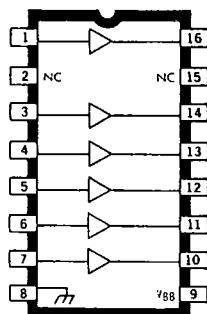


6116 AND 6118

T-52-13-09

FLUORESCENT DISPLAY DRIVERS

UDN6116A/R



Dwg. No. A-9643A

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

Supply Voltage, V_{BB}	
(suffix A, LW, or R)	85 V
(suffix A-1)	115 V
(suffix A-2 or R-2)	65 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 six or 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. All 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. The highest voltage parts (suffix A-1) are also used in gas-discharge display applications as anode (digit) drivers.

Eleven standard devices are listed, so that a circuit designer may select the optimum device for his application. Input characteristics, number of drivers, package style, and output voltage are tabulated for each device in the Device Type Number Designation chart. With any device, the output load is activated when the input is pulled towards the positive supply (active 'high'). All units operate over the temperature range of -20°C to +85°C.

FEATURES

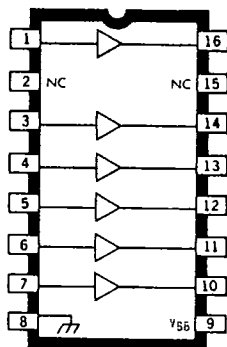
- Digit or Segment Drivers
- Low Input Current
- Integral Output Pull-Down Resistors
- High Output Breakdown Voltage
- Single or Split Supply Operation

Always order by complete part number, e.g., **UDN6118R-2**. See matrix on third page. Note that all devices are not available in all package types.

6116 AND 6118 FLUORESCENT DISPLAY DRIVERS

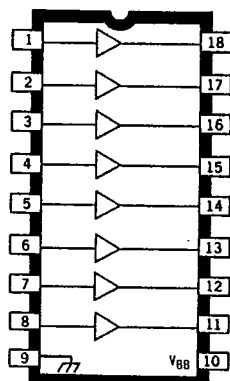
T-52-13-09

UDN6116A/R*



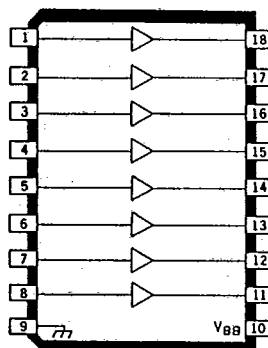
Dwg. No. A-9643A

UDN6118A/R*



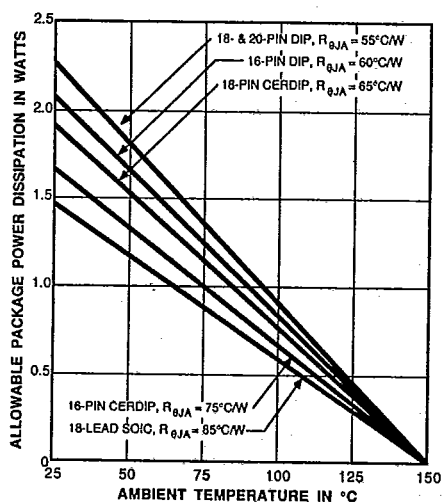
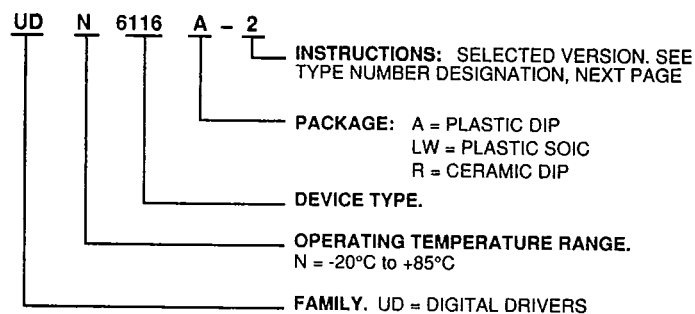
Dwg. No. A-9541A

UDN6118LW



Dwg. No. A-14,370

* Always specify complete part number, such as:



