DIONICS, INC.
65 Rushmore Street
Westbury, NY 11590

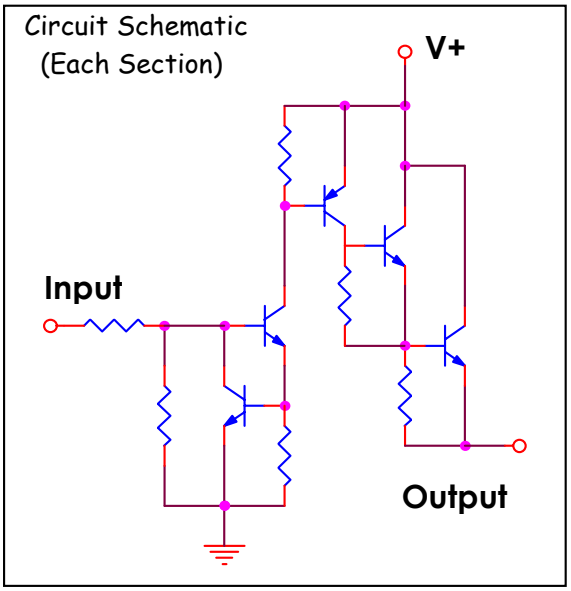
Phone: (516) 997-7474
Fax: (516) 997-7479
Website: www.dionics-usa.com

LEVEL-SHIFTED VACUUM FLUORESCENT DISPLAY DRIVERS

DI-503B DI-504B
DI-508B DI-509B
DI-513B DI-514B

General Description:

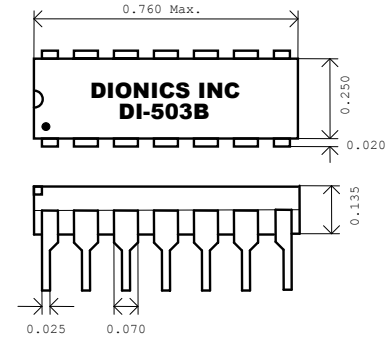
The DIONICS DI-513B and DI-514B series circuits are designed for interfacing between MOS or TTL circuitry and vacuum fluorescent display panels. Each section of these devices consists of a switched constant current level shifter-capable of 50 Volt or 80 Volt- operation and a PNP-NPN driver transistor 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.

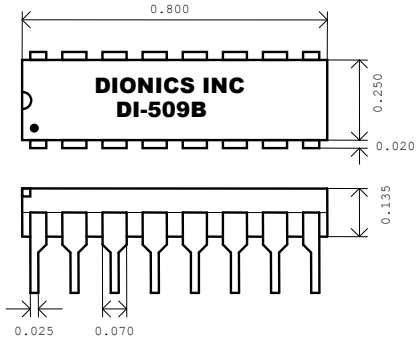


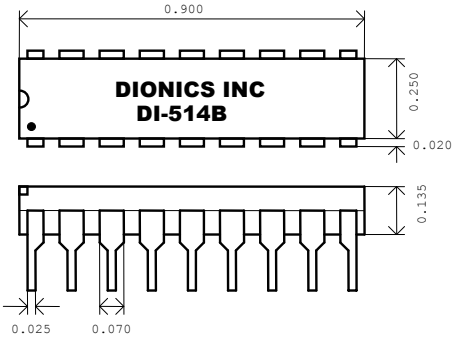
Features:

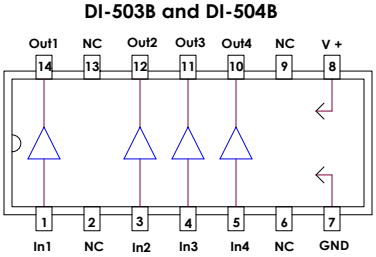
- ✓ 50V and 80V Level Shift Capability.
- ✓ MOS and TTL Compatibility
- ✓ 4 -, 6 - and 8-line Versions
- ✓ Segment and Digit Drivers
- ✓ Low Power Dissipation
- ✓ Reliable Dielectric Isolation Process

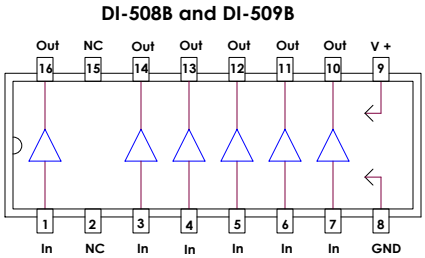
Package Layout:

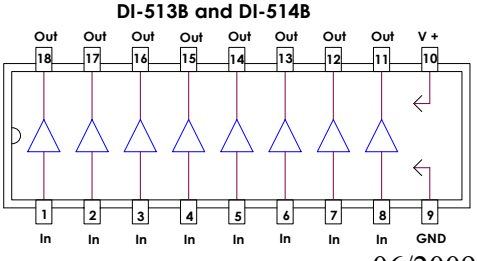












06/2009

Absolute Maximum Rating (Ta = 25 ^{0}C)

Characteristic	Symbol	Notes	Limits		Units
			DI-504B DI-509B DI-514B	DI-503B DI-508B DI-513B	
Supply Voltage	V +	Measured With Respect to GND	50	80	V
Input Voltage	V_{in}	Measured With Respect to GND	35	35	V
Output Voltage	V_{out}	Measured With Respect to V + Terminal	50	80	V
Output Current	I_{out}		30	30	mA
Power Dissipation:	P_D	Derate at DI-514B; DI-513B: 8 mW/ ^{0}C Derate at DI-509B; DI-508B: 6 mW/ ^{0}C Above 25^{0}C Ambient	600	600	mW
Storage Temperature	T_s		-55 to 125		^{0}C
Operating Temperature	T_o		0 to 70		^{0}C

Electrical Characteristics (Ta = 25 ^{0}C)

Parameter	Symbol	Notes	Conditions	Typ.	Max.	Units
Output Saturation Voltage * DI-509B; DI-514B; DI-504B * DI-508B; DI-513B; DI-503B.	V_{out} (SAT)	Measured With Respect to V+ Terminal. V+ = 50V --- V+ = 80V	I_o = 10mA; V_i = 2.4V	1.5	3	V
Output Leakage Current * DI-509B; DI-514B; DI-504B * DI-508B; DI-513B; DI-503B.	I_{out} (OFF)	V+ = 50V --- V+ = 80V	V_o = 50V; V_i = 0.4V --- V_o = 80V; V_i = 0.4V	0.1	10	µA
Input Current	I_{in} (ON)		V_i = 2.4V	250	400	µA
Supply Current	I+	One Input at 2.4V; Others at 0.4V.	V_i = 2.4 V; I_o = 0 V+ = 50V	0.8	1.2	mA

Typical Application: