

## DESCRIPTION

The IR3502 control IC combined with an *XPHASE3*<sup>TM</sup> Phase IC provides a full featured and flexible way to implement a complete VR11.0 and VR11.1 power solution. The IR3502 provides overall system control and interfaces with any number of Phase ICs, each driving and monitoring a single phase. The *XPhase3*<sup>TM</sup> architecture results in a power supply that is smaller, less expensive, and easier to design while providing higher efficiency than conventional approaches.

## FEATURES

- 1 to X phase operation with matching Phase IC
- 0.5% overall system set point accuracy
- Daisy-chain digital phase timing provides accurate phase interleaving without external components
- Programmable 250kHz to 9MHz clock oscillator frequency provides per phase switching frequency of 250kHz to 1.5MHz
- Programmable Dynamic VID Slew Rate
- Programmable VID Offset or No Offset
- Programmable Load Line Output Impedance
- High speed error amplifier with wide bandwidth of 30MHz and fast slew rate of 10V/us
- Programmable constant converter output current limit during soft start
- Hiccup over current protection with delay during normal operation
- Central over voltage detection and latch with programmable threshold and communication to phase ICs
- Over voltage signal output to system with overvoltage detection during powerup and normal operation
- Load current reporting
- Single NTC thermistor compensation for correct current reporting, OC Threshold, and Droop
- UVLO or ENABLE cycle to clear VID FAULT
- Delay comparator and OCP input filtering
- Remote sense AMP low voltage to eliminate bump at start-up
- Over voltage protection disabled during dynamic VID down to prevent false triggering
- Detection and protection of open remote sense line
- Open control loop protection
- IC bias linear regulator controller
- Programmable VRHOT function monitors temperature of power stage through a NTC thermistor
- Remote sense amplifier with true converter voltage sensing
- Simplified VR Ready (VRRDY) output provides indication of proper operation
- Small thermally enhanced 32L 5mm x 5mm MLPQ package
- RoHS compliant

## ORDERING INFORMATION

Device	Package	Order Quantity
IR3502MPBFTR	32 Lead MLPQ (5 x 5 mm body)	3000 per reel
* IR3502MPBF	32 Lead MLPQ (5 x 5 mm body)	100 piece strips

- Samples only