2595

8-CHANNEL SATURATED SINK DRIVER

UDN2595A (DIP)

Dwg. No. A-11,407

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 DlPs (suffix A) or surface-mountable wide-body SOlCs (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

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, l_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**

Always order by complete part number:

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

Allegro® MicroSystems, Inc.

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FUNCTIONAL BLOCK DIAGRAM

ONE OF EIGHT DRIVERS

Dwg. No. A-11,408
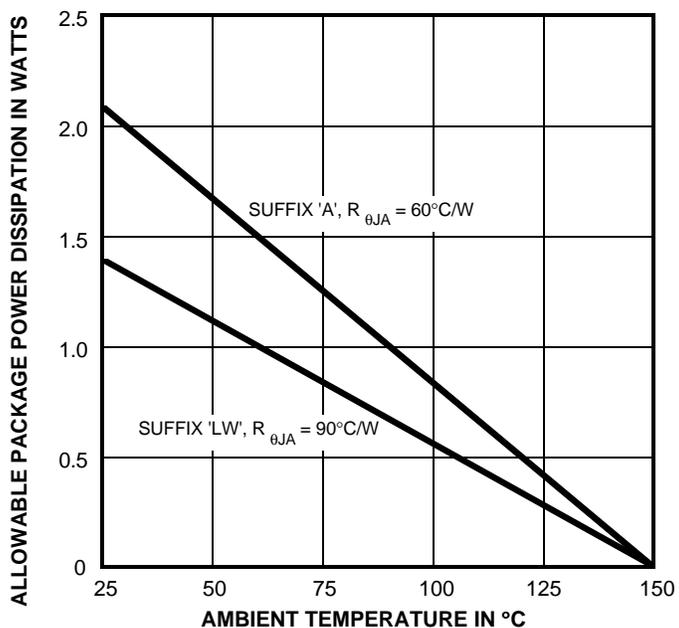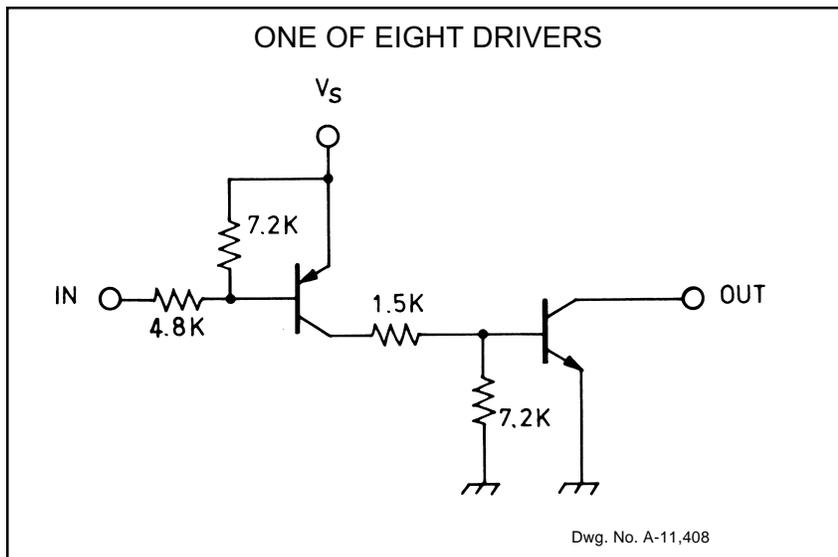
Dwg. GS-009-1A

A2595SLW (SOIC)
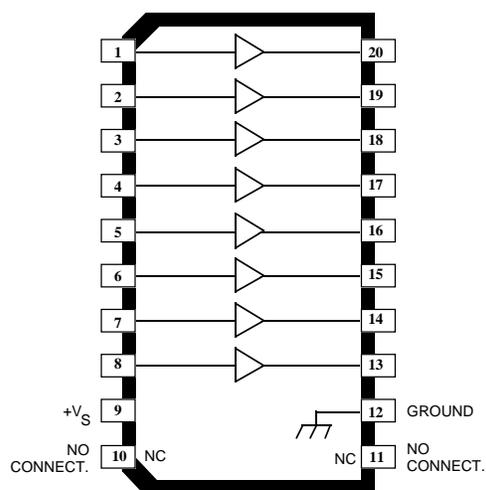
Dwg. PP-064-1

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

Characteristic	Symbol	Test Conditions	Min.	Max.	Units
				Limits	
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.

