

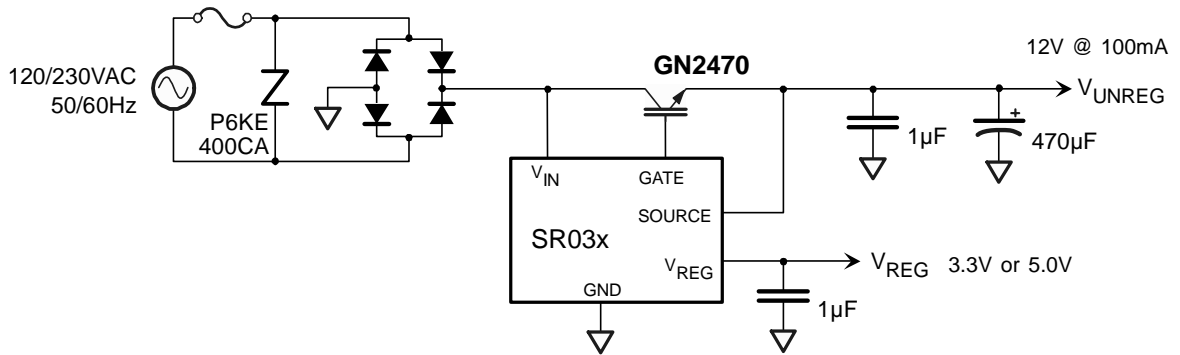
Product Summary Sheet

SR03 Series

Inductorless, Dual Output Off-Line Regulators

Applications

- 5.0V or 3.3V power supplies
- SMPS house keeping power supplies
- White goods
- Small Appliances
- Small off-line low voltage power supplies
- Lighting controls
- Meter readers
- For applications up to 1.5W



Typical Applications Circuit

OVERVIEW:

The Supertex SR03 is a high input voltage, inductorless switching regulators featuring dual, non-isolated outputs. It does not require any transformers, inductors or high voltage capacitors. The input voltage, HVin, is designed to operate from an unfiltered full wave rectified 120V AC or 240V AC line. It is designed to control an external pass transistor, IGBT or N-channel MOSFET. When HVin is less than 45V, the external pass transistor is turned on allowing it to charge an external capacitor connected to Vsource. An unregulated DC voltage will develop on Vsource. Once HVin is above 45V, the pass transistor is turned off. The maximum gate voltage is 24V. The unregulated voltage is the gate voltage minus the FETs gate-source voltage. The SR03 series provide different regulated output voltages of 3.3V and 5.0V.

The SR03x series has 30-40% conversion efficiency, which is higher than the linear regulator approach but comparable in cost and simplicity. In sub 1.5 watt applications like white goods, small appliances and lighting controls, the SR03x will take up less space and cost less than standard off-line switching power supplies that need magnetics and high voltage capacitors.

The devices SR036 and SR037 are available in MSOP-8 and SO-8 w/Heat slug packages.

Features of SR03x & GN2470 Solution: Benefits:

| | |
|---|--|
| GN2470's low voltage drop at high current vs. a MOSFET | Provides higher output power supporting broader applications. Increases the power converter efficiency by 30%. |
| GN2470's 700V breakdown voltage rating | More immunity to transients. Eases selection of TVS required for off-line switching regulators. |
| No transformers or inductors | Saves money and PCB space |
| No high voltage capacitors needed | Saves money and PCB space |
| Universal input: 110V or 230V AC. Accepts peak input voltages up to 700V. | Same power supply circuit can be used internationally, saves cost of inventory for two different power supplies. |
| Dual outputs (1 regulated and 1 unregulated) for SR03X | No need for secondary regulation saves money |

SR03 Series

Inductorless, Dual Output Off-Line Regulators

Electrical Specifications

| Device | HV _{IN Max} | V _{Gate} | V _{Out Regulated} | V _{Out Unregulated} |
|--------|----------------------|-------------------|----------------------------|------------------------------|
| SR036 | 700V | 24V | 3.3V | ~18V |
| SR037 | 700V | 24V | 5.0V | ~18V |

Availability

| Part Number | Package | Datasheet | Samples | Demo Board | Lead Time |
|-------------|------------------|-----------|---------|--------------------------------------|-------------|
| SR036MG | MSOP-8 | Now | Now | | 4-5 wks ARO |
| SR036SG | SO-8 w/Heat slug | Now | Now | SR036DB1 (now) SR036DB2 (2-3 wks) | 4-5 wks ARO |
| SR037MG | MSOP-8 | Now | Now | | 4-5 wks ARO |
| SR037SG | SO-8 w/Heat slug | Now | Now | SR037DB1 (now) SR037DB2 (2-3 wks) | 4-5 wks ARO |

Ordering Information

| Part Number | Package Options |
|------------------|------------------|
| SR036MG, SR037MG | MSOP-8 |
| SR036SG, SR037SG | SO-8 w/Heat slug |

Product Contact

If you have any questions regarding the SR03 Series or samples, contact Supertex Applications at:

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Supertex Sales:

Contact your local Supertex Sales Representative