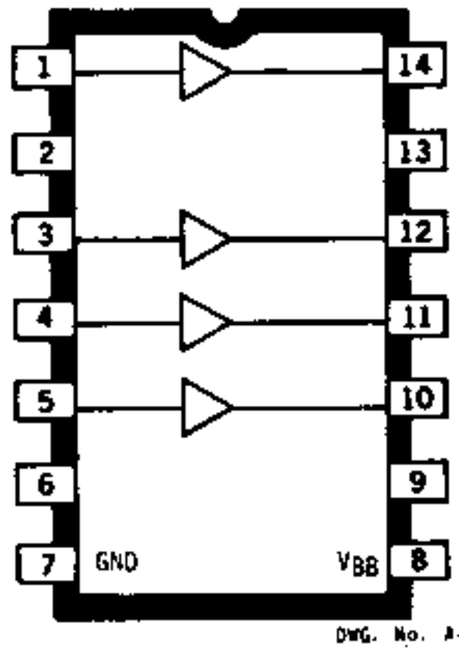
TYPE UDN-6144A, UDN-6164A, AND UDN-6184A GAS DISCHARGE DISPLAY DIGIT DRIVERS

FEATURES

- Reliable Monolithic Construction
- High Output Breakdown Voltage
- High Output Current Capability
- Low Power
- Minimum Size

TYPE UDN-6144A
(FOUR DRIVERS)



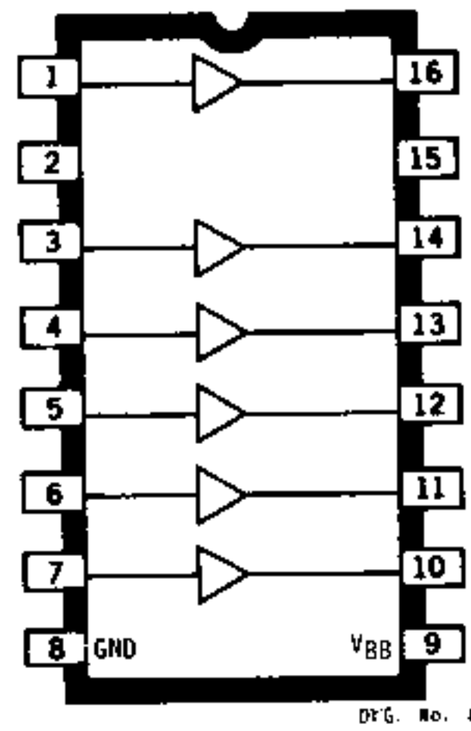
DWG. No. A-9642

Description

Designed for interfacing between MOS, or other low-voltage circuitry, and the anode of gas discharge display panels, these monolithic high-voltage bipolar integrated circuits dramatically reduce the number of discrete components previously required. The Types UDN-6144A, UDN-6164A, and UDN-6184A are used with multiplexed gas discharge display panels, such as the Burroughs Panaplex®, the Cherry Plasma-Lux, and the Beckman SP Series in calculator, clock, or instrumentation applications. Each driver contains appropriate level shifting, signal amplification, output off state voltage bias, and 70mA output current sourcing for the sequential addressing of display panel anodes. The inputs include pull-down resistors for direct connection to open drain PMOS logic.

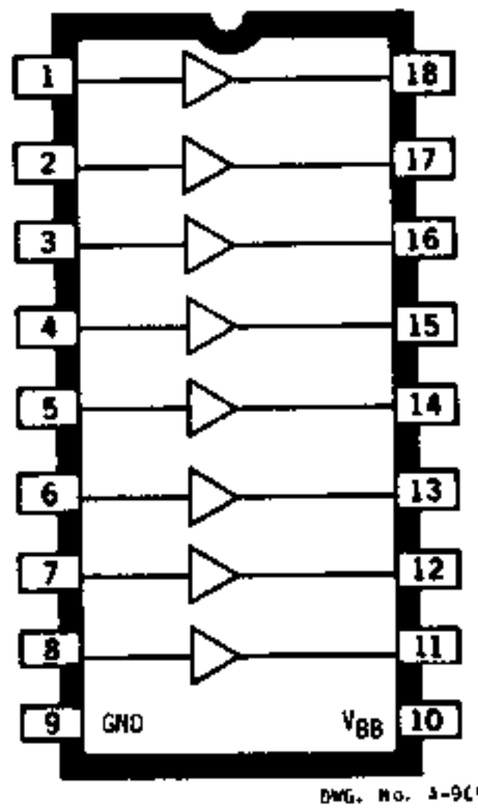
The Type UDN-6144A contains four complete drivers, while the Type UDN-6164A contains six drivers and the Type UDN-6184A contains eight drivers. Applications with a greater number of digits may use any combination of units for minimum package count.

TYPE UDN-6164A
(SIX DRIVERS)



DWG. No. A-9643

TYPE UDN-6184A
(EIGHT DRIVERS)



DWG. No. A-9644

Applications

The devices can be used in a wide variety of low-level to high-voltage applications. Their high reliability, minimum size, ease of installation, and low cost make them the ideal choice in many applications. A typical application showing the use of these devices, and their counterpart cathode drivers, is shown.