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UDN2595A

Dimensions in Inches
(controlling dimensions)

18   10

0.280
0.240

1   9

0.070   0.100   0.005
0.045   BSC   MIN
          0.920
          0.880

0.210
MAX

0.015
MIN

0.150
0.115

0.022
0.014

0.014
0.008

0.430
MAX
0.300
BSC

Dwg. MA-001-18A in
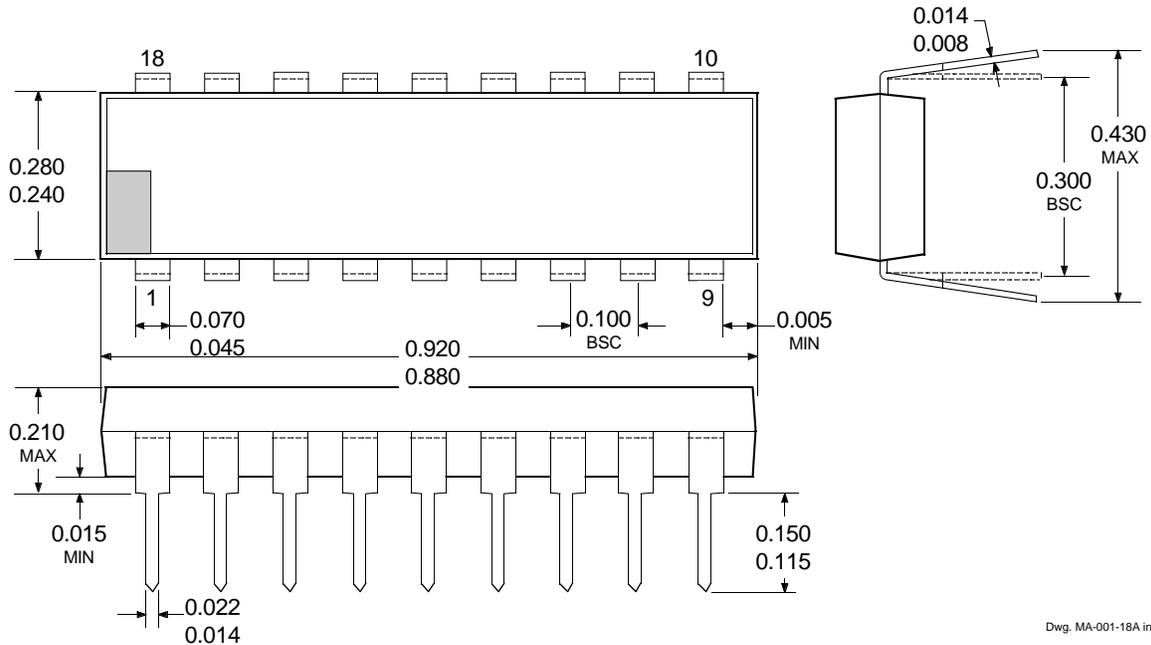
Dimensions in Millimeters
(for reference only)
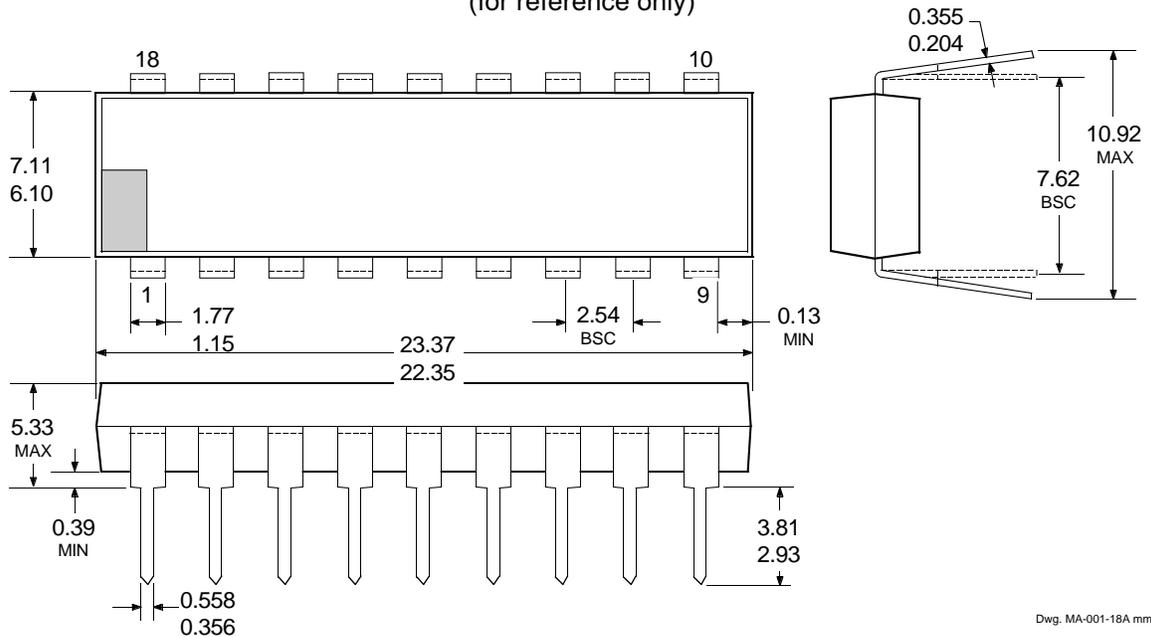
18   10

7.11
6.10

1   9

1.77   2.54   0.13
1.15   BSC   MIN
          23.37
          22.35

5.33
MAX

0.39
MIN

3.81
2.93

0.558
0.356

0.355
0.204

10.92
MAX
7.62
BSC

Dwg. MA-001-18A mm

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.

