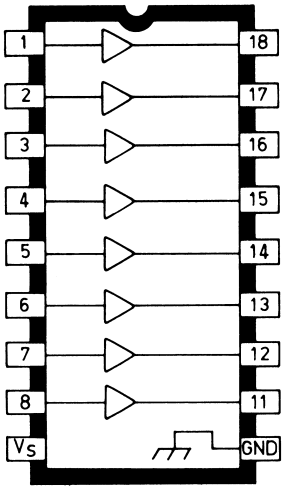
2595

Data Sheet
29320B

8-CHANNEL SATURATED SINK DRIVER

UDN2595A



Dwg. No. A-11,407

ABSOLUTE MAXIMUM RATINGS
at 25°C Free-Air Temperature
for any one driver
(unless otherwise noted)

Output Voltage, V_{CE} ..... **20 V**

Supply Voltage, V_S ..... **20 V**

Input Voltage, V_{IN} ..... **20 V**

Output Current, I_C ..... **200 mA**

Ground Terminal Current, I_{GND} ... **1.6 A**

Package Power Dissipation,
P_D ..... **See Graph**

Operating Temperature Range,
T_A ..... **-20°C to +85°C**

Storage Temperature Range,
T_S ..... **-55°C to +150°C**

Developed for use with low-voltage LED and incandescent displays requiring low output saturation voltage, the UDN2595A and A2595SLW meet many interface needs, including those exceeding the capabilities of standard logic buffers. The eight non-Darlington outputs of each driver can continuously and simultaneously sink load currents of 100 mA at ambient temperatures of up to +75°C.

The eight-channel driver's active-low inputs can be driven directly from TTL, Schottky TTL, DTL, 5 to 16 V CMOS, and NMOS logic. All input connections are on one side of the package, output connections on the other, for simplified printed wiring board layouts.

These drivers are packaged in plastic DIPs (suffix A) or surface-mountable wide-body SOICs (suffix LW), and are rated for operation over the temperature range of -20°C to +85°C. The A2595SLW is also available for operation to -40°C. To order, change the suffix from 'SLW' to 'ELW'.

FEATURES

- Non-Inverting Function (Input Low = Output ON)
- 200 mA Current Rating
- 100 mA Continuous and Simultaneous (All outputs) to +85°C
- Low Saturation Voltage
- TTL, CMOS, NMOS Compatible
- Efficient Input/Output Pin Format
- DIP or SOIC Packaging

Always order by complete part number:

