



## Optoelectronics in White Goods Applications



### RESOURCES

- Optoelectronics product portfolio: <http://www.vishay.com/optoelectronics/>
- For Optocoupler product questions contact: [optocoupleranswers@vishay.com](mailto:optocoupleranswers@vishay.com)
- For Optical Sensors product questions contact: [sensorstechsupport@vishay.com](mailto:sensorstechsupport@vishay.com)
- For LED product questions contact: [LED@vishay.com](mailto:LED@vishay.com)

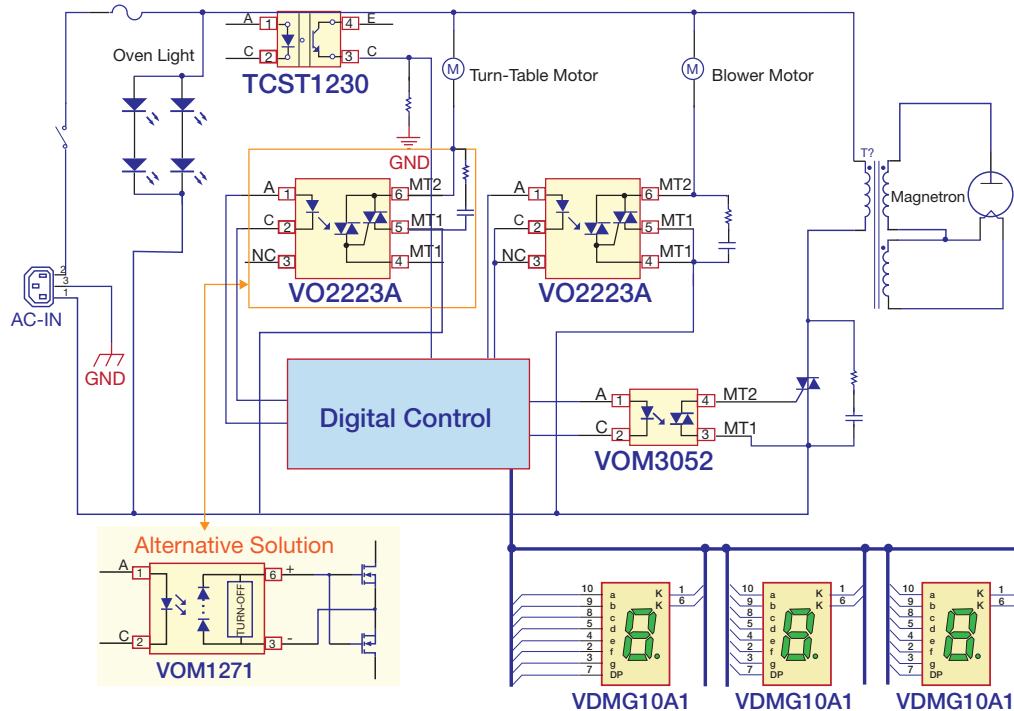




# OPTOELECTRONICS

## White Goods

	Microwave Oven	3
	Dishwasher	4
	Refrigerator	5
	Furnace	6
	Clothes Washer	7
	Clothes Dryer	8
	AC Heat Pump	9
	Induction Cooktop	10


**Microwave Oven**

**TCST1230**

Transmissive sensor detects door latch position, open or closed

- 2.8 mm gap width
- 0.5 mm aperture width
- 2 mA output current
- Includes ambient light filter
- -25 °C to +85 °C operating temperature


**VO2223A**

Power phototriac optically isolates the microcontroller from the high voltage transformer; includes TRIAC to drive motor

- Trigger current < 10 mA
- 5300 V<sub>RMS</sub> isolation test voltage
- 600 V peak off-state voltage
- 1 A<sub>RMS</sub> load current


**VOM3052**

Optocoupler with phototriac output - optically isolates the microcontroller from higher voltage motors

- Non-zero crossing
- 400 V blocking voltage
- High static dV/dt of 5 kV/μs
- 3 mA trigger current
- 5300 V<sub>RMS</sub> isolation test voltage


**VOM1271**

Photovoltaic MOSFET driver with integrated fast turn-off

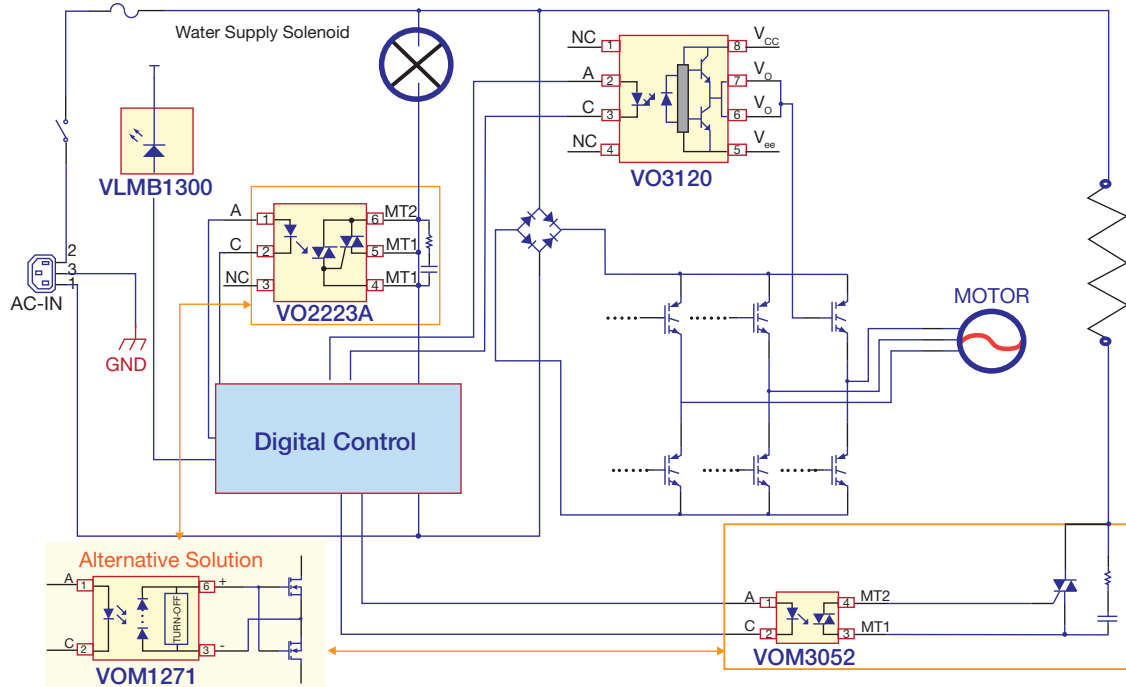
- 4500 V<sub>RMS</sub> isolation test voltage
- Logic compatible input
- High reliability
- Agency approvals:
  - UL1577
  - cUL, equivalent to CSA bulletin 5A
  - FIMKO EN 60950-1


**VDMG10A1**

7-segment 10 mm SMD display

- Evenly lighted segments
- Grey package surface
- Untinted segments
- Luminous intensity categorized
- Red, yellow, green, and soft orange categorized for color
- Wide viewing angle
- Suitable for DC and high peak currents




**Dishwasher**

**VLMx1300**

Super thin 0603 ChipLED with exceptional brightness



- 1.6 mm x 0.8 mm x 0.8 mm (L x W x H)
- Wavelength: blue, 465 to 475 nm, true green, typ. 525 nm, yellow green, 571 nm, yellow, 584.5 to 597 nm, soft orange, typ. 605 nm, super red, typ. 631 nm
- InGaN blue available with protection diode, device type VLMB1310 with HBM 8000 V
- Extremely wide 130° viewing angle
- Grouping parameters: Luminous intensity, wavelength,  $V_F$

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**VO3120 (VO3150)**

LED optically coupled to an integrated circuit with a power output stage. Ideally suited for driving power IGBTs and MOSFETs used in motor control inverter applications



- 2.5 A minimum peak output current (0.5 A for VO3150)
- 25 kV/ $\mu$ s minimum common mode rejection (CMR) at  $V_{CM} = 1500$  V
- $I_{CC} = 2.5$  mA maximum supply current

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Photovoltaic MOSFET driver with integrated fast turn-off



