

High temperature PPTC *Application Note*

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Introduction

High temperature PPTC (SMDH) is a specific series under PPTC, as it can provide a higher maximum operating temperature. Certified by UL, TÜV, and compliant with AEC-Q200, it meets the demanding standards of automotive and industrial applications. Its compact size and reliable performance make it an ideal choice for high-temperature overcurrent protection.

Product Overview

To support the growing demands of automotive applications, YAGEO is launching the High temperature PPTC series — An AEC-Q200 compliant product to meet the industry's needs for durability, thermal stability, and reliability in automotive applications.

The size range covers from 0805 to 2920. These components are ideal for:

- **Actuators and medium motors**
- **Industrial motor driver**
- **Industrial power supply**
- **Powered outputs**
- **Automotive ECU and current sensor, etc. protection**
- **Harness/junction box protection**

Thanks to their advanced design, high temperature PPTC delivers:

- Up to a maximum temperature of 125°C
- Passive Aging at +125°C, 1000 hours
- Humidity Aging at +85°C, 85%R.H. 1000 hours

Key Features

The high temperature PPTC incorporates a specific characteristic in high-reliability applications:

- **High Operating Temperature**
Supports up to 125°C, enabling stability and reliability in automotive applications

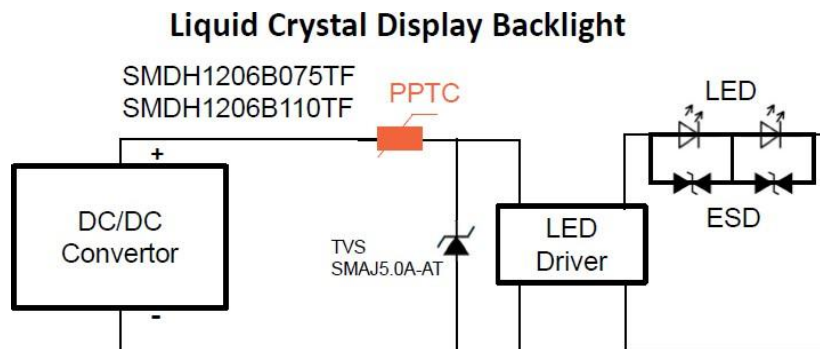
YAGEO Group's SMDH is an evolution of the established **High temperature PPTC series**, tailored to meet the industry's increasing demand for higher temperature operation, higher reliability, and superior harsh environment performance.

Application Use Cases for SMDH Series

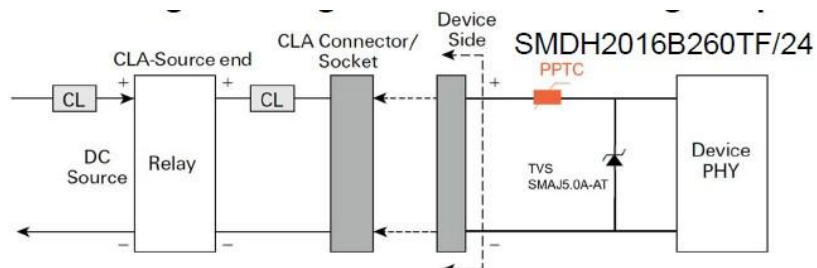
The **YAGEO Group SMDH Series** addresses these needs by delivering superior performance in **automotive applications**, particularly where **reliability** and **high operating temperature** are critical.

Typical applications include display backlight, LED driver, Li-battery protection, and motor.

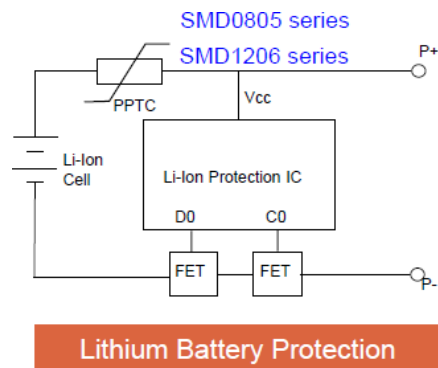
SMDH Application - Liquid Crystal Display Backlight



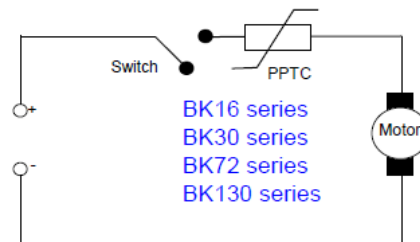
SMDH Application – DC Cigarette Lighters and Power Plug Adapters



SMDH Application - Lithium battery protection

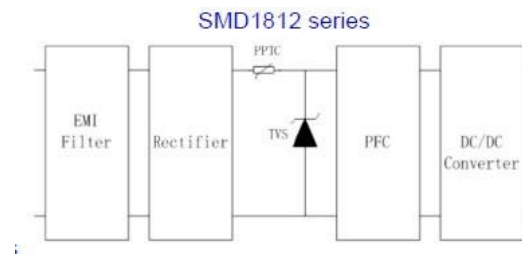


SMDH Application – Motor



Small Home Appliance Motor

SMDH Application – LED



LED Driver

Conclusion

The SMDH series enlarges the usage of PPTC in automotive applications. With extended temperature capability and superior reliability, the SMDH delivers the confidence to build safer, more efficient, and longer-lasting automotive environments.