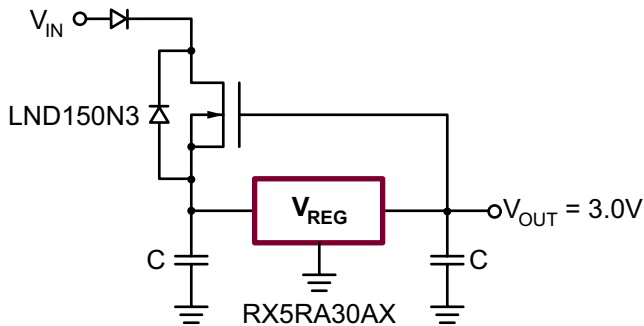


High Voltage Regulators and Linear Circuits using LND1

Depletion-mode MOSFETs can be used either as “normally closed” switches or current sources. This note shows circuits, utilizing depletion mode devices, that will benefit many applications. The main performance features of the circuits

and examples of applications are listed. For more applications information on depletion mode MOSFETs, refer to other LND1 and DN25 series application notes.

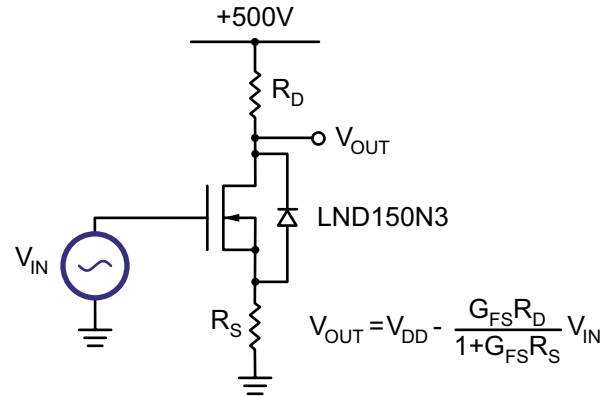
High Voltage Protected Regulator



- ▶ ±500V transient protection
- ▶ +5 to +500V operation
- ▶ Typically 800nA quiescent current
- ▶ See application note AN-D17 for details

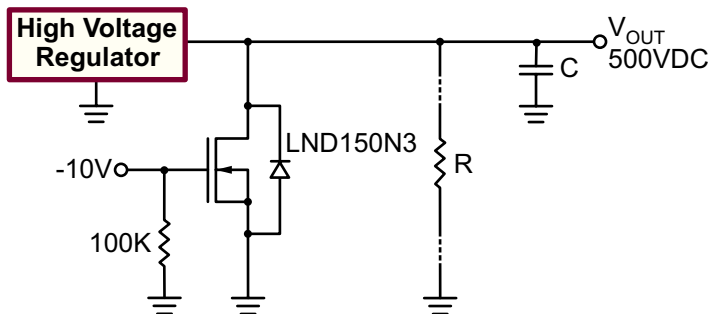
Telecommunication, automotive, fax machines, off-line control circuits.

Zero Bias Amplifier



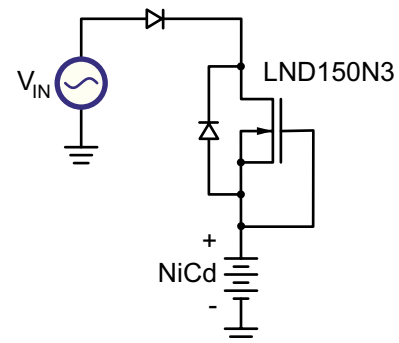
- ▶ Very high input impedance
 - ▶ Large output swing
- Instrumentation amplifier for sensors/transducers

