

## PowerPAK® SO-8

(Used widely for industrial applications in North America)

### DESIGN REGISTERABLE

RE3 meets the solder cracking improvements for the IPC90 standard for telecom customers. It provides an overall improvement on the ruggedness of the device.

#### Suitable for various applications:

- Power management systems
- DC/DC converters
- Motor control
- Battery-powered devices
- Switching power supplies



**Synchronous rectification** is a technique used in power electronics, particularly in switch-mode power supplies (SMPS), where a MOSFET is used to replace the traditional diode in a rectification circuit.

#### Advantages of Synchronous Rectification:

Lower Conduction Losses, Higher Efficiency, and Improved Thermal Performance

#### Improved $Q_{OSS}$

A low  $Q_{OSS}$  is desirable in many applications, especially in power electronics or high speed circuits, because it reduces switching losses and improves overall efficiency.

#### Low Gate Charge ( $Q_g$ )

This reduces the amount of energy required to switch the MOSFET on and off — resulting in lower switching losses, which are important in high frequency applications such as DC/DC converters.

#### Low $R_{DS(on)}$ (On-Resistance)

This leads to higher efficiency in power applications by reducing heat generation and improving overall energy use.

#### Fast Switching Speed

The device has a fast switching capability, making it ideal for high speed applications where rapid transitions between on and off states are necessary.



#### Summary

The SiR626DP-T1-RE3 MOSFET provides a combination of low on-resistance, efficient thermal management, fast switching, and robust reliability, making it a great choice for power applications where performance, efficiency, and size are important.

## RESOURCES

