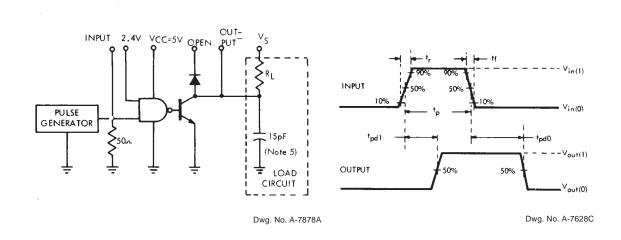
Always order by complete part number, e.g., UDQ5706A



5706 QUAD PERIPHERAL/POWER DRIVER

RECOMMENDED OPERATING CONDITIONS

	Min.	Nom.	Max.	Units	
Supply Voltage (V _{CC})	4. 75	5.0	5.25	V	
Operating Temperature Range	-40	+25	+85	°C	
Current into any output (ON state)	_	_	300	mA	



INPUT TEST PULSE CHARACTERISTICS

V _{IN(0)} = 0 V	t _f = 7 ns	t _p = 1μs
$V_{IN(1)} = 3.5 V$	$t_r = 14 \text{ ns}$	PRR = 500 kHz

QUAD PERIPHERAL/POWER DRIVER

$\begin{tabular}{ll} \bf ELECTRICAL\ CHARACTERISTICS\ over\ operating\ temperature\ range \ (unless\ otherwise\ noted). \end{tabular}$

		Test Conditions				Limits					
Characteristic	Symbol	Temp.	V _{cc}	Driven Input	Other Input	Output	Min.	Тур.	Max.	Units	Notes
"1" Output Reverse Current	l _{OFF}	_	MIN	2.0 V	2.0 V	80 V	_	_	100	μΑ	_
		_	OPEN	2.0 V	2.0 V	80 V	_	_	100	μΑ	_
"0" Output Voltage	V _{ON}	_	MIN	0.8 V	V _{CC}	150 mA	_	0.35	0.5	V	_
		_	MIN	0.8 V	V _{CC}	300 mA	_	0.5	0.7	V	_
"1" Input Voltage	V _{IN(1)}	_	MIN	_	_	_	2.0	_	_	V	_
"0" Input Voltage	V _{IN(0)}	_	MIN	_	_	_	_	_	0.8	V	_
"0" Input Current	I _{IN(0)}	_	MAX	0.4 V	30 V	_	_	-50	-100	μΑ	2
"1" Input Current	I _{IN(1)}	_	MAX	30 V	0 V	_	_	_	10	μΑ	2
Input Clamp Voltage	V_{LK}	_	MIN	-12 mA	_	_	_	_	-1.5	V	_
Diode Leakage Current	I _R	NOM	NOM	0 V	0 V	OPEN	_	_	200	μΑ	3
Diode Forward Voltage Drop	V _F	NOM	NOM	V _{CC}	V _{CC}	_	_	1.5	1.75	V	4
"1" Level Supply Current	I _{CC(1)}	NOM	MAX	5.0 V	5.0 V	_	_	16	24	mA	5
"0" Level Supply Current	I _{CC(0)}	NOM	MAX	0 V	0 V	_		70	98	mA	5

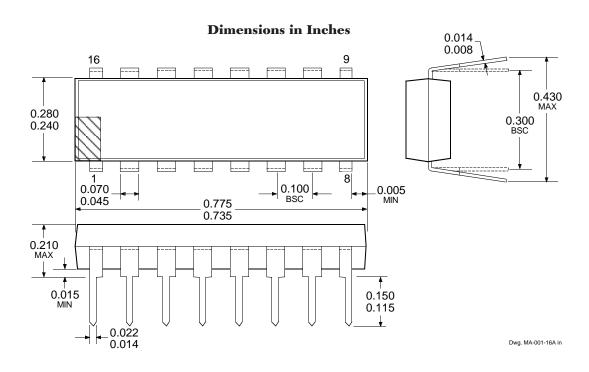
SWITCHING CHARACTERISTICS at $V_{CC} = 5.0 \text{ V}$, $T_A = 25^{\circ}\text{C}$

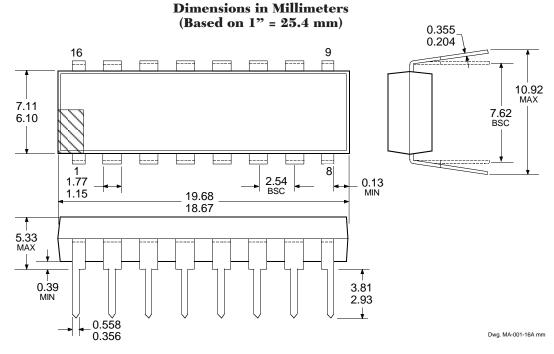
			Limits				
Characteristic	Symbol	Test Conditions	Min.	Тур.	Max.	Units	Notes
Turn-on Delay Time	t _{pd0}	$V_S = 70 \text{ V}$, $R_L = 465 \Omega$ (10 Watts),	_	200	_	ns	
		$C_L = 15 pF$ (including probe and test fixture)					
Turn-off Delay Time	t _{pd1}	$V_S = 70 \text{ V}, R_L = 465 \Omega \text{ (10 Watts)},$	_	300	_	ns	
		$C_L = 15 pF$ (including probe and test fixture)					

NOTES: 1. Typical values are at $V_{CC} = 5.0 \text{ V}$, $T_A = 25^{\circ}\text{C}$. 2. Each input tested separately. 3. Diode leakage current measured at $V_R = V_{off \, (min)}$. 4. Diode forward voltage drop measured at $I_F = 300 \text{ mA}$.

5. Per package.

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- NOTES: 1. Lead thickness is measured at seating plane or below.
 - 2. Lead spacing tolerance is non-cumulative.
 - 3. Exact body and lead configuration at vendor's option within limits shown.

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