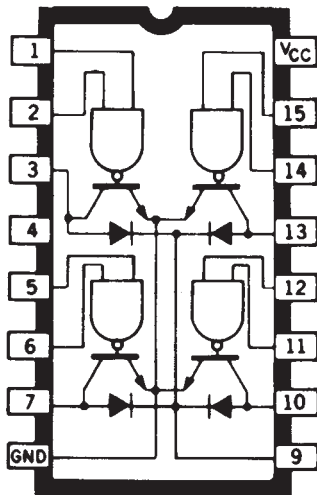


5706

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



Dwg. No. A-9866

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

Supply Voltage, V_{CC}	7.0 V
Input Voltage, V_{IN}	30 V
Output Off-State Voltage, V_{OFF}	80 V
Output On-State Sink Current, I_{ON}	600 mA
Suppression Diode Off-State Voltage, V_{OFF}	80 V
Suppression Diode On-State Current, I_{ON}	600 mA
Power Dissipation, P_D	2.0 W*
Each Driver	0.8 W
Operating Free-Air Temperature Range, T_A	-40°C to $+85^\circ\text{C}$
Storage Temperature Range, T_S	-55°C to $+150^\circ\text{C}$

*Derate at the rate of 16.7 mW/ $^\circ\text{C}$ above
 $T_A = +25^\circ\text{C}$

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 $+70^\circ\text{C}$. 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

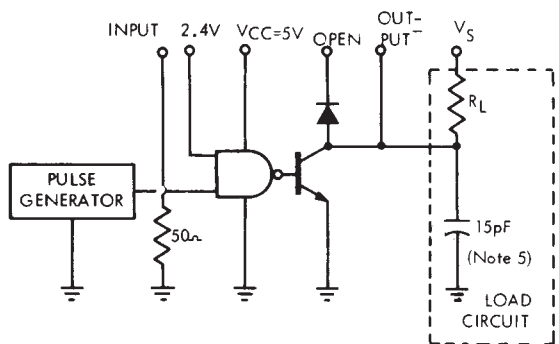
Always order by complete part number, e.g., **UDQ5706A**.



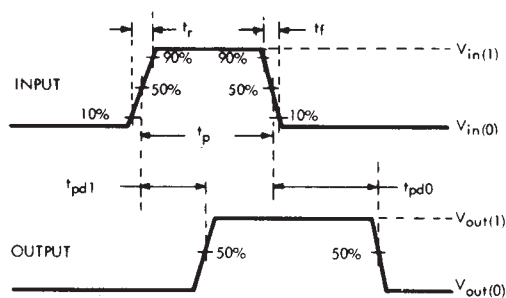
5706 QUAD PERIPHERAL/POWER DRIVER

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



Dwg. No. A-7878A



Dwg. No. A-7628C

INPUT TEST PULSE CHARACTERISTICS

$$V_{IN(0)} = 0 \text{ V}$$

$$t_f = 7 \text{ ns}$$

$$t_p = 1 \mu\text{s}$$

$$V_{IN(1)} = 3.5 \text{ V}$$

$$t_r = 14 \text{ ns}$$

$$\text{PRR} = 500 \text{ kHz}$$

5706

QUAD PERIPHERAL/POWER DRIVER

ELECTRICAL CHARACTERISTICS over operating temperature range (unless otherwise noted).

Characteristic	Symbol	Test Conditions					Limits				Notes
		Temp.	V _{CC}	Driven Input	Other Input	Output	Min.	Typ.	Max.	Units	
"1" Output Reverse Current	I _{OFF}	—	MIN	2.0 V	2.0 V	80 V	—	—	100	μA	—
		—	OPEN	2.0 V	2.0 V	80 V	—	—	100	μA	—
"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	μA	2
"1" Input Current	I _{IN(1)}	—	MAX	30 V	0 V	—	—	—	10	μA	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	μA	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

