

Device Information

ISL98602

5 Channel DC/DC Converter + V_{ON} Slice + Power Good

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Datasheet



ISL98602

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Input Voltage (V)	9.5 to 15
V _{BOOST} (V)	10.83 to 19
Boost Current Limit (A)	5.5
V _{ON} (V)	up to 36
V _{OFF} (V)	down to -10
V _{LOGIC} (V)	(V _{logic1}) 2.5 to 3.3 (V _{logic2}) 0.9 to 2.0
# of V _{COM}	N/A
# of Gamma	N/A
Features	Automatic Start-Up Sequencing, fault protection

Product Information

Key Features

- 9.5V to 15.0V Input Supply
- 1.3MHz Switching Frequency
- 5.5A Integrated Boost for Up to 19V A_{VDD}
- V_{ON} Charge Pump, Up to 36V and 120mA
- V_{OFF} Charge Pump, Down to -10V and 120mA
- Synchronous Buck1 for 3.3V/2.5V with 2.0A Peak FET
- Synchronous Buck2 Controller Output from 0.9V to 2.0V
- On Board AVDD Delay Switch
- V_{ON} Slice Function Integrated
- Power Good Function for TCON Enable
- Automatic Start-Up Sequencing
- UVLO, UVP, OVP, OCP, and OTP Protection
- 40 Ld 6x6 QFN
- Specified for Ambient Operation Over the -40°C to +85°C Temperature Range
- Pb- Free (RoHS Compliant)

Description

The ISL98602 represents a high power, integrated LCD supply IC targeted at large panel LCD displays. The ISL98602 integrates a high power boost converter for AVDD generation, V_{ON} and V_{OFF} charge pump drivers, one synchronous buck regulator, and one synchronous buck controller for 2 logic voltages. The V_{ON} slicing circuitry and power good function are also included.

Operating at 1.3MHz, the AVDD boost converter features a 5.5A boost FET. Feedback is taken from the far side of the delay FET for improving regulation. The OVP circuit protects output side components.

The logic synchronous buck converter features two 2.3A FETs operating at 1.3MHz internal clock. The output voltage is set by the IC internally or feedback resistor. The soft-start circuitry are also integrated with the buck.

The second logic voltage is generated from synchronous buck converter with MOSFET controllers. The overcurrent protection is also integrated with the buck.

The charge pump of V_{ON} and V_{OFF} use the full switching frequency and integrates the driver for high current capability. V_{ON} is further processed through an integrated V_{ON} Slice circuit in order to reduce flicker.

Alternative fixed voltages at the boost, Buck1, Buck2, V_{ON} charge pump, and V_{OFF} charge pump are available in ISL98602, please contact Intersil Marketing via email at rmonteir@intersil.com.

Pricing / Packaging / Samples / Ordering

 iBuy direct from Intersil

 iBuy direct - out of stock

 Request samples

 Check distributor inventory

 Available in RoHS/Pb-Free

Part No.	Design-In Status	Temp.	Package	MSL	Price US \$			
ISL98602IRAAZ	Active	Ind	40 Ld QFN	3	2.50			
ISL98602IRAAZ-T	Active	Ind	40 Ld QFN T+R	3	2.50			
ISL98602IRAAZ-T7A	Active	Ind	40 Ld QFN T+R	3	2.50			
ISL98602IRAAZ-TK	Active	Ind	40 Ld QFN T+R	3	2.75			

The price listed is the manufacturer's suggested retail price for quantities of 1K units. However, prices in today's market are fluid and may change without notice.

MSL = Moisture Sensitivity Level - per IPC/JEDEC J-STD-020

SMD = Standard Microcircuit Drawing

Technical Documentation

Datasheet(s):

 [5 Channel DC/DC Converter + V_{ON} Slice + Power Good](#)

Technical Homepage:

[Display Products](#)

Tools And Support

iSim Design Simulation

No Models Available

Applications

LCD TV

 Related Devices

 Parametric Table

EL7515	High Frequency PWM Step-Up Regulator
EL7520	4-Channel DC/DC Controller
EL7520A	4-Channel DC/DC Controller
EL7581	3-Channel DC/DC Converter
EL7583	3-Channel DC/DC Converter
EL7586	TFT-LCD Power Supply
EL7586A	TFT-LCD Power Supply
EL7640	TFT-LCD DC/DC with Integrated Amplifiers
EL7640A	TFT-LCD DC/DC with Integrated Amplifiers
EL7641	TFT-LCD DC/DC with Integrated Amplifiers
EL7641A	TFT-LCD DC/DC with Integrated Amplifiers
EL7642	TFT-LCD DC/DC with Integrated Amplifiers
EL7642A	TFT-LCD DC/DC with Integrated Amplifiers