Due to the high input impedance of these devices, they are susceptable to static discharge damage sometimes associated with handling and testing. Therefore, techniques similar to those used for handling MOS devices should be employed. **(See Page 5-2).**

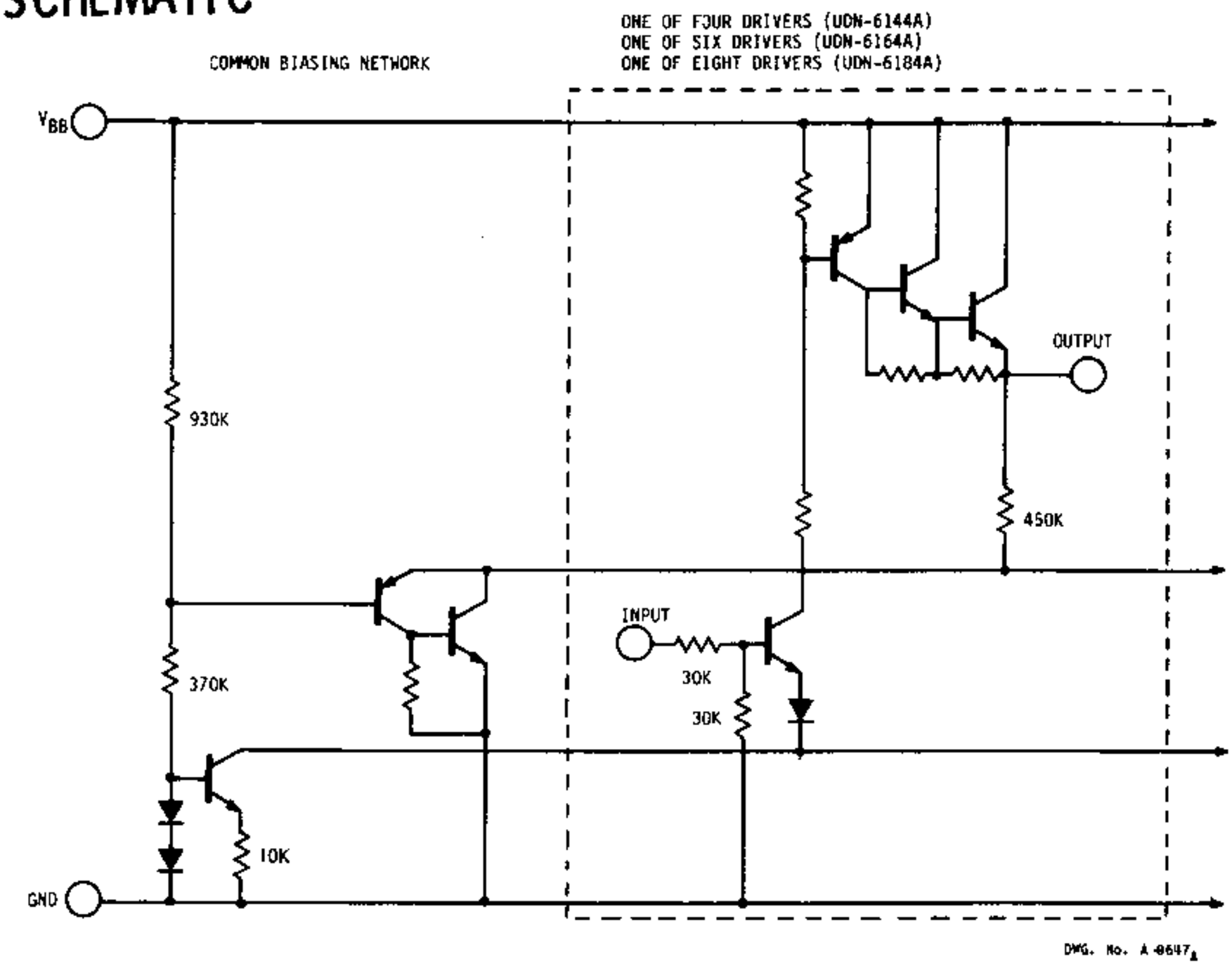
UDN 6144

ABSOLUTE MAXIMUM RATINGS AT 25°C

Supply Voltage, V_{BB} . . . . . +120 V
Input Voltage, V_{IN} . . . . . +20 V
Output Current, I_{OUT} . . . . . 70 mA
Power Dissipation, P_D:
  UDN-6144/64A . . . . . 1.0 W*
  UDN-6184A . . . . . 1.13 W†
Operating Temperature Range, T_A . . . . . 0°C to +70°C
Storage Temperature Range, T_S . . . . . −65°C to +150°C

*Derating Factor above 25°C: −8 mW/°C
†Derating Factor above 25°C: −9.1 mW/°C

PARTIAL SCHEMATIC



ELECTRICAL CHARACTERISTICS: $T_A = +25°C$, $V_{BB} = +110$ V (unless otherwise specified)

Characteristic	Symbol	Test Conditions	Test Fig.	Limits Min.	Typ.	Max.	Units
Output ON Voltage	V_{ON}	Test input at 4.5V Other inputs at 0.5V, I_{OUT} = 20mA	1	105	108	—	V
Output OFF Voltage	V_{OFF}	Test input at 0.5V, One input at 4.5V All other inputs open, Reference V_{BB}	2	−68	−73	—	V
Input High Current	I_{IH}	Test input at 15V, Other inputs at 0V	3	—	250	330	μA
Input Low Current	I_{IL}	Test input at 0V, One input at 15V, All other inputs at 0V	4	—	−1	−5	μA
Supply Current	I_{BB}	One input at 4.5V Other inputs at 0.5V, All outputs open, Repeat for all inputs	5A	—	450	750	μA
		All inputs at 0V, All outputs open	5B	—	85	125	μA

NOTES