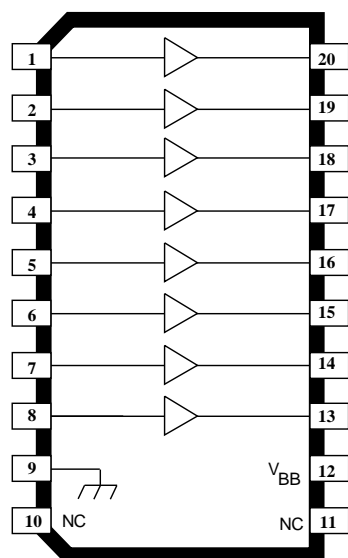


## VACUUM FLUORESCENT DISPLAY DRIVERS

**A6118SLW**



Dwg. PP-064-3

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

Supply Voltage, $V_{BB}$ .....	85 V
Input Voltage, $V_{IN}$ .....	20 V
Output Current, $I_{OUT}$ .....	-40 mA
Allowable Package Power Dissipation, $P_D$ .....	See Graph
Operating Temperature Range, $T_A$ .....	$-20^\circ\text{C}$ to $+85^\circ\text{C}$
Storage Temperature Range, $T_S$ .....	$-55^\circ\text{C}$ to $+150^\circ\text{C}$

*Caution: The high input impedance of these devices makes them susceptible to static discharge damage associated with handling and testing. Techniques similar to those used for handling MOS devices should be employed.*

Consisting of eight NPN Darlington output stages and the associated common-emitter input stages, these drivers are designed to interface between low-level digital logic and vacuum fluorescent displays. Both devices are capable of driving the digits and/or segments of these displays and are designed to permit all outputs to be activated simultaneously. Pull-down resistors are incorporated into each output and no external components are required for most fluorescent display applications.

With any device, the output load is activated when the input is pulled towards the positive supply (active 'high'). The UDN6118A is furnished in a standard 18-pin plastic DIP; the A6118SLW is in a 20-lead wide-body SOIC. Both units operate over the temperature range of  $-20^\circ\text{C}$  to  $+85^\circ\text{C}$ . These devices are also available for operation over the temperature range of  $-40^\circ\text{C}$  to  $+85^\circ\text{C}$  by changing the part number to UDQ6118A or A6118ELW.

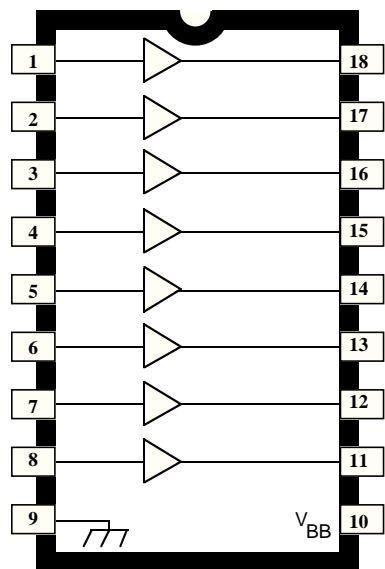
### FEATURES

- Digit or Segment Drivers
- Low Input Current
- Integral Output Pull-Down Resistors
- High Output Breakdown Voltage
- Single or Split Supply Operation
- Automotive Capable

Always order by complete part number, e.g., **UDN6118A**.

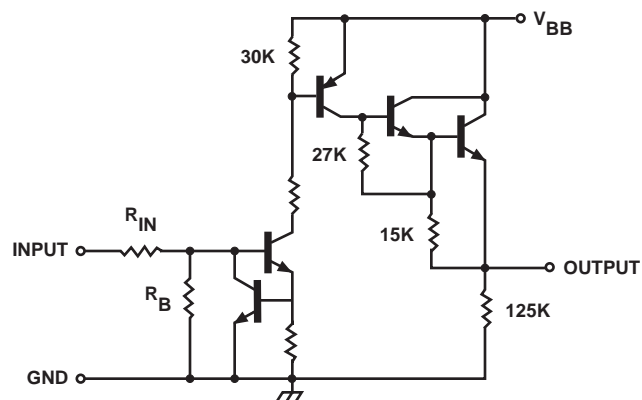
# 6118 VACUUM FLUORESCENT DISPLAY DRIVERS

