

# TDA21490

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OptiMOS™ integrated power stage with best-in-class efficiency and thermal performance

The TDA21490 enables robust and reliable voltage regulator (VR) design for high-performance xPUs, ASICs and SoCs used in server, storage, artificial intelligence (AI) and networking applications. TDA21490 offers best-in-class efficiency with OptiMOS™ power MOSFETs in a thermally efficient package. The low quiescent current driver can enable deep-sleep mode to further increase light load efficiency and also provide superior current reporting that helps boost system performance significantly. In addition to the robust OptiMOS™ MOSFET technology, TDA21490's extensive fault protection capability further increases robustness and reliability of the systems in which it is used.

### Summary of Features

- Output peak current capability of up to 90 A
- Superior current sense (5 mV/A) accuracy
- Input voltage (V<sub>IN</sub>) range of 4.25 V to 16 V
- V<sub>CC</sub> and V<sub>DRV</sub> supply of 4.25 V to 5.5 V
- Output voltage range from 0.25 V up to 5.5 V
- Output DC current capability of 70 A
- 8-mV/°C temperature analog output
- Extensive fault protection and communication to the controller
- Auto-replenishment of the bootstrap capacitor
- Common footprint (5x6 mm PQFN)

### Benefits

- Reduced total cost of ownership (TCO)
  - › Best-in-class efficiency
  - › Long-term reliability with OptiMOS™ MOSFETs
- Superior system performance with accurate output current telemetry
- Faster diagnostics with accurate and fast fault protection
- Deep-sleep mode for power saving

### Potential Applications

- Server and storage
- Artificial Intelligence (AI)
- Datacom
- Telecom
- High-end consumer

## Parametrics

| Parametrics             | TDA21490      |
|-------------------------|---------------|
| I <sub>out</sub>        | 90.0 A        |
| Input Voltage min max   | 4.25 V 16.0 V |
| Package                 | PQFN 5 X 6    |
| Switching Frequency max | 1500.0 kHz    |

## Documents

### + Data Sheets

## Order

|                      |                      |
|----------------------|----------------------|
| Sales Product Name   | TDA21490             |
| OPN                  | TDA21490AUMA1        |
| Product Status       | active and preferred |
| Package name         | PG-IQFN-39           |
| Order online         |                      |
| Completely lead free | no                   |
| Halogen free         | yes                  |
| RoHS compliant       | yes                  |
| Packing Size         | 5000                 |
| Packing Type         | TAPE & REEL          |
| Moisture Level       | 2                    |
| Moisture Packing     | DRY                  |

## Support

Top 6 FAQs. Use the search bar above to show more!

|   |   |  |
|---|---|--|
| <p>I need FIT data for my product. How can I get access to it?</p> <p>In order to get access to product FIT (failure in time) data, please contact our support center at <a href="https://www.infineon.com/support">https://www.infineon.com/support</a></p> <p style="text-align: right;"><a href="#">+ Read more</a></p>      | <p>Technical Support</p> <p>In order to enable us to process your inquiry as efficiently as possible and ensure your case is duly reported, we kindly ask you to submit your request via the following support form:...</p> <p style="text-align: right;"><a href="#">+ Read more</a></p> | <p>Partner Finder for support, software, hardware, dev tools, services</p> <p>Infineon's partners offer products and services that complement our semiconductor device solutions to accelerate your development efforts and time to market....</p> <p style="text-align: right;"><a href="#">+ Read more</a></p> |
| <p>Package information</p> <p>The package information is available on our homepage at <a href="https://www.infineon.com/packages">https://www.infineon.com/packages</a>. Please note, that they are divided into the subcategories "Leaded and through-hol...</p> <p style="text-align: right;"><a href="#">+ Read more</a></p> | <p>Notes on processing</p> <p>Information regarding reflow profile, soldering temperature, soldering profile and further processing notes for most of the discrete products are mentioned in the Application Note....</p> <p style="text-align: right;"><a href="#">+ Read more</a></p>   | <p>Design-in support</p> <p>We offer design-in support for your application. You can find the Infineon Solution Finder at <a href="https://www.infineon.com/solutionFin...">https://www.infineon.com/solutionFin...</a></p> <p style="text-align: right;"><a href="#">+ Read more</a></p>                        |

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| Write to the Technical Assistance Center | Call us toll free or request a call back | Live chat with our Support Center | Ask our community for support in the forum |
|--|--|-----------------------------------|--|