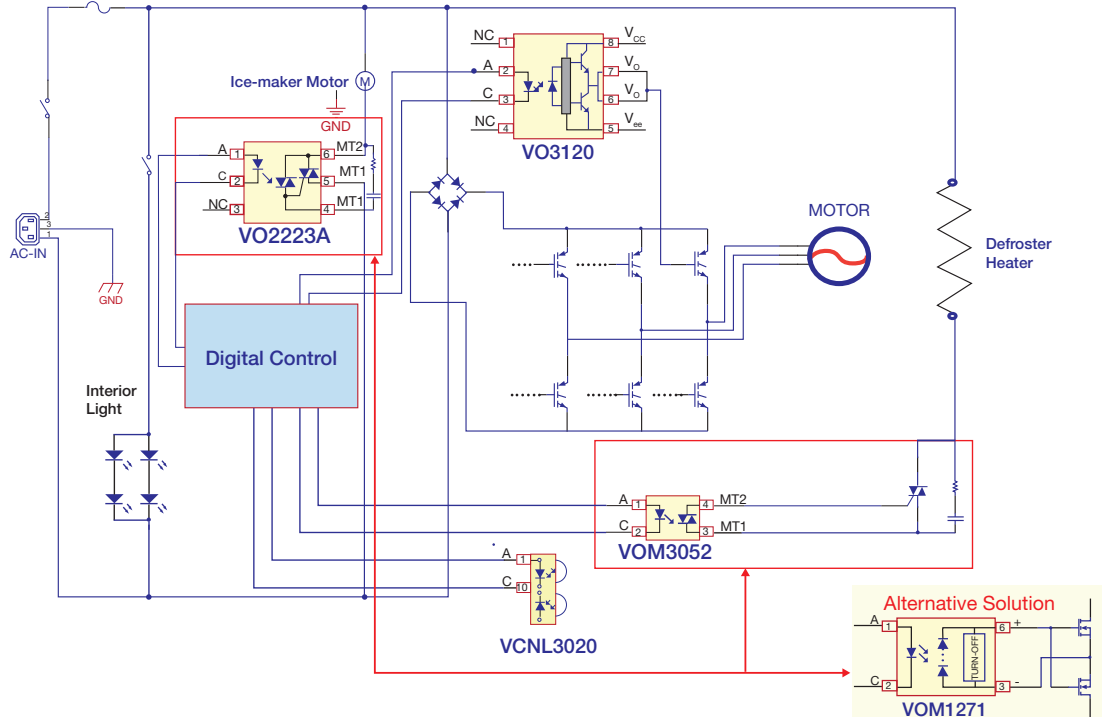
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**Refrigerator**

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- I<sub>CC</sub> = 2.5 mA maximum supply current


**VCNL3020**

Fully integrated proximity sensor with infrared emitter I<sup>2</sup>C interface, and interrupt function

- Integrated infrared emitter, proximity sensor, and signal conditioning IC
- Interrupt function
- 2.5 V to 3.6 V V<sub>DD</sub> supply voltage range
- 2.5 V to 5 V IR anode supply voltage range


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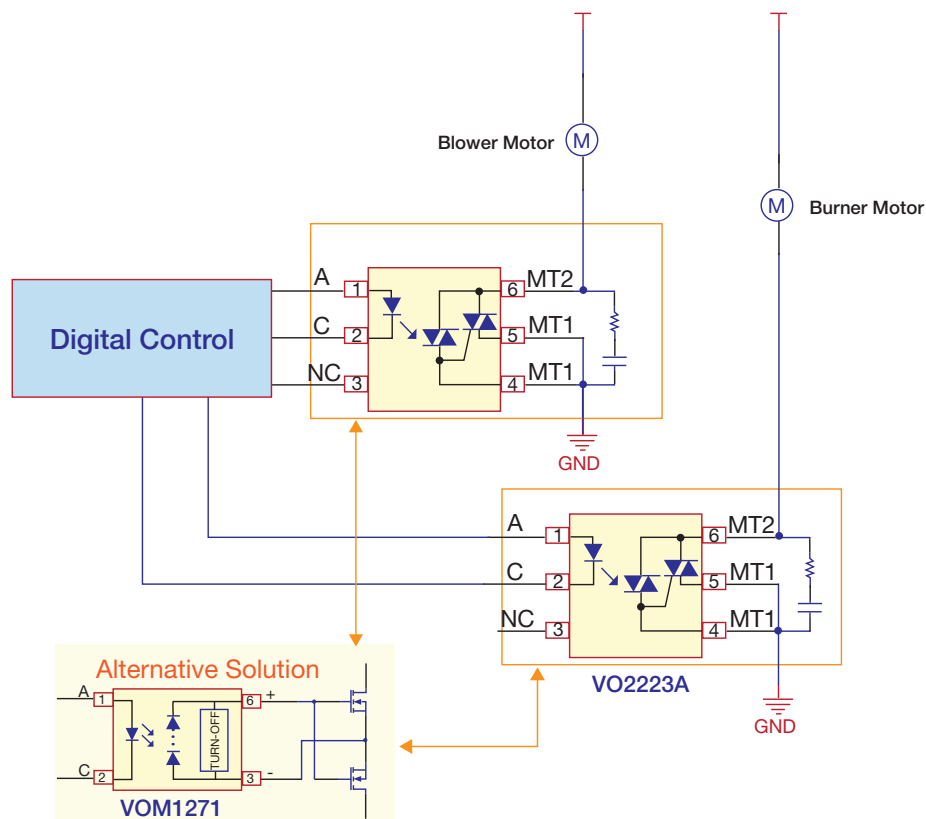
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Photovoltaic MOSFET driver with integrated fast turn-off