Part Number	Package
UDN2595A	18-Pin DIP
A2595SLW	20-Lead Wide-Body SOIC

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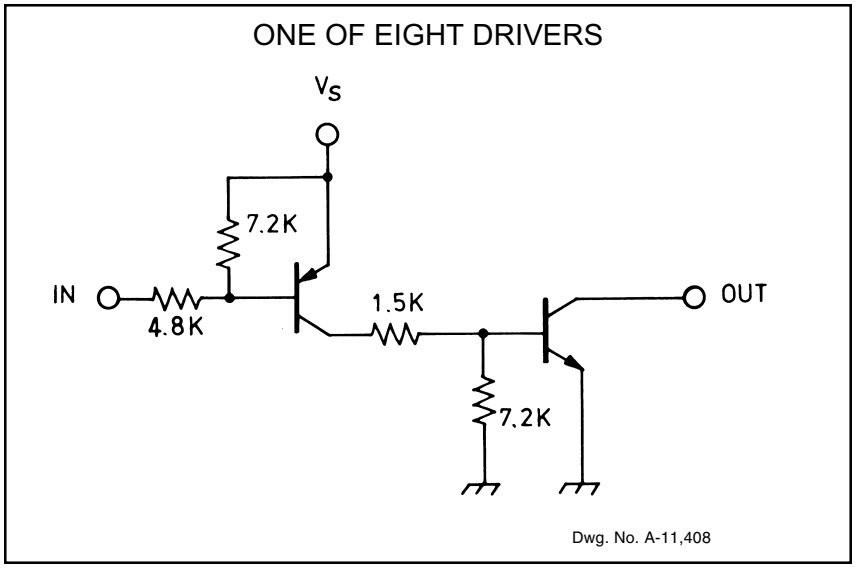
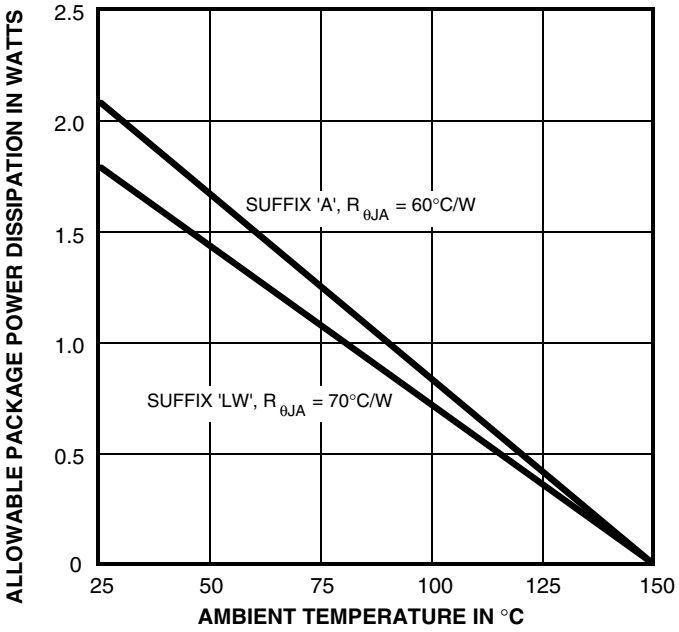
FUNCTIONAL BLOCK DIAGRAM

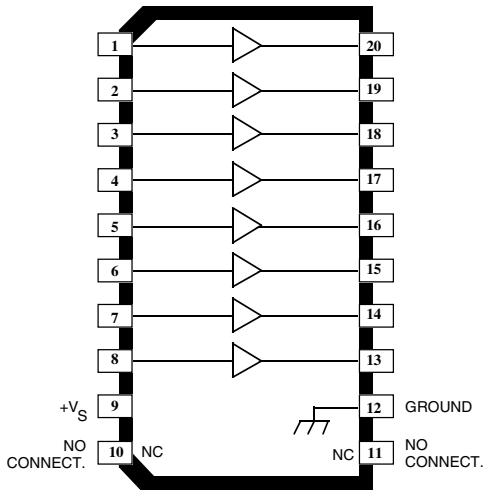


Dwg. No. A-11,408



Dwg. GS-009-1

A2595SLW



Dwg. PP-064-1

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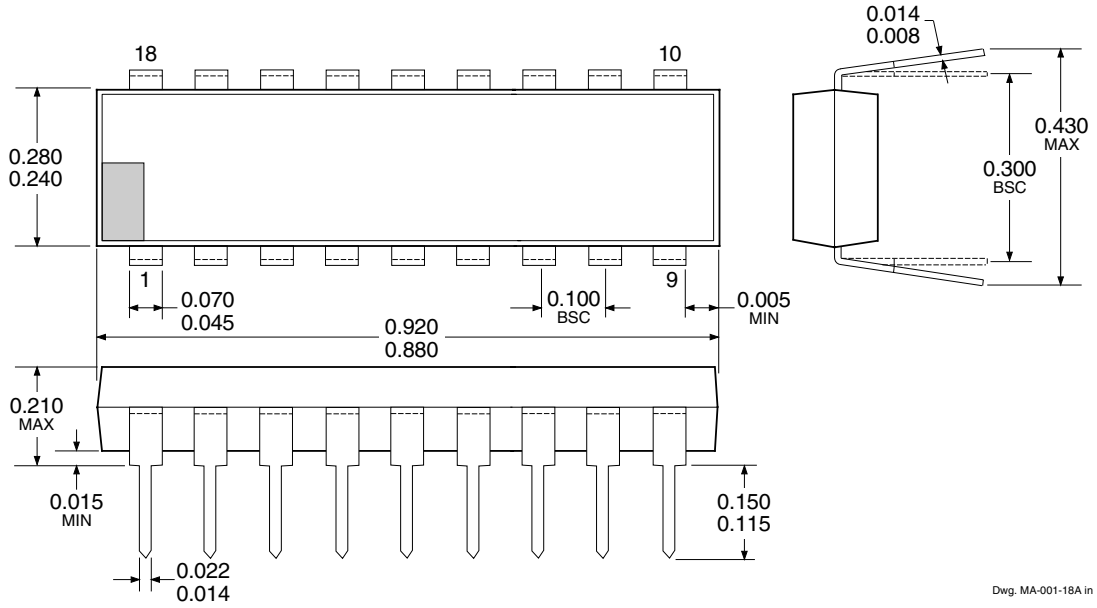
ELECTRICAL CHARACTERISTICS at T_A = +25°C, V_S = 5.0 V (unless otherwise noted).

Characteristic	Symbol	Test Conditions	Limits		
			Min.	Max.	Units
Output Leakage Current	I_{CEX}	$V_{IN} \geq 4.5$ V, V_{OUT} = 20 V, T_A = 25°C	—	50	µA
		$V_{IN} \geq 4.6$ V, V_{OUT} = 20 V, T_A = 70°C	—	100	µA
Output Saturation Voltage	$V_{CE(SAT)}$	V_{IN} = 0.4 V, I_{OUT} = 50 mA	—	0.5	V
		V_{IN} = 0.4 V, I_{OUT} = 100 mA	—	0.6	V
Input Current	$I_{IN(ON)}$	V_{IN} = 0.4 V, I_{OUT} = 100 mA	—	-1.6	mA
		V_{IN} = 0.4 V, I_{OUT} = 100 mA, V_S = 15 V	—	-5.0	mA
Input Voltage	$V_{IN(ON)}$	I_{OUT} = 100 mA, $V_{OUT} \leq$ 0.6 V	—	0.4	V
	$V_{IN(OFF)}$	I_{OUT} = 100 µA, T_A = 70°C	4.6	—	V
Input Capacitance	C_{IN}		—	25	pF
Supply Current	I_S	V_{IN} = 0.4 V, I_{OUT} = 100 mA	—	6.0	mA
		V_{IN} = 0.4 V, I_{OUT} = 100 mA, V_S = 15 V	—	20	mA

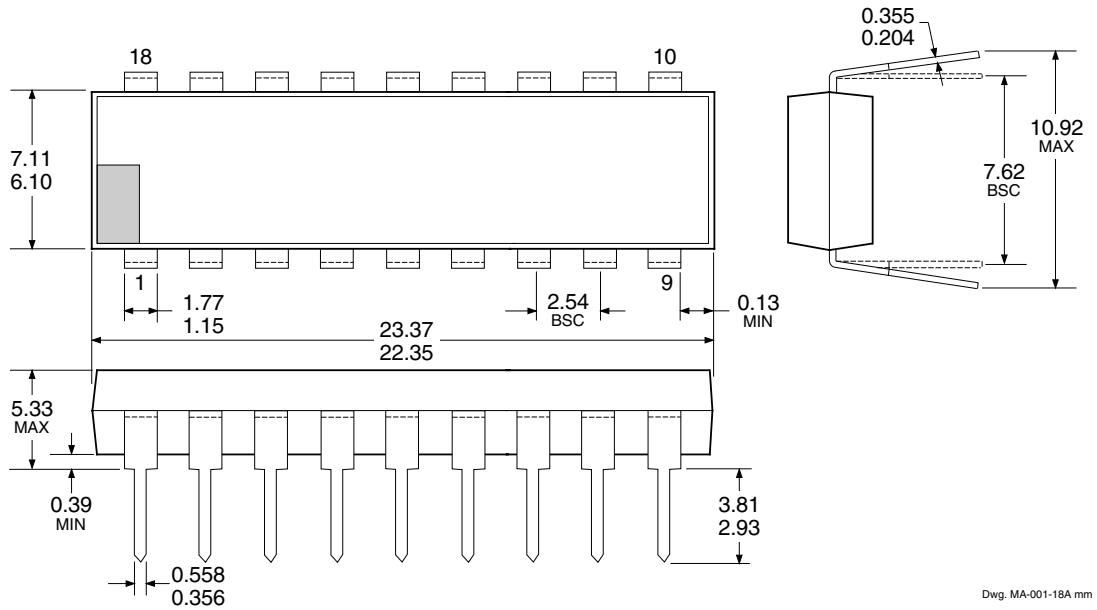
NOTES: 1. Negative current is defined as coming out of the specified device pin.
2. The $V_{IN(ON)}$ voltage limit guarantees a minimum output sink current per the specified conditions.
3. I_S is measured with any one of eight drivers turned ON.

UDN2595A

Dimensions in Inches
(controlling dimensions)



Dimensions in Millimeters
(for reference only)



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.

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A2595SLW

Dimensions in Inches
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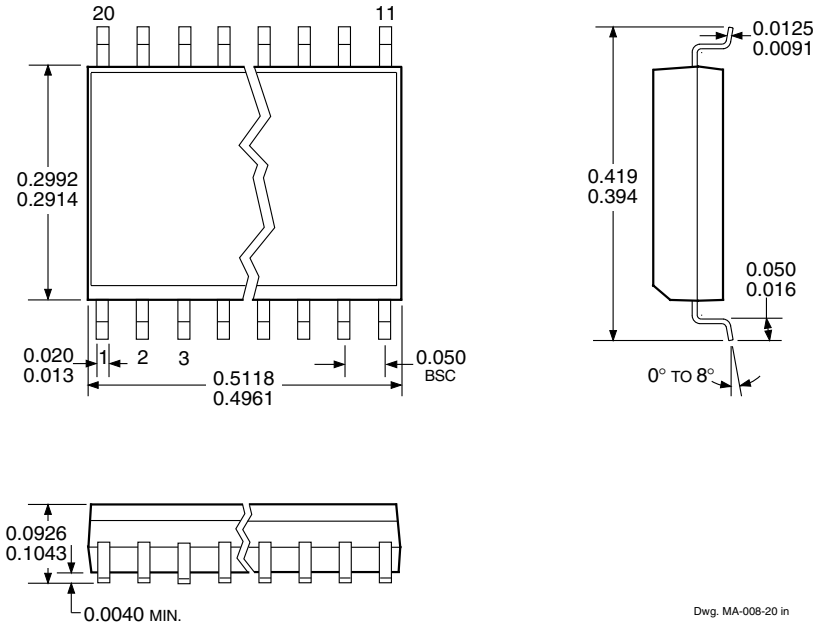
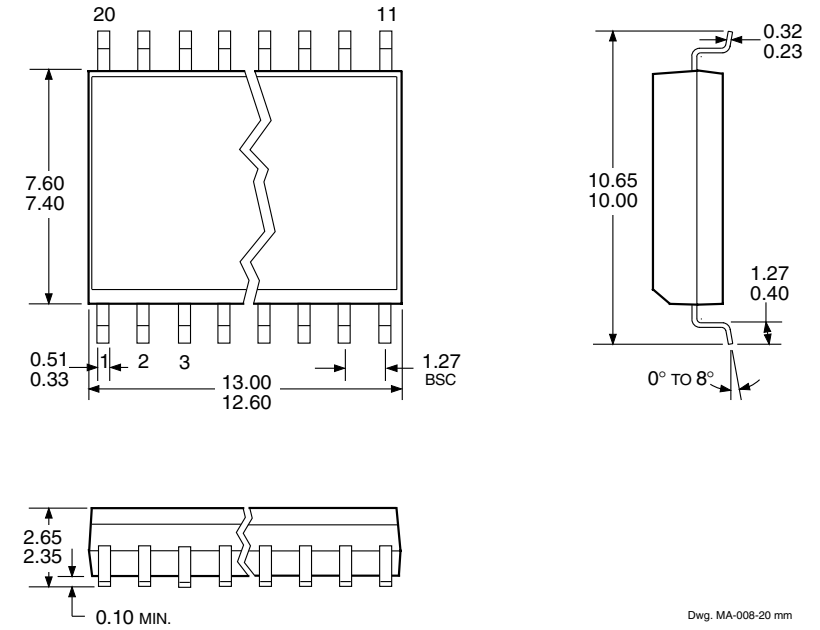


