

iW626+iW1780 Rapid Charge™ Chipset Second-Generation Qualcomm® Quick Charge™ 2.0 Technology AC/DC Power Adapter Solution

Dialog's iW626+iW1780 Rapid Charge AC/DC adapter chipset is the lowest cost AC/DC adapter solution for small form-factor Qualcomm Quick Charge 2.0 power adapter applications.



With inherently higher efficiency versus competitive solutions, the iW626+iW1780 also enables the higher power density needed for small form-factor 5/9/12V Quick Charge 2.0 power adapter applications.

SmartDefender™ Smart Hiccup Technology

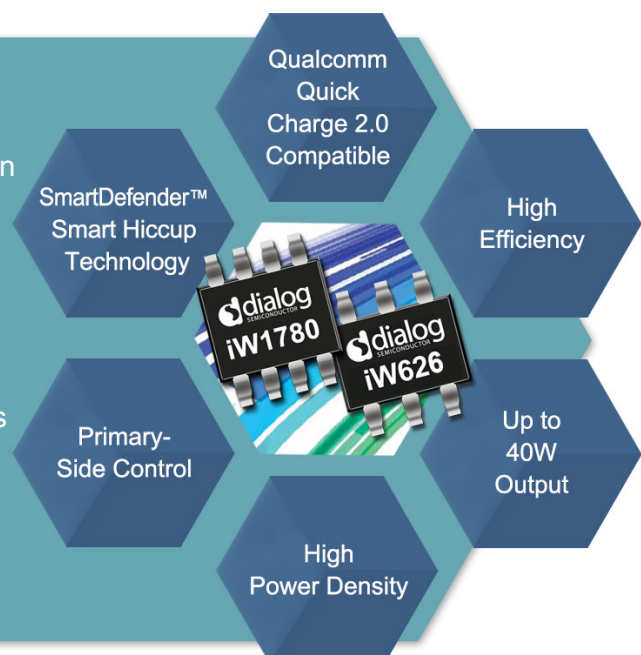
Conventional AC/DC power adapters typically handle over-current fault events by either turning off the output voltage and latching it off or by repeatedly cycling the power off and on (commonly called hiccup) until the fault event is removed. Hiccup can result in high average output current from the USB cable and high average power dissipated in the cable or connector, potentially generating excessive heat and cable/connector damage.



Dialog's SmartDefender™ smart hiccup technology helps address the excessive heat and resulting damage in adapter cables and connectors by effectively reducing the average output power at fault conditions without latching.

iW626+iW1780 Advantages

- ✓ Lowest cost Quick Charge 2.0 adapter solution
- ✓ High efficiency up to 88%
 - Primary-side current sensing eliminates secondary-side current sense resistor
- ✓ Simple system design
- ✓ SmartDefender™ smart hiccup technology helps address soft shorts in cables and connectors
- ✓ Supports Qualcomm Quick Charge 2.0 Class A technology 5/9/12V



Qualcomm® Quick Charge™ is a product of Qualcomm Technologies, Inc.

iW626+iW1780 – Qualcomm® Quick Charge™ 2.0 Technology AC/DC Power Adapter Solution

Features

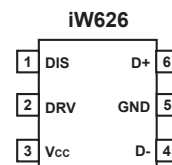
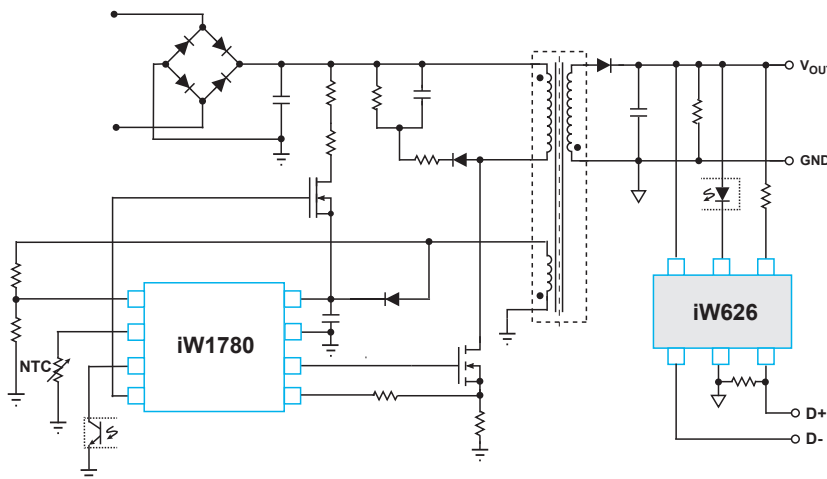
- ▶ Up to 40W output power
- ▶ Wide operating voltage range (iW626): 3V to 25V
- ▶ Ultra-low no-load power consumption < 10mW
- ▶ Fast dynamic load response
- ▶ High Efficiency
 - Up to 83% (no synchronous rectifier)
 - Up to 88% (using synchronous rectifier)
- ▶ Supports Qualcomm Quick Charge 2.0 Class A technology 5/9/12V
- ▶ Backward compatible with USB BC 1.2 Dedicated Charging Port
- ▶ Patented, active discharge pull-down from 9V/12V to 5V upon portable device unplug
- ▶ SmartDefender™ smart hiccup technology helps address issues of soft shorts in cables and connectors by effectively reducing the average output power under fault conditions without latching
- ▶ Fully protected
 - Adjacent pin-to-pin short circuit and floating pin protection
- ▶ iW626 is UL verified

PrimAccurate™ Primary-Side Current Sensing and Control

Current sensing is performed by the iW1780 on the primary side, eliminating the need for a secondary-side current sense resistor for an inherently more efficient solution than competing Qualcomm Quick Charge 2.0 technology power adapter approaches.



iW1780+iW626 Typical Application Diagram



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