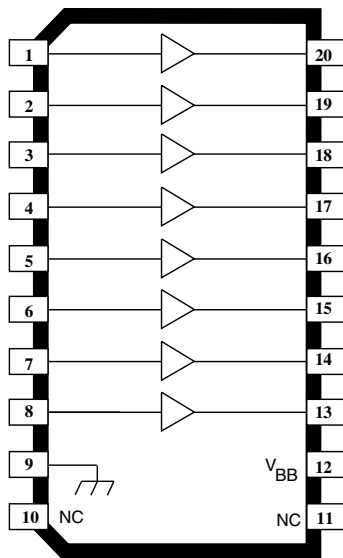


# 6118

## VACUUM FLUORESCENT DISPLAY DRIVER

**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°C to +85°C
Storage Temperature Range, $T_S$ .....	-55°C to +150°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°C to +85°C. These devices are also available for operation over the temperature range of -40°C to +85°C by changing the part number to UDQ6118A or A6118ELW.

### FEATURES

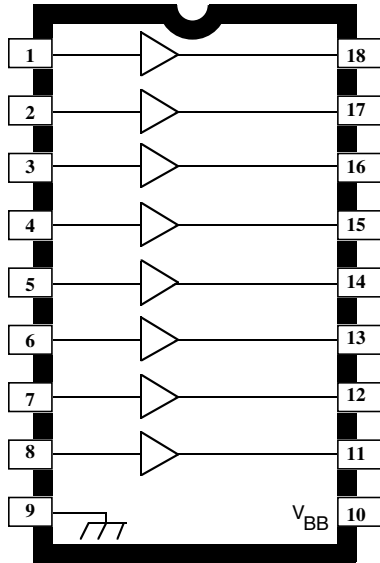
- Digit or Segment Drivers
- Low Input Current
- Integral Output Pull-Down Resistors
- High Output Breakdown Voltage
- Single or Split Supply Operation
- Automotive Capable

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



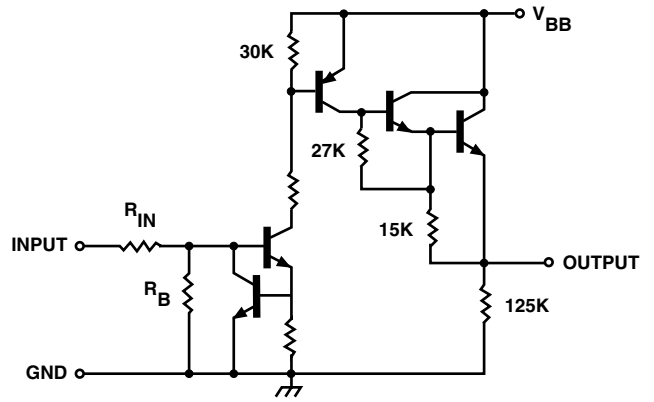
# 6118 VACUUM FLUORESCENT DISPLAY DRIVER

UDN6118A



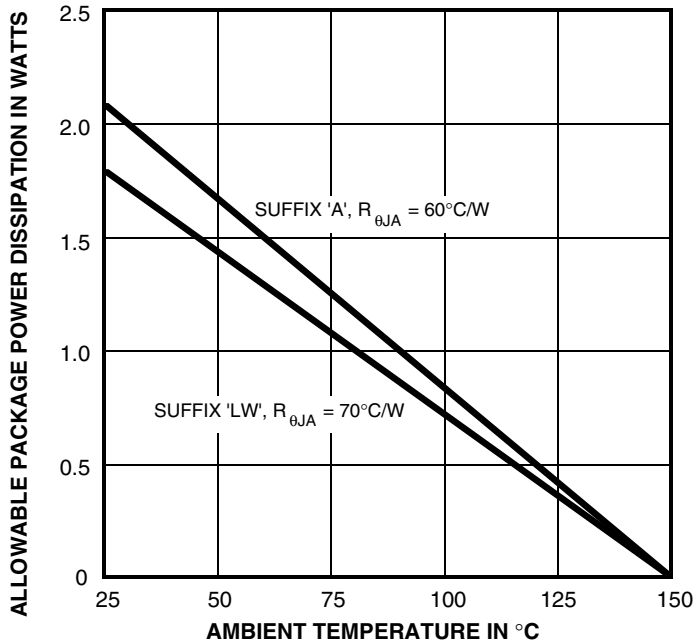
Dwg. PP-065

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



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**6118**  
**VACUUM FLUORESCENT**  
**DISPLAY DRIVER**

