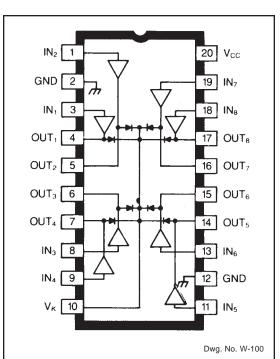
2596 AND 2597

8-CHANNEL SATURATED SINK DRIVERS



ABSOLUTE MAXIMUM RATINGS at T_A = + 25°C

OutputVoltage,V _{CE} 50 V
Output Current, I _{OUT}
(UDN2596A) 500 mA
(UDN2597A) 1.0 A
Supply Voltage, V _{CC} 7.0 V
Input Voltage, V _{IN} 7.0 V
Package Power Dissipation,
P _D 2.27 W*
Operating Temperature Range,
T _A 20°C to +85°C
Storage Temperature Range,
T _s 65°C to +150°C
*Derate at the rate of 18.2 mW/°C above
$T_A = +25^{\circ}C$

Low output-saturation voltages at high load currents are provided by UDN2596A and UDN2597A sink driver ICs. These devices can be used as interface buffers between standard low-power digital logic (particularly MOS) and high-power loads such as relays, solenoids, stepping motors, and LED or incandescent displays. The eight saturated sink drivers in each device feature high-voltage, high-current open-collector outputs. Transient suppression clamp diodes and a minimum 35 V output sustaining voltage allow their use with many inductive loads.

The saturated (non-Darlington) NPN outputs provide low collectoremitter voltage drops as well as improved turn-off times due to an active pull-down function within the output predrive section. The UDN2596A is for use with output loads to 500 mA while the UDN2597A is for use with loads to 1 A. Adjacent outputs may be paralleled for higher load currents.

Inputs require very low input current and are activated by a low logic level consistent with the much greater sinking capability associated with NMOS, CMOS, and TTL logic. The UDN2596A and UDN2597A are rated for use with 5 V logic levels.

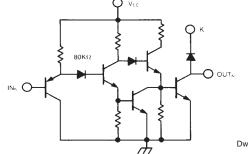
Both devices are furnished in 20-pin DIP packages with copper leadframes for improved thermal characteristics. The UDN2596A is also available for operation between -40°C and +85°C. To order, change the prefix from 'UDN' to 'UDQ'.

FEATURES

Diodes

- Non-Inverting Function
- Low Output ON Voltages
- Up to 1.0 A Sink Capability
- 50 V Min. Output Breakdown
- Output Transient-Suppression
- Output Pull-Down for Fast Turn-Off
- TTL, CMOS Compatible Inputs
- Automotive Capable