Switchable Bleed Resistor



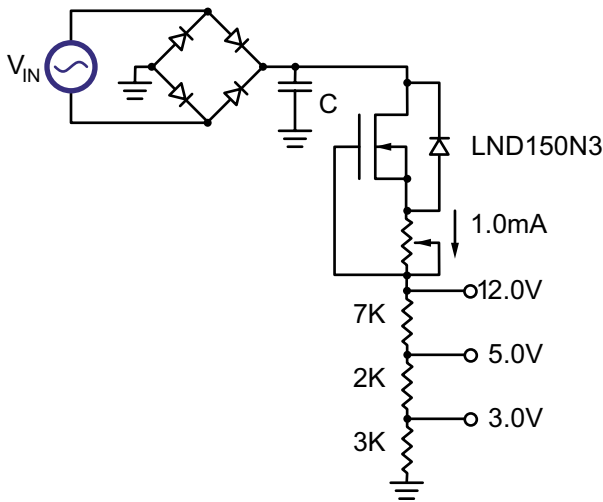
- ▶ 500V operation
 - ▶ Saves power
- High voltage power supply, lab equipment

Off-Line Trickle Charger



- ▶ Suitable for single or multiple cells
 - ▶ High compliance voltage
- Hard-wired smoke alarms, burglar alarms, security systems

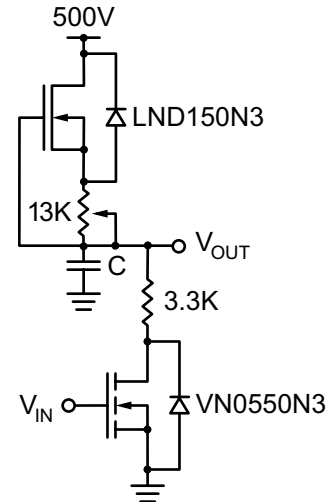
Off-Line Voltage Reference



- ▶ Universal input
- ▶ Resistor values determine voltage references
- ▶ See application note AN-D10 for details

Instrumentation, VCRs, televisions, ATEs

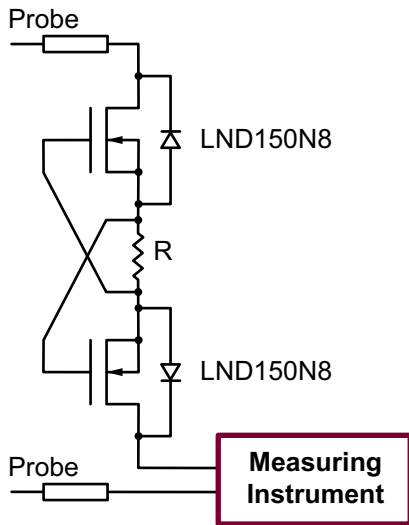
High Voltage Ramp Generator



- ▶ High linearity
- ▶ Adjustable slope
- ▶ See application note AN-D12 for details

Piezo transducer drivers, measuring instruments, soft start controls

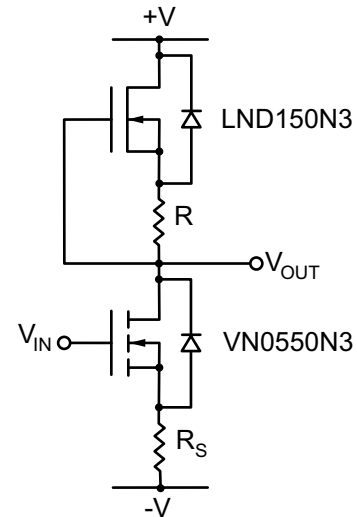
High Voltage Protection



- ▶ ±500V protection
- ▶ Stack for ±1000V or higher
- ▶ Current limiter
- ▶ See application note AN-D11 for details

Handheld meters, lab instruments, data communication lines, resettable fuses

High Voltage High Gain Amplifier



- ▶ High input impedance
- ▶ Up to 500 V operation
- ▶ Over 60dB gain

High voltage linear regulators, instrumentation amplifiers, piezo transducer drivers

Supertex inc. does not recommend the use of its products in life support applications, and will not knowingly sell them for use in such applications unless it receives an adequate "product liability indemnification insurance agreement." Supertex inc. does not assume responsibility for use of devices described, and limits its liability to the replacement of the devices determined defective due to workmanship. No responsibility is assumed for possible omissions and inaccuracies. Circuitry and specifications are subject to change without notice. For the latest product specifications refer to the Supertex inc. website: <http://www.supertex.com>.