Dwg. MA-008-20 in

Dimensions in Millimeters
(controlling dimensions)



Dwg. MA-008-20 mm

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

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The products described here are manufactured under one or more U.S. patents or U.S. patents pending.

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POWER SINK DRIVERS

IN ORDER OF 1) OUTPUT CURRENT, 2) OUTPUT VOLTAGE, 3) NUMBER OF DRIVERS

Output Ratings *			Features					
			Serial	Latched	Diode		Internal	
mA	V	#	Input	Drivers	Clamp	Outputs	Protection	Part Number†
75	17	8	X	X	–	constant current	–	6275
	17	16	X	X	–	constant current	–	6276
100	20	8	–	–	–	saturated	–	2595
	30	32	X	X	–	–	–	5833
	40	32	X	X	–	saturated	–	5832
	50	8	addressable decoder/driver			DMOS	–	6B259
	50	8	–	X	–	DMOS	–	6B273
	50	8	X	X	–	DMOS	–	6B595
250	50	8	addressable decoder/driver			DMOS	–	6259
	50	8	–	X	–	DMOS	–	6273
	50	8	X	X	–	DMOS	–	6595
	135	7	–	–	X	–	–	7003
300	45	1	–	Hall sensor/driver	X	–	X	5140
	50	7	–	–	X	–	–	2003
	50	8	–	–	X	–	–	2803
	50	8	–	–	X	saturated	–	2596
	60	4	–	–	X	saturated	X	2557
	95	7	–	–	X	–	–	2023
	95	8	–	–	X	–	–	2823
350	50	4	–	X	X	–	–	5800
	50	7	–	–	X	–	–	2004
	50	8	–	–	X	–	–	2804
	50	8	–	X	X	–	–	5801
	50	8	X	X	–	–	–	5821
	50	8	X	X	X	–	–	5841
	50	8	addressable decoder/driver			DMOS	–	6A259
	50	8	X	X	–	DMOS	–	6A595
	80	8	X	X	–	–	–	5822
	80	8	X	X	X	–	–	5842
	95	7	–	–	X	–	–	2024
	95	8	–	–	X	–	–	2824
450	30	28	dual 4- to 14-line decoder/driver			–	–	6817
600	60	4	–	–	–	saturated	X	2547
	60	4	–	–	X	saturated	X	2549
700	60	4	–	–	X	saturated	X	2543 and 2559
750	50	8	–	–	X	saturated	–	2597
900	14	2	–	Hall sensor/driver	X	saturated	X	3625
	26	2	–	Hall sensor/driver	X	saturated	X	3626
1000	46	4	stepper motor controller/driver			MOS	–	7024 and 7029
1200	46	4	microstepping controller/driver			MOS	–	7042
1250	50	4	stepper motor translator/driver			–	X	5804
	50	4	–	–	X	–	–	2064 and 2068
1500	80	4	–	–	X	–	–	2065 and 2069
1800	50	4	–	–	X	–	–	2544
	50	4	–	–	X	–	–	2540
3000	46	4	stepper motor controller/driver			MOS	–	7026
	46	4	microstepping controller/driver			MOS	–	7044
4000	50	4	–	–	X	–	–	2878
	80	4	–	–	X	–	–	2879

* 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.

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