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**Furnace**

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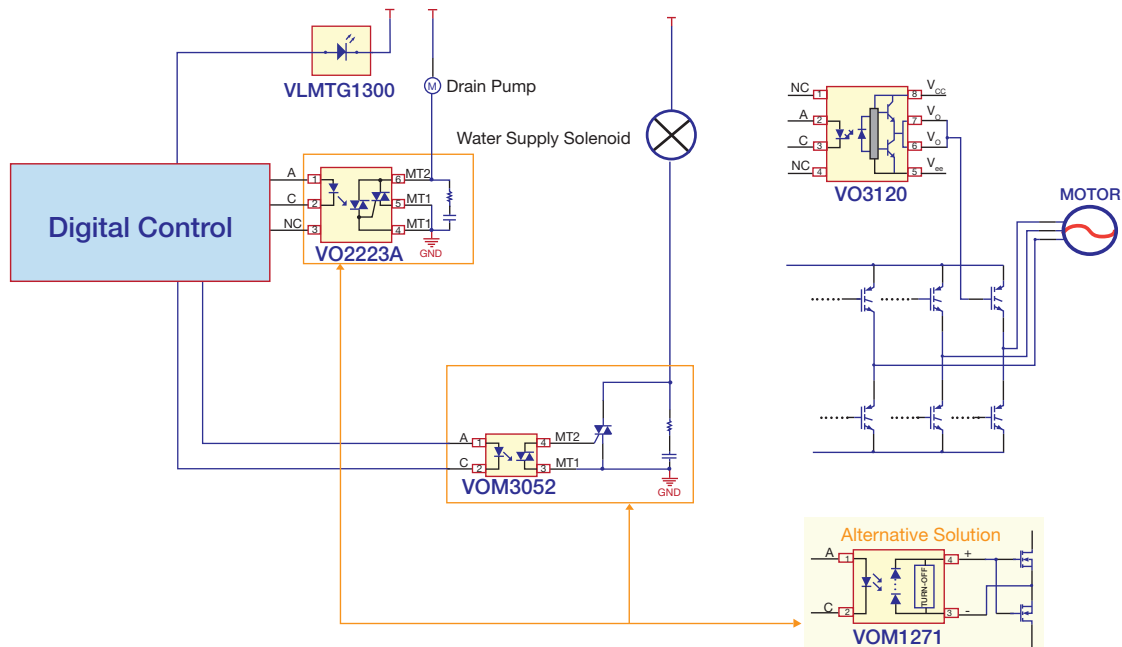
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**Clothes Washer**

**VLMTG1300**

Super thin 0603 ChipLED with exceptional brightness

- 1.6 mm x 0.8 mm x 0.8 mm (L x W x H)
- InGaN blue available with protection diode, device type VLMB1310 with 8000 V HBM
- Extremely wide 130° viewing angle
- Grouping parameters: luminous intensity, wavelength,  $V_F$