UDN6118A



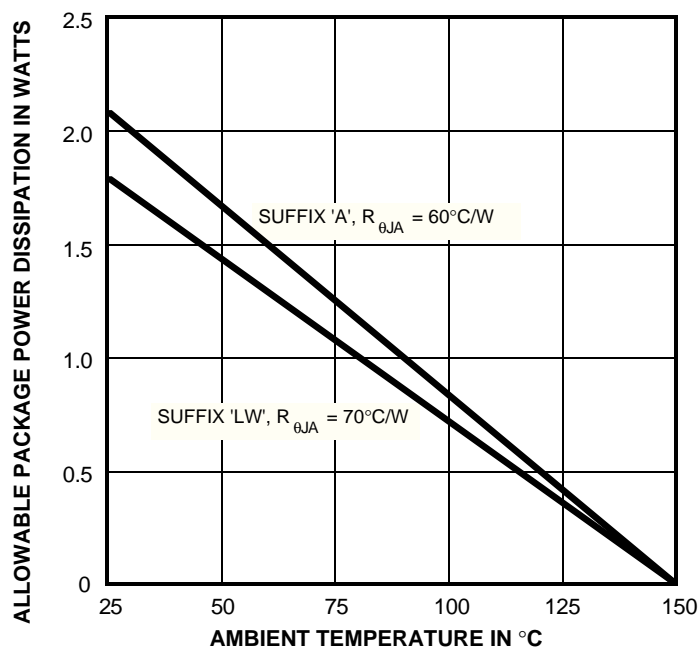
Dwg. PP-065

PARTIAL SCHEMATIC  
ONE DRIVER (ALL TYPES)



Dwg. No. A-10,592C

$R_{IN}$	$R_B$
10 k $\Omega$	30 k $\Omega$



Dwg. GS-009-1

# 6118

## VACUUM FLUORESCENT DISPLAY DRIVERS

### ELECTRICAL CHARACTERISTICS (over operating temperature range) at $V_{BB} = 80\text{ V}$ .

Characteristic	Symbol	Test Conditions	Limits			
			Min.	Typ.	Max.	Units
Output Leakage Current	$I_{OUT}$	$V_{IN} = 0.4\text{ V}$	—	—	15	$\mu\text{A}$
Output OFF Voltage	$V_{OUT}$	$V_{IN} = 0.4\text{ V}$	—	—	1.0	V
Output Pull-Down Current	$I_{OUT}$	Input Open, $V_{OUT} = V_{BB}$	450	650	1100	$\mu\text{A}$
Output ON Voltage	$V_{OUT}$	$V_{IN} = 2.4\text{ V}$ , $I_{OUT} = -25\text{ mA}$	77	78	—	V
Input ON Current	$I_{IN}$	$V_{IN} = 2.4\text{ V}$	—	120	225	$\mu\text{A}$
		$V_{IN} = 5.0\text{ V}$	—	375	650	$\mu\text{A}$
Supply Current	$I_{BB}$	All Inputs Open	—	10	100	$\mu\text{A}$
		All Inputs = 2.4 V	—	6.0	9.0	mA

