



# DIONICS-USA INCORPORATED

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## LEVEL-SHIFTED GAS DISCHARGE DISPLAY DIGIT DRIVERS

### DI-505B

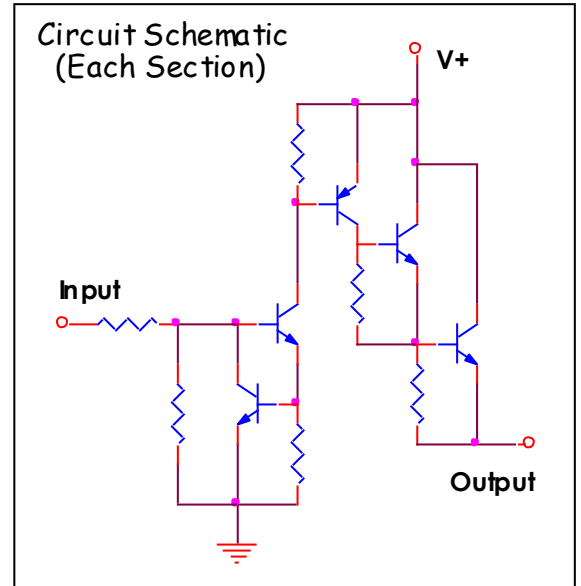
### DI-510B

#### General Description:

The DIONICS DI-505B and DI-510B series circuits are designed for interfacing between MOS or TTL circuitry and gas discharge display panels. Each section of these devices is made up of a switched constant current level shifter-capable of high voltage operation and a PNP-NPN driver transistor pair. The constant current operation of the level shifter stage results in low power dissipation. Input circuitry is suitable for open drain PMOS, CMOS, open-collector or standard TTL.

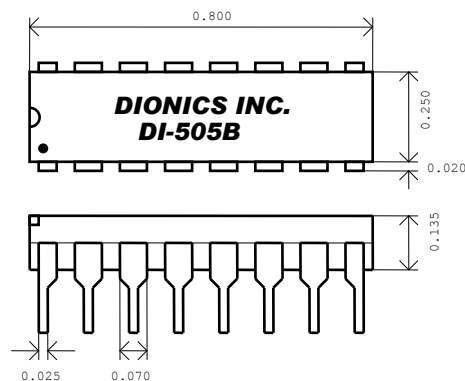
#### Features:

- ✓ 200V Level Shift Capability
- ✓ MOS and TTL Compatibility
- ✓ 6- and 8-line Versions
- ✓ Low Power Dissipation
- ✓ Reliable Dielectric Isolation Process

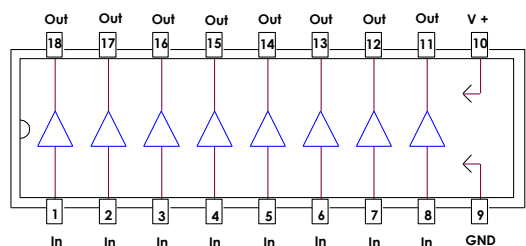
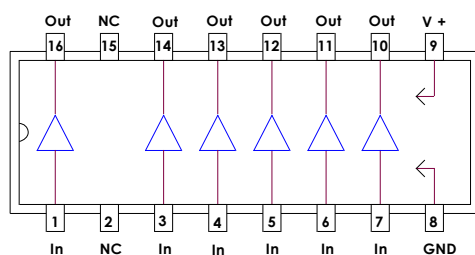
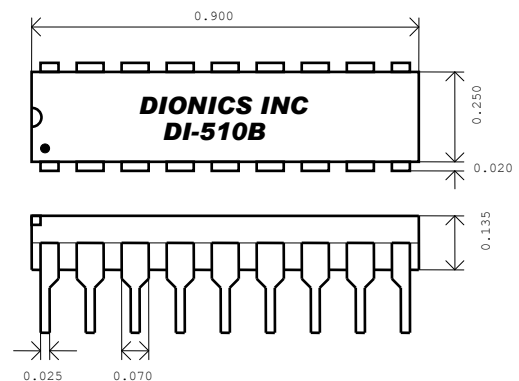


#### Package Layout:

#### DI-505B



#### DI-510B



### Absolute Maximum Rating (Ta = 25 °C)

Characteristic	Symbol	Notes	Limits	Units
Supply Voltage	V +	Measured With Respect to GND	200	V
Input Voltage	V <sub>in</sub>	Measured With Respect to GND	35	V
Output Voltage	V <sub>out</sub>	Measured With Respect to V + Terminal	90	V
Output Current	I <sub>out</sub>		40	mA
Power Dissipation	DI-510B	Derate at 8 mW/°C Above 25°C Ambient	800	mW
	DI-505B	Derate at 6 mW/°C Above 25°C Ambient	600	mW
Storage Temperature	T <sub>s</sub>		-55 to +125	°C
Operating Temperature	T <sub>o</sub>		0 to +70	°C

### Electrical Characteristics (Ta = 25 °C)

Parameter	Symbol	Notes	Conditions	Typ.	Max.	Units
Output Saturation Voltage	V <sub>out</sub> (SAT)	V + = 180V; Measured With Respect to V+ Terminal	I <sub>o</sub> = 25mA; V <sub>i</sub> = 2.4V	3	10	V
Output Leakage Current	I <sub>out</sub> (OFF)	V + = 180V	V <sub>o</sub> = 90V; V <sub>i</sub> = 0.4V	0.1	10	μA
Input Current	I <sub>in</sub> (ON)		V <sub>i</sub> = 2.4V	340	400	μA
Supply Current	I+	One Input at 2.4V, Others at 0.4V	V+ = 180V; V <sub>i</sub> = 2.4 V; I <sub>o</sub> = 0	0.5	1.5	mA

### Typical Application:

