

Integrated Circuits

IXI858 / IXI859

Gate Driver with VReg and Charge Pump Regulator

The IXI858 and IXI859 Gate Driver / Regulator ICs are part of IXYS growing family of interface products. These ICs are designed to provide the needed analog functions required by microcontrollers to implement offline digital power supply control, such as in Power Factor Correction (PFC).

The IXI858 / 859 combine a power gate drive, low voltage linear regulator and a charge pump function for drive voltage generation as needed in these applications. These features make the IXI858 / 859 invaluable for implementing microcontroller based PFC systems. The IXI858 / 859 can be used in combination with a Depletion-Mode Power MOSFET such as IXTY02N50D, which can be used to create a constant current source to provide offline standby power at lower cost with lower high line power consumption.

The IXI858 is designed to support 5.0 V digital systems with an on board 5.0 V linear regulator, while the IXI859 features a 3.3 V linear regulator for lower voltage systems. In addition, both versions feature logic level input signal compatibility, 60 mA source and 120 mA sink gate drive output and a charge pump section meant to generate 13 V gate drive voltage.

The growing trend of digital power management, with the use of standard microcontroller in motor control, power supply, and PFC circuits require the interface, voltage gain and drive of the IXI858 / 859 for the digital power management. The IXI858 / 859 were optimized for cost and efficiency to support high volume applications such as dimmable ballast, non-dimmable ballast and High Intensity Discharge (HID) lighting systems.

The IXI858 / 859 are offered in a small 8-Lead SOIC surface mount package, with rated operation of -25°C to $+125^{\circ}\text{C}$.

Features

- Logic Level Gate Drive Compatible
- 60 mA Source / 120 mA Sink Minimum Gate Drive
- 5.0 V or 3.3 V Voltage Regulator
- Charge Pump Regulator Stabilizes VCC Power Supply at 13 V
- UVLO Protection

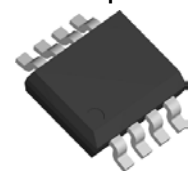
Applications

- μ Controller based off-line applications

Gate Driver with VReg

Part Number	V _{CC}	I _{peak} +/-	V _{in}	V _{out} Reg.	V _{CPRon} turn-on level	V _{CPRoff} turn-off level	I _{SINK} min V _{Gate} = 6 V	I _{SRC} min V _{Gate} = 3 V	t _{MINPW} C _{Gate} = 10 pF	t _{PD} C _{Gate} = 10 pF	Package	Fig. No.
> New	V	A	V	V	V	V	mA	mA	ns	ns	Outlines on O-30...O-52	
IXI 858S1	20	1	6	3.3	13.15	12.85	120	60	80	200	8-pin SOP	X512
IXI 859S1	20	1	6	5	13.15	12.85	120	60	80	200	8-pin SOP	X512

X512 8-pin SOP



IXI848 / IXI848A

High-Side Current Monitor

The IXI848 / IXI848A is precision high side current sense monitor. High side power-line monitoring offers the advantage of allowing the ground plane to remain undisturbed when sensing load currents.

An external sense resistor sets the range of the amplified ground-referenced output monitoring voltage. The output voltage is amplified by a selectable fixed

gain of either 10 or 50. With an input voltage range up to 40 V for IXI848 and 60 V for IXI848A, and output gain of up to 50, the IXI848 / IXI848A are designed to address a wide variety of current sense applications.

The IXI848 / IXI848A operates over a temperature range of -40°C to $+85^{\circ}\text{C}$. The IXI848 / IXI848A are available in an 8-Lead SOIC package.

Features

- High-Side Current Sense Amplifier
- IXI848: 2.7 V to 40 V Input Range
- IXI848A: 2.7 V to 60 V Input Range
- 0.7% Typical Full Scale Accuracy
- Scalable Output Voltage
- SOIC Package

Applications

- Power Management Systems
- Smart Battery Packs
- Battery Chargers
- Battery Powered Portable Equipment
- DC Motor Control

High-Side Current Monitor

Part Number	V _{IN}	I _{IN}	V _{SENSE} typ.	Full Scale Accuracy	Input Offset Voltage, typ.	Gain Accuracy	Temp. Range min.	Temp. Range max.	Package	Fig. No.
> New	V	mA	mV	%	V	%	$^{\circ}\text{C}$	$^{\circ}\text{C}$	Outlines on O-30...O-52	
IXI 848S1	40	0.13	150	± 0.7	± 0.5	± 0.5	-40	85	8-Pin SOP	X512
IXI 848AS1	60	0.13	150	± 0.7	± 0.5	± 0.5	-40	85	8-Pin SOP	X512