19-XXXX; Rev 0; 10/09

MAXIM

IEEE 802.3af/at-Compliant, Powered Device Interface Controllers with Integrated Power MOSFET

General Description

The MAX5969A/MAX5969B provide a complete interface for a powered device (PD) to comply with the IEEE® 802.3af/at standard in a power-over-ethernet (PoE) system. The MAX5969A/MAX5969B provide the PD with a detection signature, classification signature, and an integrated isolation power switch with inrush current control. During the inrush period, the MAX5969A/MAX5969B limit the current to less than 180mA before switching to the higher current limit (720mA to 880mA) when the isolation power MOSFET is fully enhanced. The devices feature an input UVLO with wide hysteresis and long deglitch time to compensate for twisted-pair cable resistive drop and to assure glitch-free transition during power-on/-off conditions. The MAX5969A/MAX5969B can withstand up to 100V at the input.

The MAX5969A/MAX5969B support a 2-event classification method as specified in the IEEE 802.3at standard and provide a signal to indicate when probed by a Type 2 power sourcing equipment (PSE). The devices detect the presence of a wall adapter power source connection and allow a smooth switch over from the PoE power source to the wall power adaptor.

The MAX5969A/MAX5969B also provide a power-good (PG) signal, two-step current limit and foldback, overtemperature protection, and di/dt limit.

The MAX5969A/MAX5969B are available in a space-saving, 10-pin, 3mm x 3mm, TDFN power package. These devices are rated over the -40°C to +85°C extended temperature range.

Applications

IEEE 802.3af/at Powered Devices

IP Phones, Wireless Access Nodes, IP Security Cameras

WiMAX™ Base Station

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Features

- ♦ **IEEE 802.3af/at Compliant**
- ♦ **2-Event Classification or an External Wall Adapter Indicator Output**
- ♦ **Simplified Wall Adapter Interface**
- ♦ **PoE Classification 0–5**
- ♦ **100V Input Absolute Maximum Rating**
- ♦ **Inrush Current Limit of 180mA Maximum**
- ♦ **Current Limit During Normal Operation Between 720mA and 880mA**
- ♦ **Current Limit and Foldback**
- ♦ **Legacy UVLO at 36V (MAX5969A)**
- ♦ **IEEE 802.3af/at-Compliant, 40V UVLO (MAX5969B)**
- ♦ **Overtemperature Protection**
- ♦ **Thermally Enhanced, 3mm x 3mm, 10-Pin TDFN**

Ordering Information

PART	TEMP RANGE	PIN-PACKAGE	UVLO THRESHOLD (V)
MAX5969AETE+	-40°C to +85°C	10 TDFN-EP*	35.4
MAX5969BETE+	-40°C to +85°C	10 TDFN-EP*	38.6

+Denotes a lead(Pb)-free/RoHS-compliant package.
**EP = Exposed pad.*

Pin Configuration