A2595SLW

Dimensions in Inches
(for reference only)

20   11

0.2992
0.2914

0.020   1 2 3
0.013

0.5118
0.4961

0.050
BSC

0.0125
0.0091

0.419
0.394

0.050
0.016

0° TO 8°

0.0926
0.1043

0.0040 MIN.
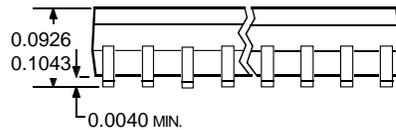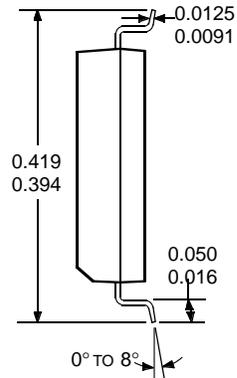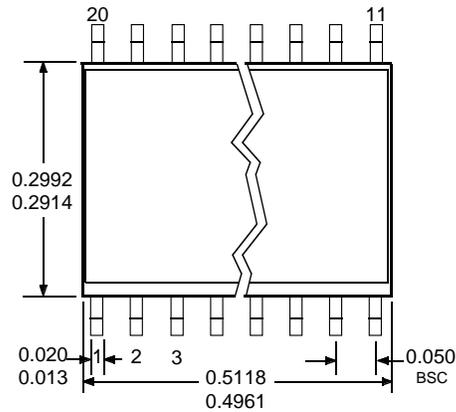
Dwg. MA-008-20 in

Dimensions in Millimeters
(controlling dimensions)

20   11

7.60
7.40

0.51   1 2 3
0.33

13.00
12.60

1.27
BSC

0.32
0.23

10.65
10.00

1.27
0.40

0° TO 8°

2.65
2.35

0.10 MIN.
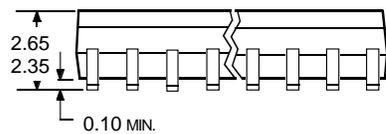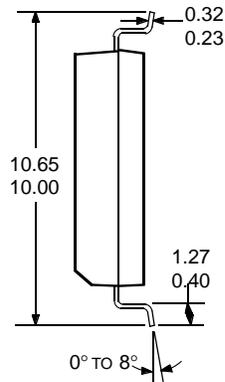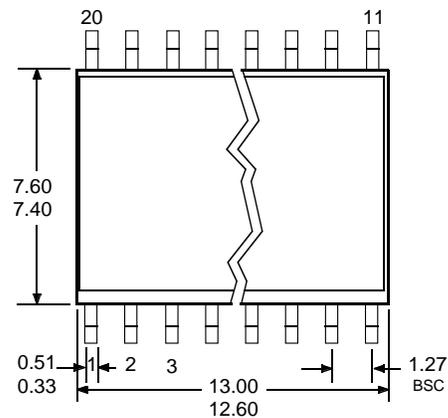
Dwg. MA-008-20 mm

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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POWER SINK DRIVERS

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

Output Ratings *			Features					Part Number†
mA	V	#	Serial Input	Latched Drivers	Diode Clamp	Outputs	Internal Protection	
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
120	24	8	X	X	–	constant current	–	6277
250	50	8	addressable decoder/driver			DMOS	–	6259
	50	8	–	X	–	DMOS	–	6273
	50	8	X	X	–	DMOS	–	6595
	50	8	–	–	X	saturated	–	2596
	60	4	–	–	X	saturated	X	2557
350	50	4	–	X	X	–	–	5800
	50	7	–	–	X	–	–	2003
	50	7	–	–	X	–	–	2004
	50	8	–	–	X	–	–	2803
	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	–	–	2023
	95	7	–	–	X	–	–	2024
450	30	28	dual 4- to 14-line decoder/driver			–	–	6817
600	60	4	–	–	–	saturated	X	2547
	60	4	–	–	X	saturated	X	2549 and 2559
700	60	4	–	–	X	saturated	X	2543
750	50	8	–	–	X	saturated	–	2597
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
1800	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

* 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.