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

Characteristic	Symbol	Test Conditions	Limits			Units
			Min.	Typ.	Max.	
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

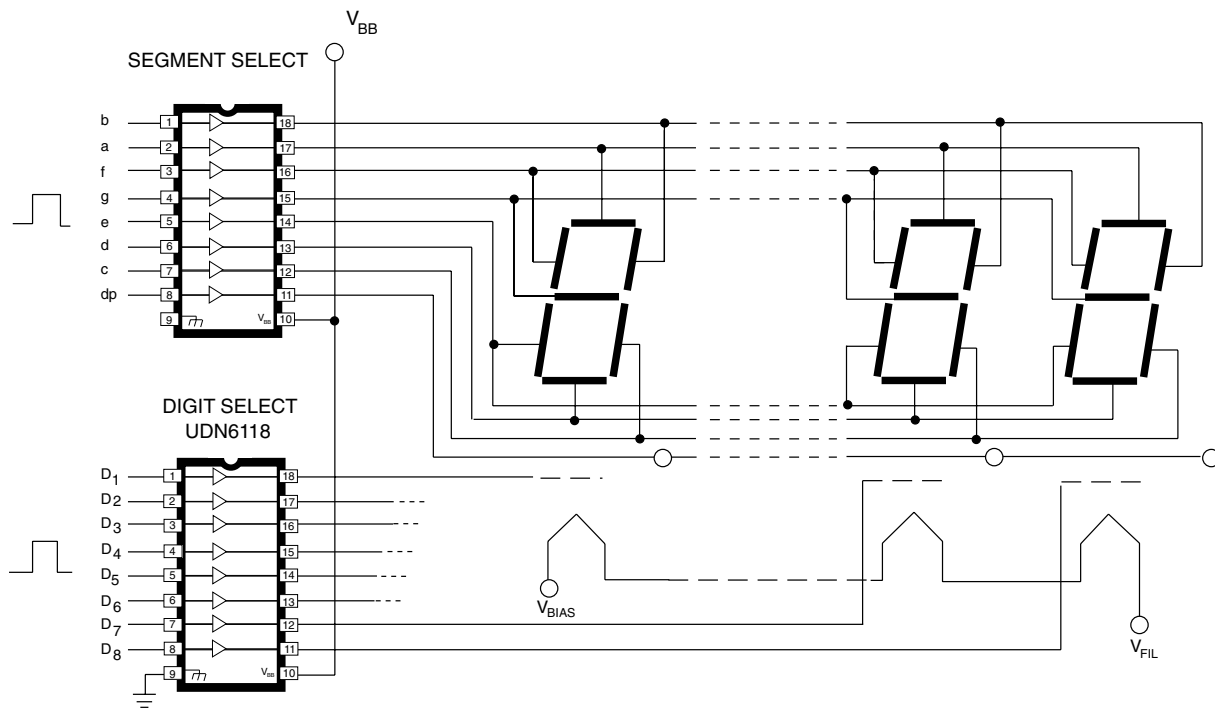
**RECOMMENDED OPERATING CONDITIONS**

Characteristic	Symbol	Test Conditions	Limits			Units
			Min.	Typ.	Max.	
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 DRIVER