ONE OF EIGHT DRIVERS

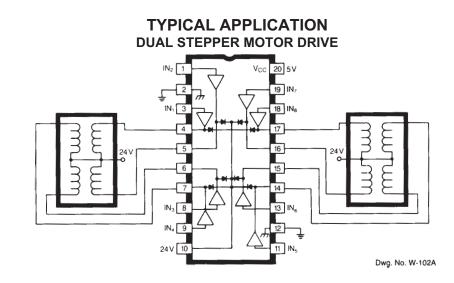




Dwg. No. W-101

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

		Annlinghis		Limits		
Characteristics	Symbol	Applicable Devices	Test Conditions	Min.	Max.	Units
Output Leakage Current	I _{CEX}	Both	V _{OUT} = 50 V, V _{IN} = 2.4 V		10	μA
Output Sustaining Voltage	V _{CE(sus)}	UDN2596A	l _{OUT} = 300 mA, L = 2 mH	35	_	V
		UDN2597A	l _{OUT} = 750 mA, L = 2 mH	35	_	V
Output Saturation Voltage	V _{CE(SAT)}	UDN2596A	l _{OUT} = 300 mA		0.5	V
		UDN2597A	l _{OUT} = 750 mA		1.0	V
Clamp Diode Leakage Current	I _R	Both	V _R = 50 V		10	μA
Clamp Diode Forward Voltage	V _F	UDN2596A	l _F = 300 mA		1.8	V
		UDN2597A	l _F = 750 mA		1.8	V
Logic Input Current	I _{IN(0)}	UDN2956A	V _{IN} = 0.8 V		-15	μA
		UDN2597A	V _{IN} = 0.8 V		-50	μA
	I _{IN(1)}	Both	V _{IN} = 2.4 V		10	μA
Supply Current	I _{CC(ON)}	UDN2596A	any one driver V _{IN} = 0.8 V		6.0	mA
	``´´	UDN2597A	any one driver V _{IN} = 0.8 V		31	mA
	I _{CC(OFF)}	UDN2596A	all drivers V _{IN} = 2.4 V	0.75	1.3	mA
	、 <i>、</i> /	UDN2597A	all drivers V _{IN} = 2.4 V	0.75	15	mA
Turn-On Delay	t _{pd0}	Both	0.5 E _{IN} to 0.5 E _{OUT}	_	3.0	μs
Turn-Off Delay	t _{pd1}	Both	0.5 E _{IN} to 0.5 E _{OUT}		2.0	μs



RECOMMENDED OPERATING CONDITIONS

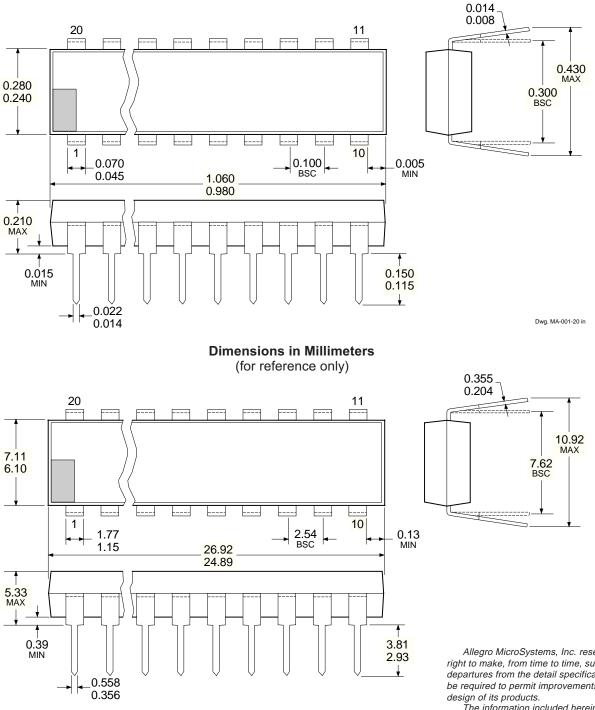
Type Number	Logic	Ι _{ουτ}
UDN2596A	5.0 V	300 mA
UDN2597A	5.0 V	750 mA

Note: Pins 2 and 12 must both be connected to power ground.



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2596 AND 2597 8-CHANNEL SATURATED SINK DRIVERS



Dimensions in Inches (controlling dimensions)

NOTES: 1. Exact body and lead configuration at vendor's option within limits shown. 2. Lead spacing tolerance is non-cumulative.

3. Lead thickness is measured at seating plane or below.

Allegro MicroSystems, Inc. reserves the right to make, from time to time, such departures from the detail specifications as may be required to permit improvements in the

The information included herein is believed to be accurate and reliable. However, Allegro MicroSystems, Inc. assumes no responsibility for its use; nor for any infringements of patents or other rights of third parties which may result from its use.

POWER SINK DRIVERS SELECTION GUIDE

	Output Ratings *		Features						
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IN ORDER OF 1) OUTPUT CURRENT, 2) OUTPUT VOLTAGE, 3) NUMBER OF DRIVERS

* Current is maximum specified test condition, voltage is maximum rating. See specification for sustaining voltage limits or over-current protection voltage limits.

Complete part number includes additional characters to indicate operating temperature range and package style.