Dwg. GP-022

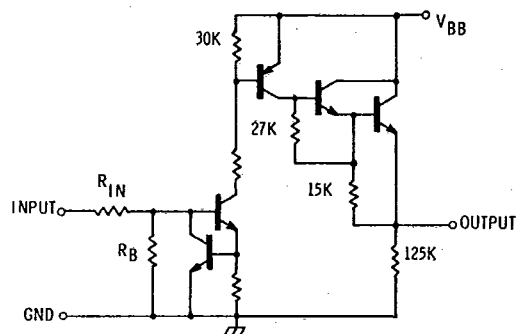
6116 AND 6118 FLUORESCENT DISPLAY DRIVERS

T-52-13-09

DEVICE TYPE NUMBER DESIGNATION

Input Compatibility	No. of Drivers	V _{OUT}	No. of Pins	Type Number		
				Plastic DIP	Ceramic DIP	Plastic SOIC
5 V TTL, CMOS	6	60 V	16	UDN6116A-2	UDN6116R-2	—
		80 V	16	UDN6116A	UDN6116R	—
		110 V	16	UDN6116A-1	—	—
	8	60 V	18	UDN6118A-2	UDN6118R-2	—
		80 V	18	UDN6118A	UDN6118R	UDN6118LW
		110 V	18	UDN6118A-1	—	—

PARTIAL SCHEMATIC ONE DRIVER (ALL TYPES)



Dwg. No. A-10,592C

R _{IN}	R _B
10 kΩ	30 kΩ

6116 AND 6118 FLUORESCENT DISPLAY DRIVERS

T-52-13-09

ELECTRICAL CHARACTERISTICS (over operating temperature range).

Note: All Values Specified At —

Suffixes	A	LW	R	A-1	A-2	R-2	
$V_{BB} =$	80	80	80	110	60	60	Volts

Characteristic	Symbol	Applicable Devices		Test Conditions	Limits			
		Basic Part. No.	Suffix		Min.	Typ.	Max.	Units
Output Leakage Current	I_{OUT}	All	All	$V_{IN} = 0.4 \text{ V}$	—	—	15	μA
Output OFF Voltage	V_{OUT}	All	All	$V_{IN} = 0.4 \text{ V}$	—	—	1.0	V
Output Pull-Down Current	I_{OUT}	All	A, LW, or R	Input Open, $V_{OUT} = V_{BB}$	450	650	1100	μA
			A-1		600	900	1500	μA
			A-2 or R-2		350	500	775	μA
Output ON Voltage	V_{OUT}	All	A, LW, or R	$V_{IN} = 2.4 \text{ V}$, $I_{OUT} = -25 \text{ mA}$	77	78	—	V
			A-1		107	108	—	V
			A-2 or R-2		57	58	—	V
Input ON Current	I_{IN}	All	All	$V_{IN} = 2.4 \text{ V}$	—	120	225	μA
				$V_{IN} = 5.0 \text{ V}$	—	375	650	μA
Supply Current	I_{BB}	All	All	All Inputs Open	—	10	100	μA
		UDN6116	A or R	All Inputs = 2.4 V	—	5.0	7.5	mA
			A-1	Two Inputs = 2.4 V	—	2.5	4.5	mA
			A-2 or R-2	All Inputs = 2.4 V	—	4.0	6.0	mA
		UDN6118	A, LW, or R	All Inputs = 2.4 V	—	6.0	9.0	mA
			A-1	Two Inputs = 2.4 V	—	2.5	4.5	mA
			A-2 or R-2	All Inputs = 2.4 V	—	5.5	8.0	mA

6116 AND 6118 FLUORESCENT DISPLAY DRIVERS

T-52-13-09

RECOMMENDED OPERATING CONDITIONS

Characteristic	Symbol	Applicable Devices		Test Conditions	Limits			
		Basic Part. No.	Suffix		Min.	Typ.	Max.	Units
Supply Voltage	V_{BB}	UDN6116/18	A, LW, or R		5.0	—	70	V
			A-1		5.0	—	100	V
			A-2 or R-2		5.0	—	50	V
Input ON Voltage	V_{IN}	UDN6116/18	All		2.4	—	15	V
Output ON Current	I_{OUT}	All	All		—	—	-25	mA

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