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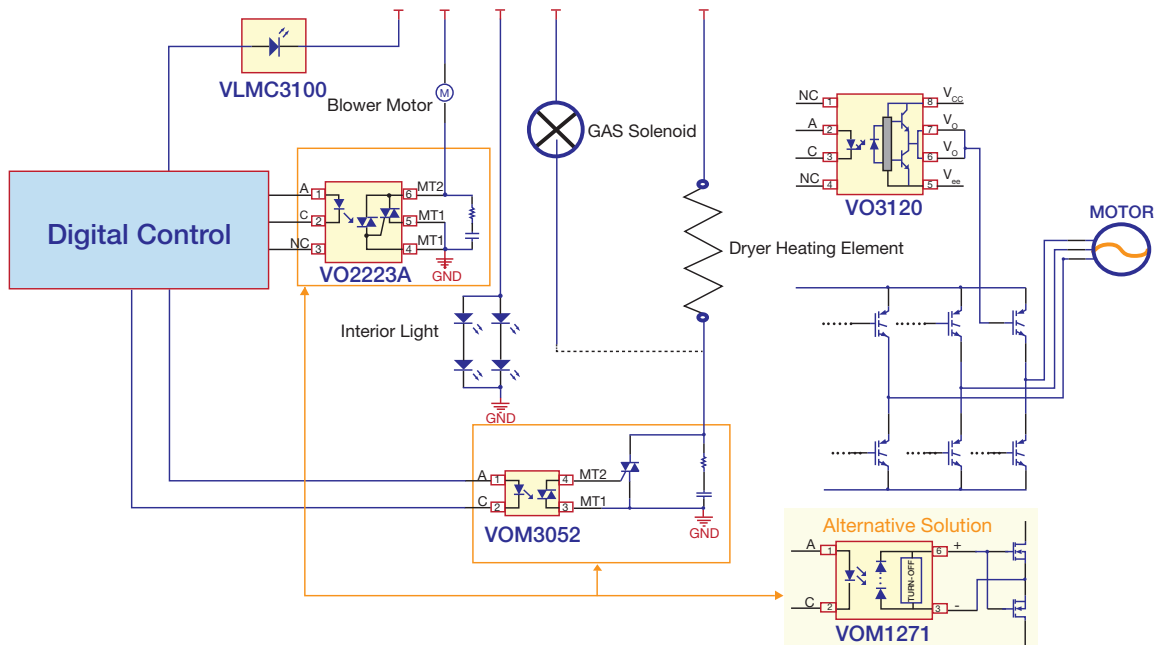
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**Clothes Dryer**

**VLMC3100**

Low-current SMD LED in PLCC-2 package



- SMD LED with exceptional brightness
- EIA and ICE standard package
- Non-diffused lens is excellent for coupling to light pipes and backlighting
- Luminous intensity ratio in one packaging unit  $I_{Vmax}/I_{Vmin} \leq 1.6$

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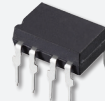
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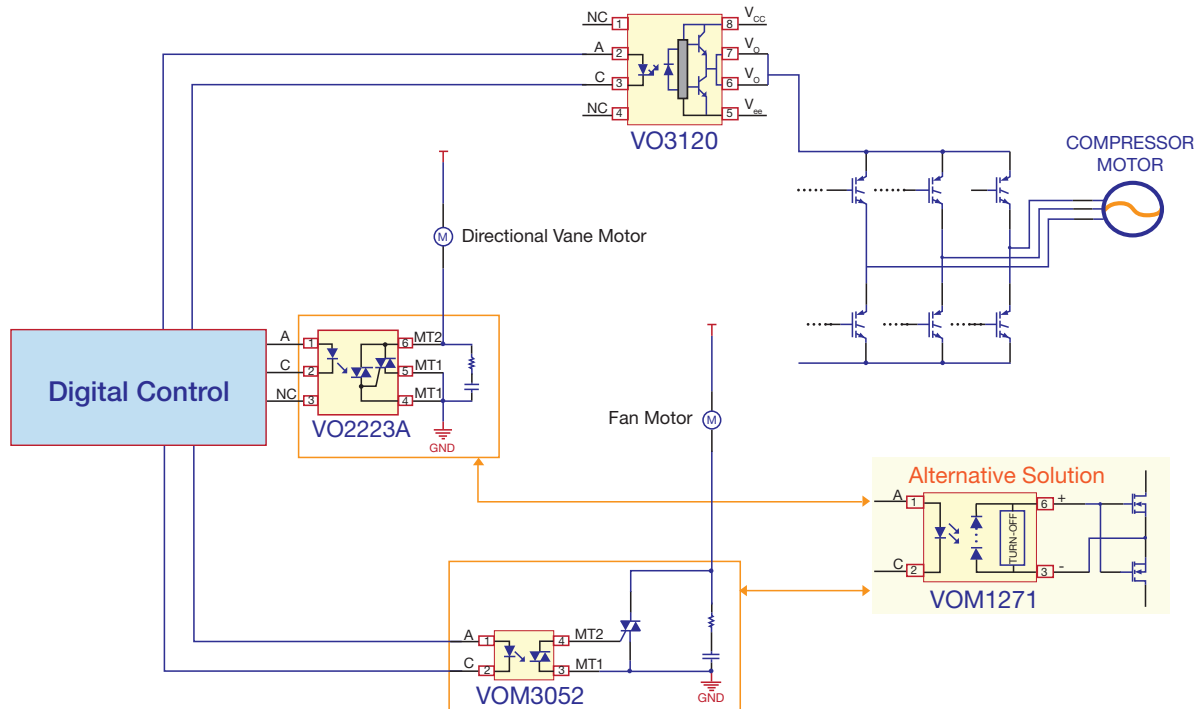
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**AC Heat Pump**