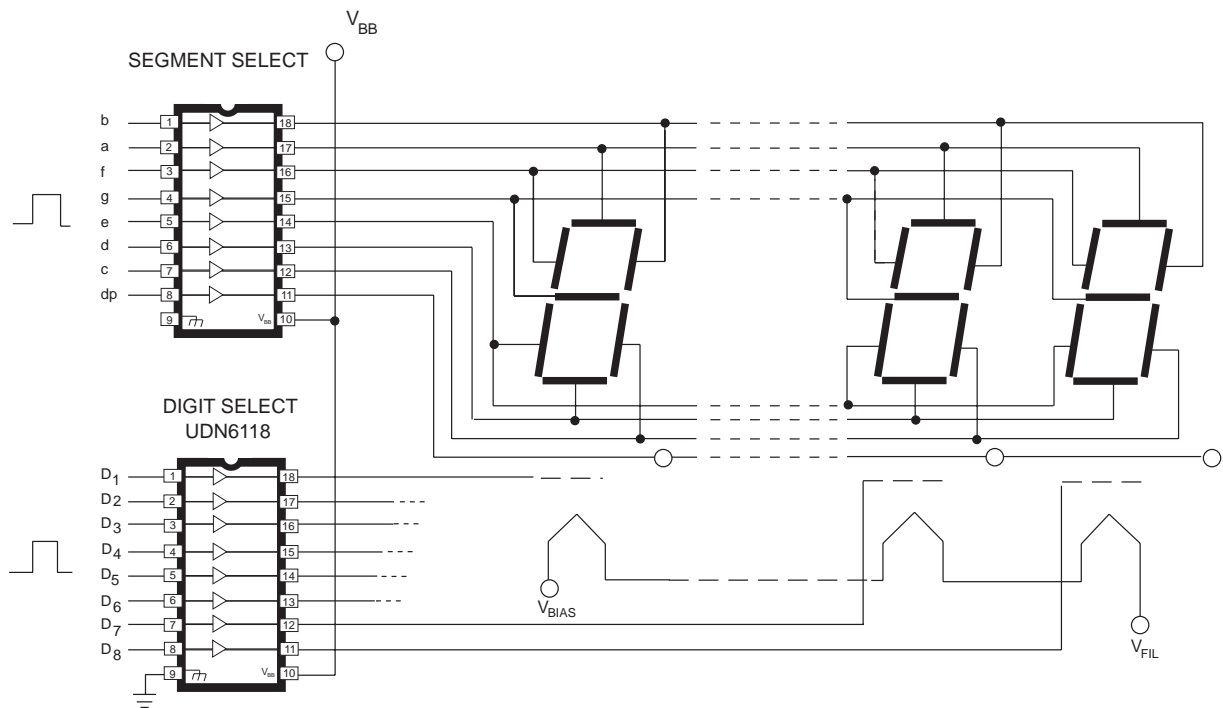
### RECOMMENDED OPERATING CONDITIONS

Characteristic	Symbol	Test Conditions	Limits			
			Min.	Typ.	Max.	Units
Supply Voltage	$V_{BB}$		5.0	—	70	V
Input ON Voltage	$V_{IN}$		2.4	—	15	V
Output ON Current	$I_{OUT}$		—	—	-25	mA

NOTE: Positive (negative) current is defined as going into (coming out of) the specified device terminal.

