TPS54719 (ACTIVE)

2.95V to 6V Input, 7A Synchronous Step-Down DC/DC Converter

DATASHEET

TPS54719 2.95 V To 6 V Input, 7-A Synchronous Step Down Converter datasheet (Rev. B)

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Recommended alternative parts

- TPS54821 - Looking for a device with higher input voltage? Try the TPS54821.
- TPS54519 - Looking for a device with less output current? Try the TPS54519.

Special Note

Go to TI's extensive portfolio of DC/DC point-of-load solutions.

Description

The TPS54719 device is a full featured 6 V, 7 A, synchronous step down current mode converter with two integrated MOSFETs.

The TPS54719 enables small designs by integrating the MOSFETs, implementing current mode control to reduce external component count, reducing inductor size by enabling up to 2 MHz switching frequency, and minimizing the IC footprint with a small 3mm x 3mm thermally enhanced QFN package.

Features

- Two 30 mΩ (typical) MOSFETs for High Efficiency at 7-A loads
- 200kHz to 2MHz Switching Frequency
- 0.6 V ± 1.5% Voltage Reference Over Temperature
- Adjustable Slow Start / Sequencing

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Parametrics

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	TPS54719
Vin (Min) (V)	2.95
Vin (Max) (V)	6
Vout (Min) (V)	0.6
Vout (Max) (V)	4.5
Iout (Max) (A)	7
Regulated Outputs (#)	1
Switching Frequency (Min) (kHz)	200
Switching Frequency (Max) (kHz)	2000
Iq (Typ) (mA)	0.455
Features	Enable Frequency Synchronization Power Good Synchronous Rectification Tracking
Control Mode	Current Mode
Duty Cycle (Max) (%)	100
Operating Temperature Range (C)	-40 to 140
Rating	Catalog
Package Group	WQFN | 16
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Reference designs selected for you

- Bidirectional DC-DC Converter Reference Design for 12-V/48-V Automotive Systems
- 18V/1kW, 160A Peak, >98% Efficient, High Power Density Brushless Motor Drive Reference Design
- 2kW, 48V to 400V, >93% Efficiency, Isolated Bidirectional DC-DC Converter Reference Design for UPS
- Wireless IoT, Bluetooth® Low Energy, 4½ Digit, 100kHz True RMS Digital Multimeter
- Highly Efficient, 1.6kW High Density GaN Based 1MHz CrM Totem-pole PFC Converter Reference Design

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WEBENCH® Designer TPS54719

	Min		Max		Range
Vin	3.00	–	6.00	V	2.95 to 6.0V
Vout			3.3	V	0.6 to 5.999V
Iout			6	A	≤ 7A
Ambient Temp			30	°C	-40 to 140°C

Footprint	BOM Cost	Efficiency
284.0mm²	$2.87	83.0%

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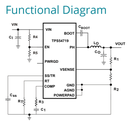
Diagrams (1)

Functional Diagram



Top applications selected for you

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- WLAN/WiFi Access Point — Learn more
- Single Board Computer — Learn more
- Data Center Switches — Learn more
- CPU (PLC Controller) — Learn more
- Computer on module — Learn more

Products to complete your design

Part number	Name	Datasheet	Additional information	Why are these companion products?
TL431A	1% Accuracy Adjustable Precision Shunt Regulator	Download	Technical Documents Tools & Software	Customers who designed with TPS54719 also designed with TL431A.
LP5907	250mA Ultra-Low-Noise Low-IQ LDO	Download	Technical Documents Tools & Software	Customers who designed with TPS54719 also designed with LP5907.
SN74LVC1G08	Single 2-Input Positive-AND Gate	Download	Technical Documents Tools & Software	Customers who designed with TPS54719 also designed with SN74LVC1G08.
TPS3808	Low Quiescent Current Supervisor with Programmable-Delay	Download	Technical Documents Tools & Software	Customers who designed with TPS54719 also designed with TPS3808.
TL431	2% Accuracy Adjustable Precision Shunt Regulator	Download	Technical Documents Tools & Software	Customers who designed with TPS54719 also designed with TL431.

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