**VO2223A**

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- 600 V peak off-state voltage
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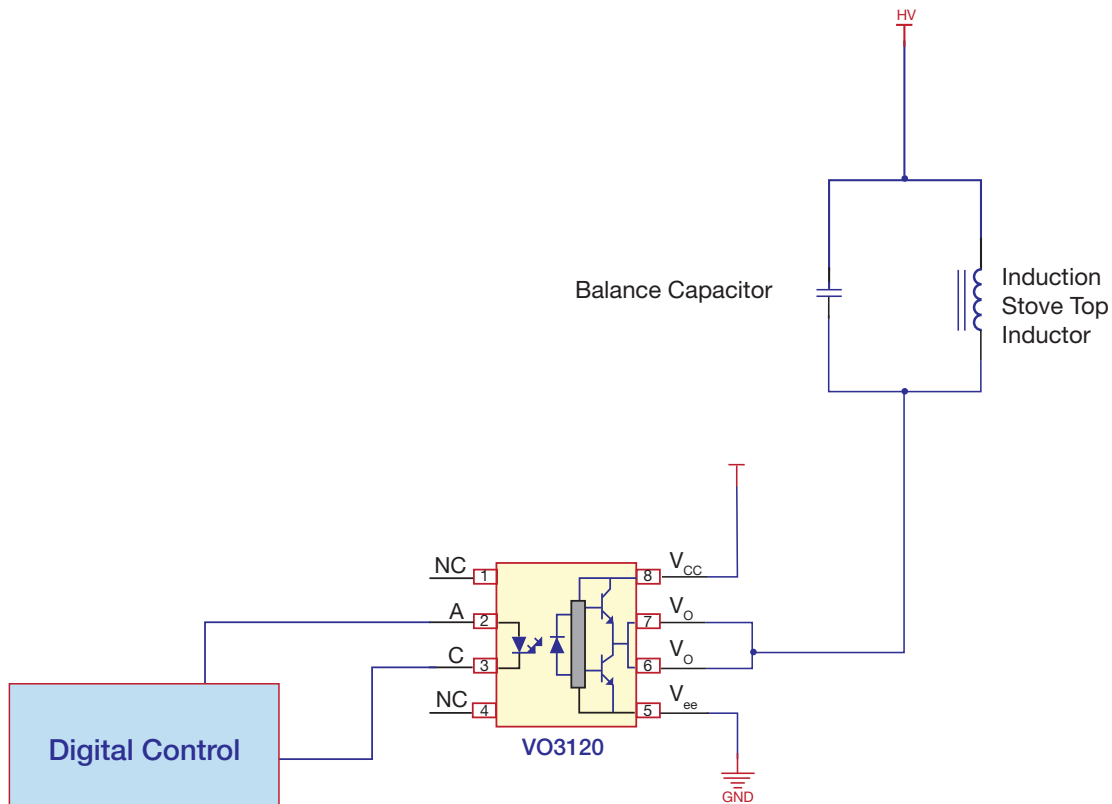
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**Induction Cooktop**

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