TYPICAL MULTIPLEXED FLUORESCENT DISPLAY

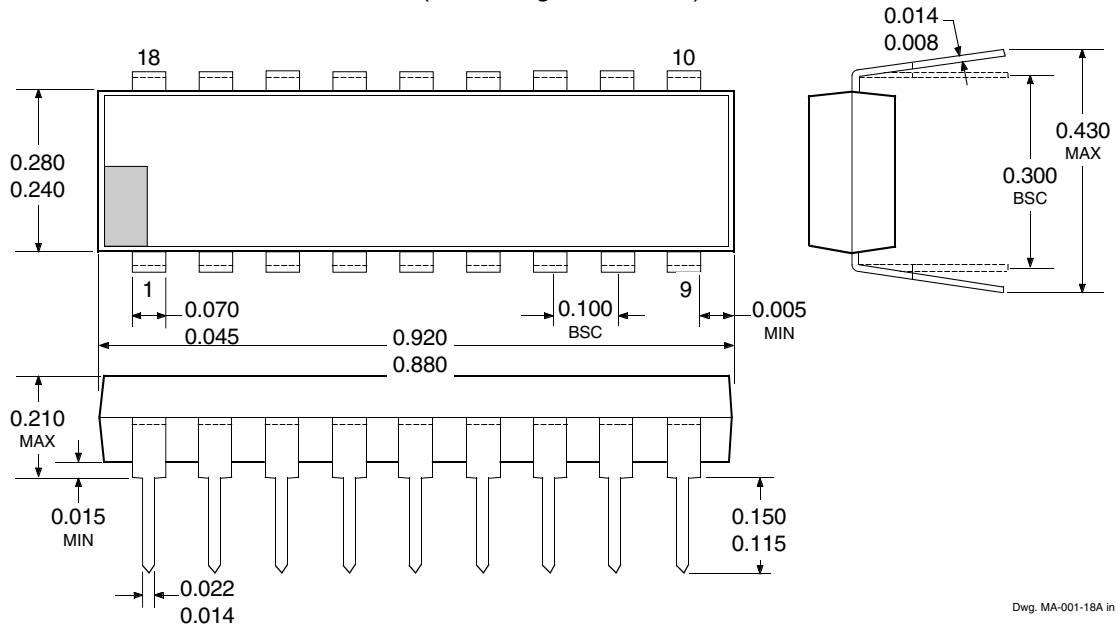


Dwg. No. A-10,261B

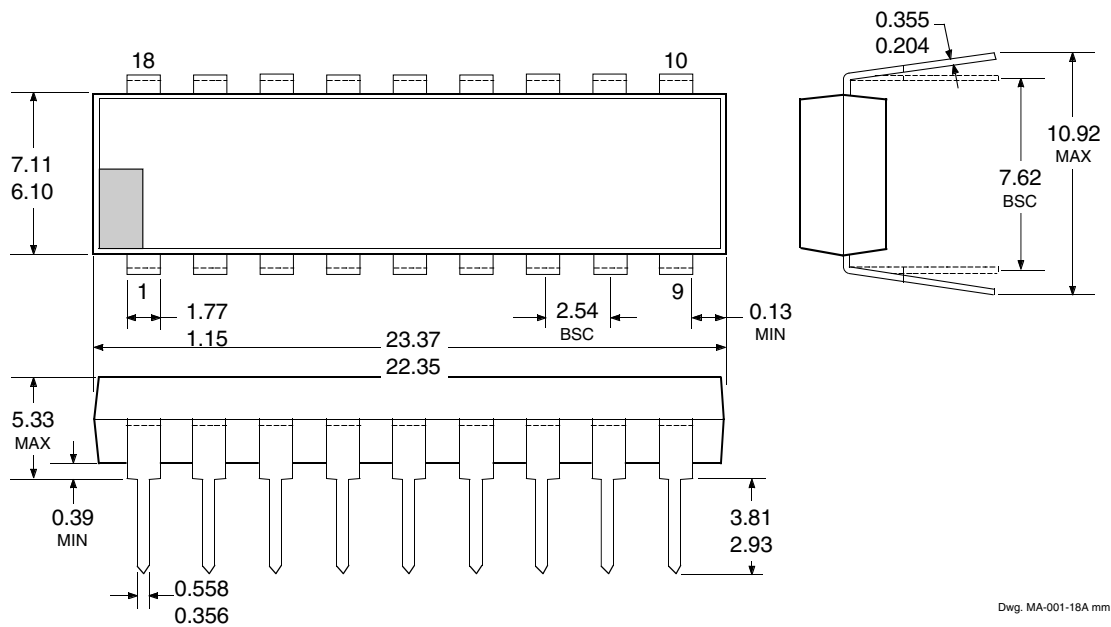
# 6118 VACUUM FLUORESCENT DISPLAY DRIVER

## UDN6118A

Dimensions in Inches  
(controlling dimensions)



Dimensions in Millimeters  
(for reference only)

