

STR-W6200D Series PWM Off-Line Switching Regulator ICs

General Description

The STR-W6200D series are power ICs for switching power supplies, incorporating a power MOSFET and a current mode PWM controller IC in one package. Including a startup circuit and a standby function in the controller, the product achieves low power consumption, low standby power, and high cost-effectiveness in power supply systems, while reducing external components.

Features and Benefits

- TO-220 fully-molded package with 6 pins
- Current mode PWM control
- PWM and frequency modulation functions: reduces EMI noise, simplifies EMI filters, and cuts cost by external part reduction
- Built-in Slope Compensation circuit: avoids subharmonic oscillation
- Automatic Standby Mode function (Input Power < 40 mW at no load)
 - Normal operation: PWM mode
 - Light load operation: Standby mode (burst oscillation)
- Built-in Audible Noise Suppression function during Standby mode
- Built-in startup circuit: reduces power consumption in standby operation, and eliminates external components
- Bias-Assist function: improves startup operation, suppresses VCC pin voltage drop in operation, and allows use of smaller VCC capacitor
- Built-in Leading Edge Blanking function
- Protection Functions:
 - Overcurrent Protection function (OCP); pulse-by-pulse, built-in compensation circuit to minimize OCP point variation on AC input voltage
 - Overload Protection function (OLP); auto restart, built-in timer, reduces heat during overload condition, and few external components required
 - External Latch Protection function (ELP): latched shutdown by external signal
 - Overvoltage Protection function (OVP): latched shutdown
 - Thermal Shutdown function (TSD); latched shutdown

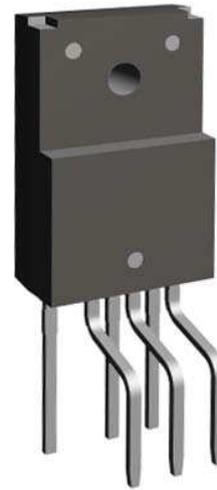


Figure 1. STR-W6200 series packages are fully molded TO-220 package types. Pin 2 is deleted for greater isolation. A flange is provided for heatsink mounting.

Applications

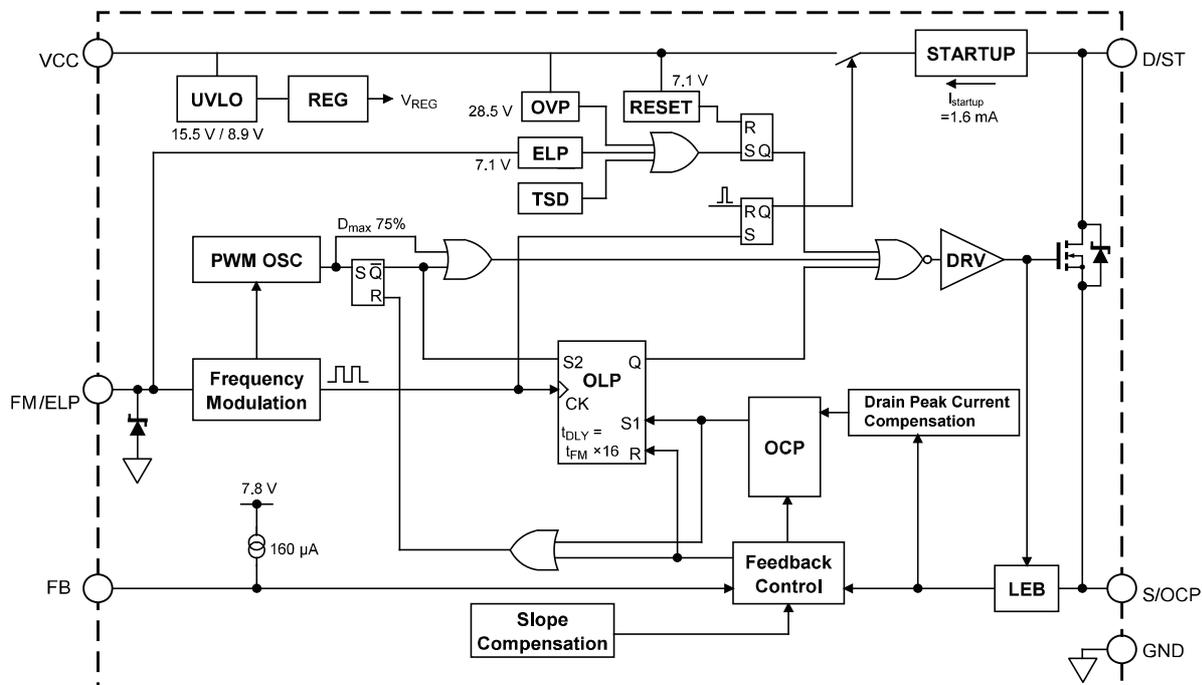
Switching power supplies for electronic devices such as:

- White goods
- Consumer electronics
- Office automation
- Industrial equipment
- Communications equipment

The product lineup for the STR-W6200D series provides the following options:

Part Number	f _{osc} (kHz)	MOSFET V _{DSS(min)} (V)	R _{DS(on)} (max) (Ω)	P _{OUT*} (W)	
				230 VAC	85 to 265 VAC
STR-W6251D	67	650	3.95	45	30
STR-W6252D			2.8	60	40
STR-W6253D			1.9	90	60

*The listed output power is based on the thermal ratings, and the peak output power can be 120% to 140% of the value stated here. At low output voltage and short duty cycle, the output power may be less than the value stated here.



Pin List Table

Number	Name	Function
1	D/ST	MOSFET drain and input of the startup current
2	—	(Pin removed)
3	S/OCP	MOSFET source and input of Overcurrent Protection (OCP) signal
4	VCC	Power supply voltage input for Control Part and input of Overvoltage Protection (OVP) signal
5	GND	Ground
6	FB	Input for constant voltage control signal
7	FM/ELP	Capacitor connection pin for frequency modulation and input of External Latch Protection

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