# 6118 VACUUM FLUORESCENT DISPLAY DRIVERS

## TYPICAL MULTIPLEXED FLUORESCENT DISPLAY

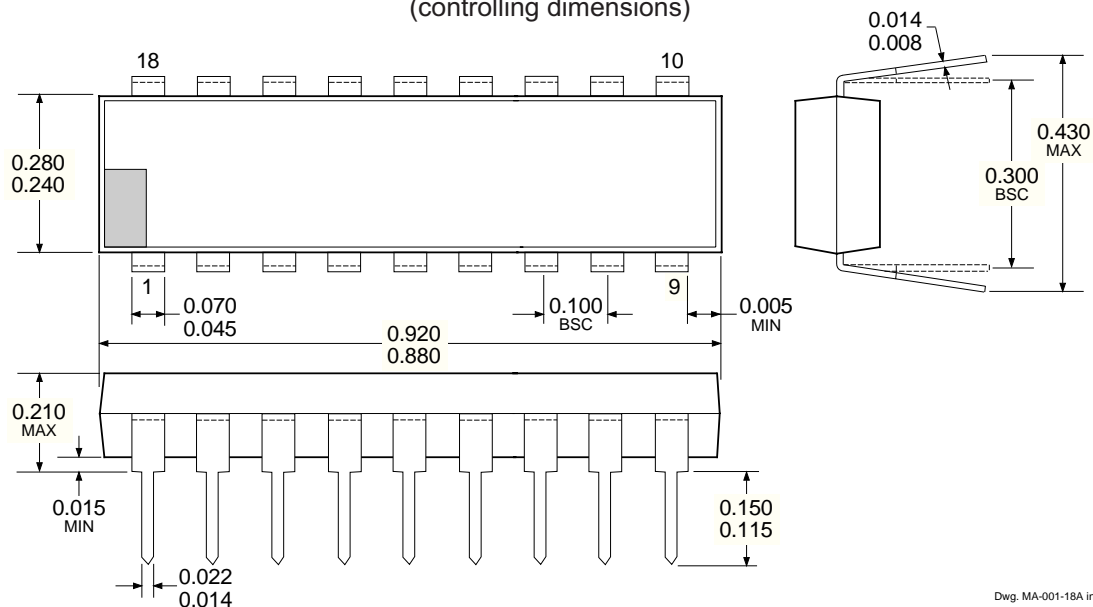


Dwg. No. A-10,261B

# 6118 VACUUM FLUORESCENT DISPLAY DRIVERS

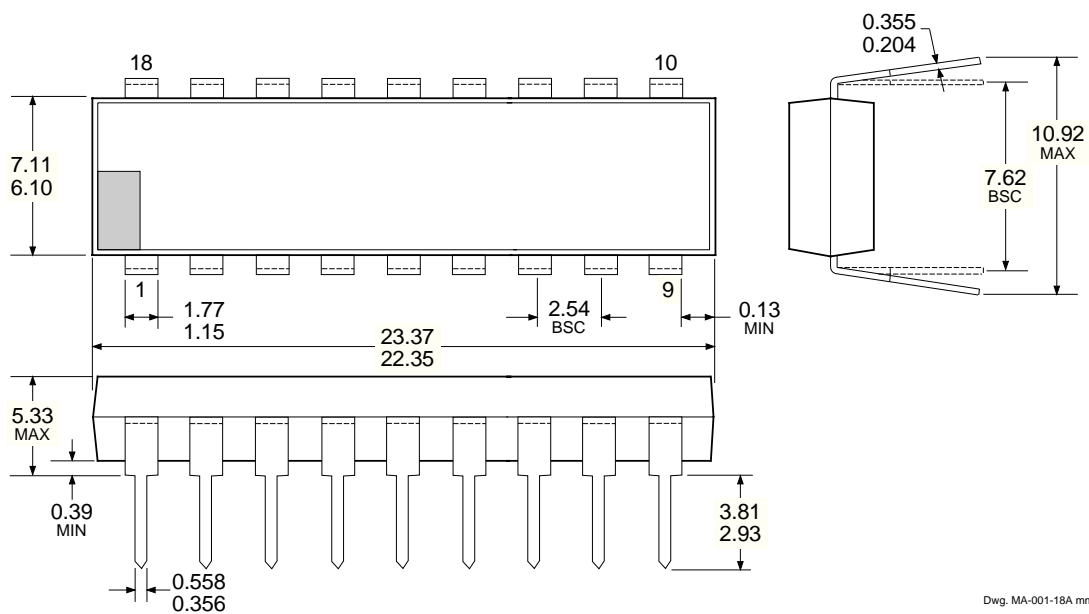
## UDN6118A

Dimensions in Inches  
(controlling dimensions)



Dwg. MA-001-18A in

Dimensions in Millimeters  
(for reference only)



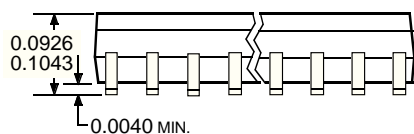
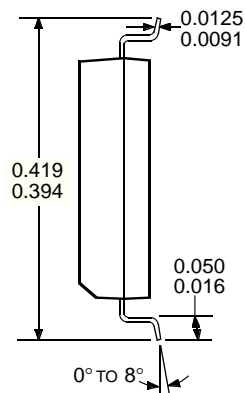
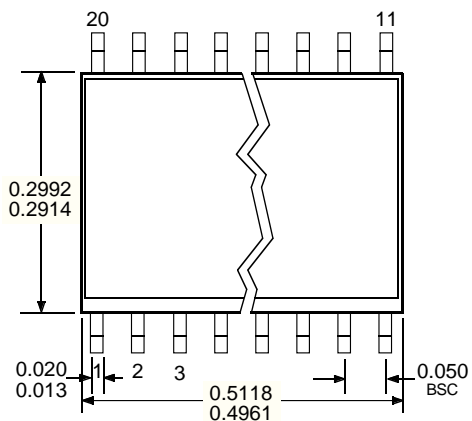
Dwg. MA-001-18A mm

- 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.

# 6118 VACUUM FLUORESCENT DISPLAY DRIVERS

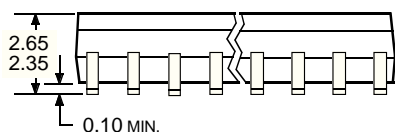
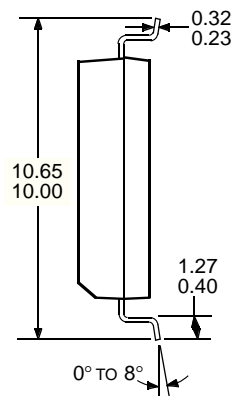
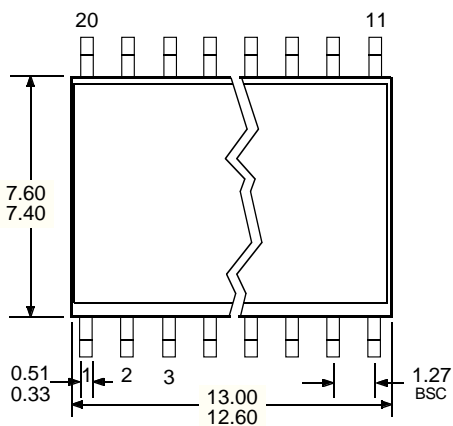
## A6118SLW

Dimensions in Inches  
(for reference only)



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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# 6118 VACUUM FLUORESCENT DISPLAY DRIVERS

## POWER SOURCE DRIVERS SELECTION GUIDE

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	Saturated Outputs	Internal Protection	
-25	60	8	—	X	—	—	—	5815
	60	10	X	X	Active Pull-Down	—	—	5810-F and 6809/10
	60	12	X	X	Active Pull-Down	—	—	5811 and 6811
	60	20	X	X	Active Pull-Down	—	—	5812-F and 6812
	60	32	X	X	Active Pull-Down	—	—	5818-F and 6818
	85	8	—	—	—	—	—	6118
-120	-25	8	—	—	X	X	—	2585
	30	8	—	—	X	X	—	2985
	50	8	X	X	X	X	—	5895
-350	35	8	—	—	X	—	X	2987
	50	8	—	—	X	—	—	2981 and 2982
	50	8	X	X	X	—	—	5891
	-50	8	—	—	X	—	—	2580
	80	8	—	—	X	—	—	2983 and 2984
	80	8	X	X	X	—	—	5890
	-80	8	—	—	X	—	—	2588

\* 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.

*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 design of its products.*

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