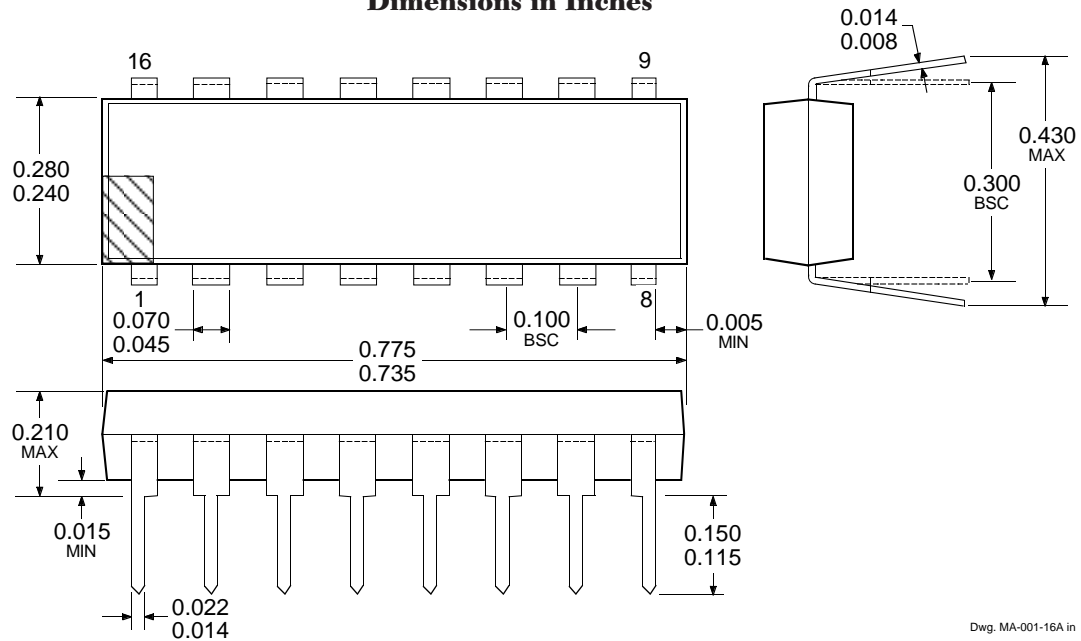
SWITCHING CHARACTERISTICS at V_{CC} = 5.0 V, T_A = 25°C

Characteristic	Symbol	Test Conditions	Limits			Notes
			Min.	Typ.	Max.	
Turn-on Delay Time	t _{pd0}	V _S = 70 V, R _L = 465 Ω (10 Watts), C _L = 15 pF (including probe and test fixture)	—	200	—	ns
Turn-off Delay Time	t _{pd1}	V _S = 70 V, R _L = 465 Ω (10 Watts), C _L = 15 pF (including probe and test fixture)	—	300	—	ns

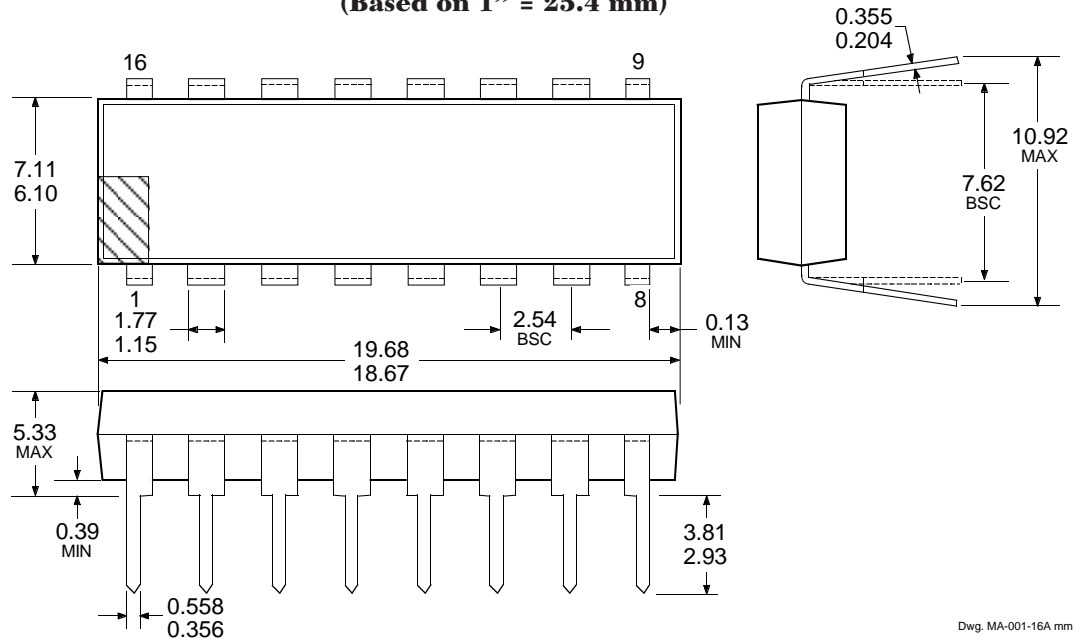
- NOTES: 1. Typical values are at V_{CC} = 5.0 V, T_A = 25°C.
 2. Each input tested separately.
 3. Diode leakage current measured at V_R = V_{off (min)}.
 4. Diode forward voltage drop measured at I_F = 300 mA.
 5. Per package.

5706 QUAD PERIPHERAL/POWER DRIVER

Dimensions in Inches



Dimensions in Millimeters (Based on 1" = 25.4 mm)



- 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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