



# IFX52001EJ

## Constant Current Relay Driver

Once mechanical relay switches and electromagnetic actuators (also known as solenoids) are turned on, current must continuously flow through their coils (hold current) to keep them on.

The IFX52001EJ can reduce the hold current down to the necessary amount to keep the coil on (40mA without EMI) and thus cut overall current consumption. The coil current remains stable regardless of changes to the input voltage.

IFX52001EJ operates over an extended temperature range from -40°C to 125°C and with input voltages up to 30V, making it ideal for harsh industrial environments.

Available in a PG-DSO-8 exposed pad package, this device can be mounted on a PCB inside a relay or on an existing system PCB with either a high- or low-side switch, reducing design-in time and providing a migration path to an all-electronic switch design.

### Key Features

- High coil activation current
- Low hold current
- Suited for both low- and high-side switches
- Thermally enhanced PG-DSO-8 exposed pad package

### Key Benefits

- Coil current independent from input voltage variations
- No EMI, unlike PWM relay driving
- Supporting freewheeling diode signal path for energy absorption during switch off

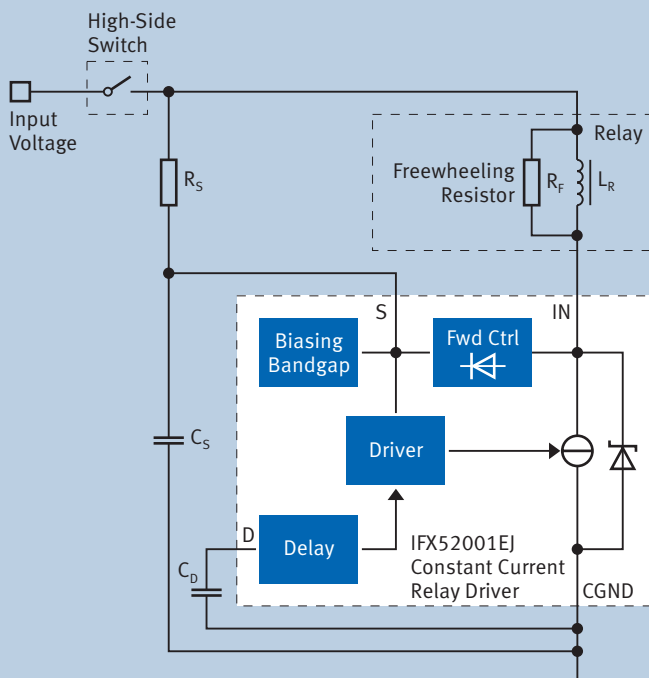
### Applications

- Relays
  - The IFX52001EJ can be integrated into relay housing or mounted on system PCB
  - Relays up to 2000mH coil inductance and 120Ω series resistance can be driven
- Electromagnetic actuators
  - Electric door locks, appliances, hydraulic valves, speaker coils, power relays, pinball/pachinko machines, manufacturing/automation systems

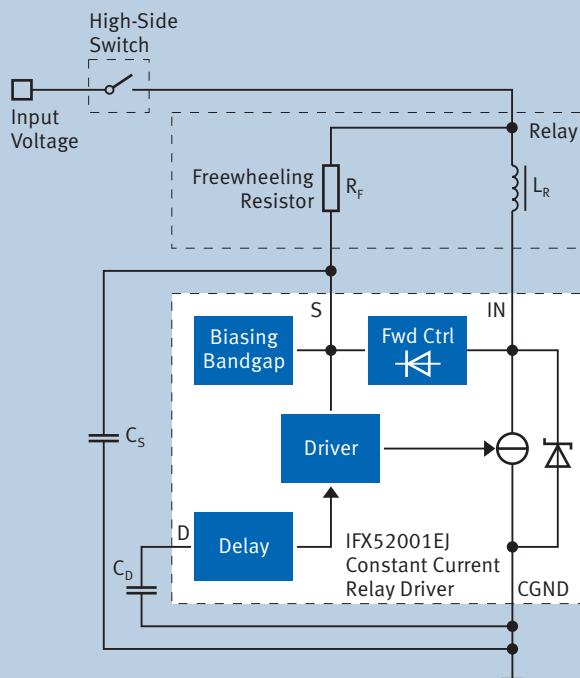
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## Constant Current Relay Driver

IFX52001EJ Supplied by External Source



IFX52001EJ Supplied by Freewheeling Resistor

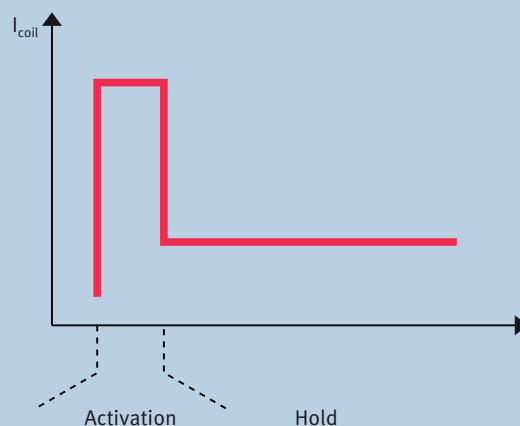


### Activation Mode

- Operation as switch
- For activation of e.g. a relay
- At high input voltage (to limit power dissipation during high input voltage faults)
- At low input voltage (minimum drop)

### Hold Mode

- Operation as constant current source
- During operation after activation time has been elapsed



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