

# Offline Flyback Converter

## Short Circuit Protection

### Solution Products



MF-RHT070-0

### Objective

The objective of this PortNote<sup>®</sup> Solution is the low-cost overload protection of offline power supplies, by using high temperature Bourns<sup>®</sup> Multifuse<sup>®</sup> PPTC Resettable Fuses. Transient overload testing on low-power offline converters can be stressful on the output diode and the transformer. The high turns ratio converts relatively low-peak currents in the primary side into peak currents of several amps on the secondary side, which can destroy the diode and overheat the transformer.

### Solution

1 Multifuse<sup>®</sup> PPTC Resettable Fuse:  
MF-RHT070-0

### Compliance

EN 60335, IEC 60730 (low-power circuit test)

The PPTC resettable fuse protects the diode and the transformer during transient overloading by going high ohmic and then resets back to a low ohmic value once the overload is removed. High temperature Bourns<sup>®</sup> Multifuse<sup>®</sup> PPTC resettable fuses have temperature coefficients which are half the amount of standard Multifuse<sup>®</sup> PPTCs, giving them more consistent hold and trip characteristics.

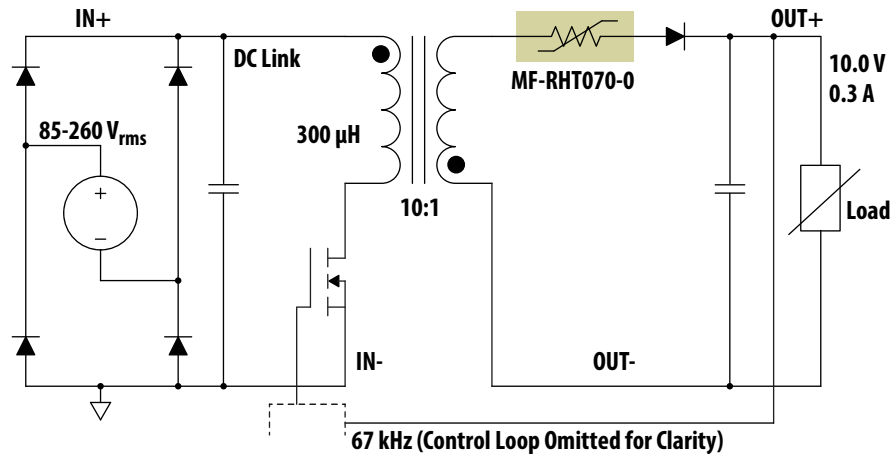
### Benefit

The Bourns<sup>®</sup> Model MF-RHT070-0 resettable fuse reduces the need for larger, more expensive diodes. It also reduces the need for larger cores in the transformer.

### Design Kit



PN-DESIGNKIT-55



*The schematic above illustrates the application protection and does not constitute the complete circuit design. Customers should verify actual device performance in their specific applications.*