RoHS ✓

PI2007 Features

- **Fast dynamic response to power source failures, with 80 ns reverse current turn-off delay time**
- **4 A gate discharge current**
- **Forward over-current fault indication**
- **Accurate MOSFET drain-to-source voltage sensing**
- **Internal charge pump**
- **FET check at initial power-up**
- **100 V for 100 ms, operation in high-side application**

PI2007

3 mm x 3 mm
10-Lead TDFN

Product Description

The PI2007 *Cool-ORing®* solution is a universal high-speed Active ORing controller IC designed for use with N-channel MOSFETs in redundant power system architectures. The PI2007 *Cool-ORing* controller enables an extremely low power loss solution with fast dynamic response to fault conditions, critical for high availability systems. The PI2007 controls single or parallel MOSFETs to address Active ORing applications protecting against power source failures. The PI2007 has an internal charge pump enabling an ideal solution in 12V or 36–75V bus high-side Active ORing applications.

The gate drive output turns the MOSFET on in normal steady state operation, while achieving highspeed turn-off during input power source fault conditions, that causes reverse current flow.

The controller auto-resets once the fault clears. The MOSFET drain-to-source voltage is monitored to detect reverse current flow. The PI2007 has an internal charge pump to drive the gate of a high side N-Channel MOSFET above the VC input. There is an internal shunt regulator at the VC input for high voltage applications.

Applications

- **N+1 redundant power systems**
- **Servers & high-end computing**
- **Telecom systems**
- **High-side Active ORing**
- **High-current Active ORing**

Part Numbering

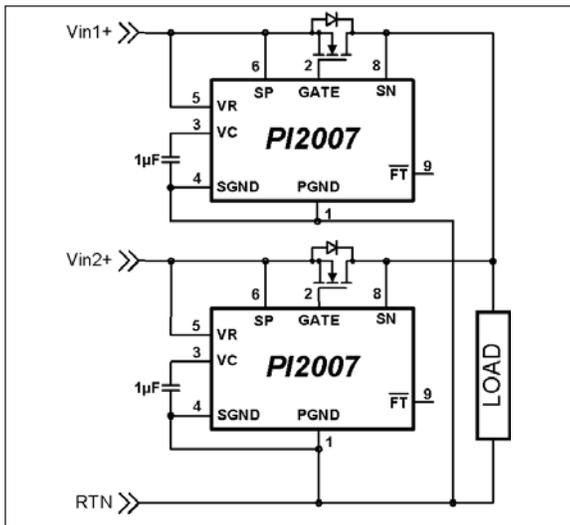| Part Number	Package	Target Application	Bias Supply	MOSFET Gate Discharge Current	Turn-off Delay Time	Shipment Packaging
PI2007-00-QEIG	3 x 3 mm 10 Lead TDFN	12 V or 36 – 75 V (high-side)	Supplied by internal charge pump	4 A (typ)	80 ns	Tape and Reel

Typical Application

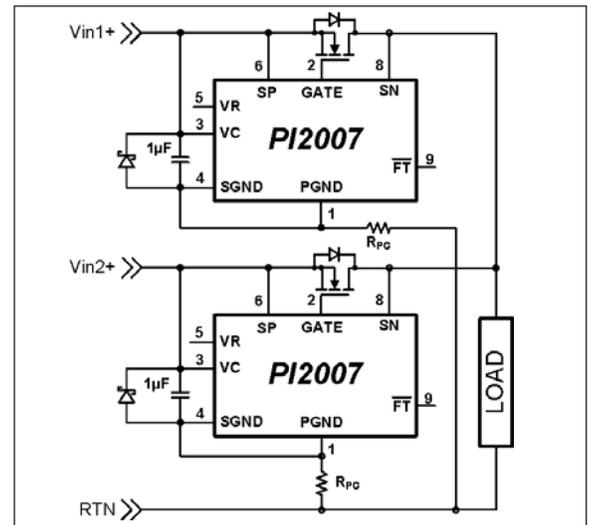*Figure 1: PI2007 High-side Active ORing for 12V Bus applications*

Figure 2: PI2007 referenced to Vin in high voltage high-side Active ORing applications