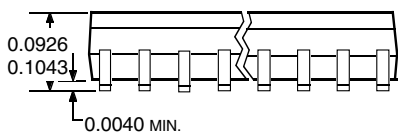
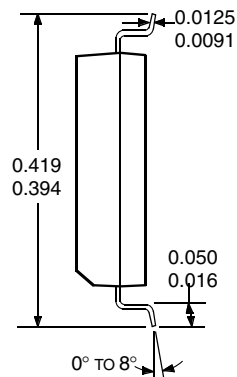
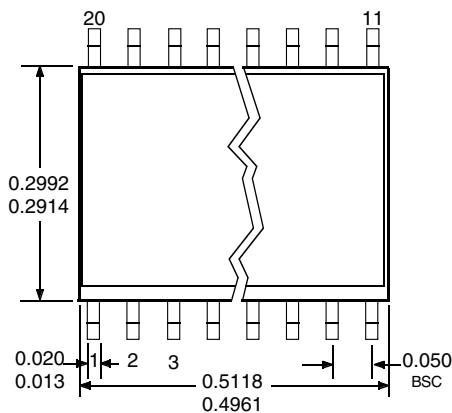


- NOTES:
1. Exact body and lead configuration at vendor's option within limits shown.
  2. Lead spacing tolerance is non-cumulative.
  3. Lead thickness is measured at seating plane or below.
  4. Supplied in standard sticks/tubes of 21 devices.

# 6118 VACUUM FLUORESCENT DISPLAY DRIVER

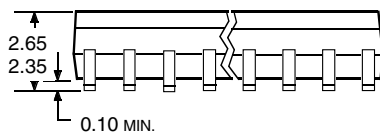
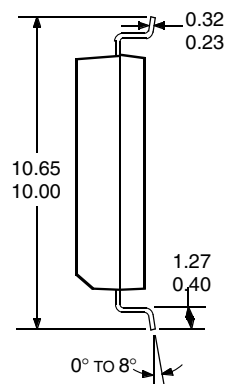
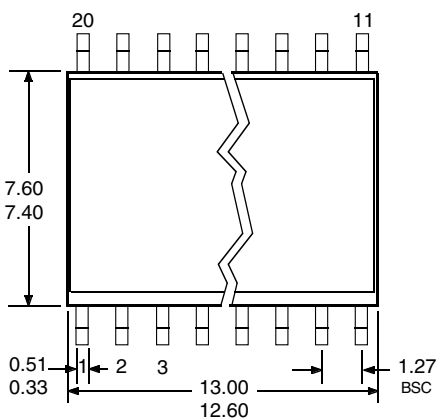
## A6118SLW

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.  
 3. Supplied in standard sticks/tubes of 37 devices or add "TR" to part number for tape and reel.



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**6118**  
**VACUUM FLUORESCENT**  
**DISPLAY DRIVER**

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**6118**  
**VACUUM FLUORESCENT**  
**DISPLAY DRIVER**

***HIGH-VOLTAGE ( $\geq 60$  V) PERIPHERAL POWER  
AND DISPLAY DRIVERS***

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

Output Ratings*			Features					Part Number †
V	mA	#	Serial Input	Latched Drivers	Diode Clamp	Saturated Outputs	Internal Protection	
60	-25	8	–	X	–	–	–	5815
	-25	10	X	X	Active Pull-Down	–	–	5810-F and 6809/10
	-25	12	X	X	Active Pull-Down	–	–	5811 and 6811
	-25	20	X	X	Active Pull-Down	–	–	5812-F and 6812
	-25	32	X	X	Active Pull-Down	–	–	5818-F and 6818
	300	4	–	–	X	X	X	2557
	600	4	–	–	–	X	X	2547
	600	4	–	–	X	X	X	2549
	700	4	–	–	X	X	X	2559
	700	4	–	–	X	X	X	2543
4000	4	–	–	X	–	–	2944	
80	-350	8	–	–	X	–	–	2983 and 2984
	350	8	X	X	–	–	–	5822
	350	8	X	X	X	–	–	5842
	-350	8	X	X	X	–	–	5890
	1500	4	–	–	–	–	–	2065 and 2069
	4000	4	–	–	X	–	–	2879
85	-25	8	–	–	–	–	–	6118
95	300	7	–	–	X	–	–	2023
	300	8	–	–	X	–	–	2823
	350	7	–	–	X	–	–	2024
	350	8	–	–	X	–	–	2824
135	250	7	–	–	X	–	–	7003

\* Current is maximum test condition; voltage is absolute maximum allowable.

Negative current is defined as coming out of (sourcing) the output.

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



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