MAX14743

Over Voltage and Surge Protected Dual SPDT Data Line Switch

Protect the data line from a high-voltage short or surge event

Description

The MAX14743/MAX14743A are 2 x SPDT switches with overvoltage protection intended for use with portable devices. As the high-voltage charging solution starts to spread out, a data line short event to the high-voltage V_{BUS} can result in either charger misdetection or permanent damage to the portable device. The MAX14743/MAX14743A are designed to protect the downstream data line from a high-voltage short or surge event.

The device combines low on-capacitance (C_{ON}) and low on-resistance (R_{ON}) necessary for high-performance switching applications in portable electronics.The MAX14743/MAX14743A feature internal positive overvoltage, negative overvoltage, and surge protection. The devices handle USB low/full/high-speed signaling and operate from a 2.7V to 5.5V supply.

The MAX14743/MAX14743A are available in a 12-bump (1.22mm x 1.62mm) wafer-level package (WLP) and operates over the -40°C to +85°C extended temperature range.

Key Features

- Distortion-Free, High-Speed Signaling
  - Dual SPDT
  - Signal Range: -1V to +3.5V
  - R_{ON}: 5.5Ω (typ)
  - C_{ON}: 4.5pF (typ)
  - Bandwidth > 1GHz
- Flexible System Design
  - Separate Control for Each Switch Path
  - Active Low EN to Save Supply Current

    - Active Low FLAG Signals Fault Event
    - 12-Bump WLP (1.22mm x 1.62mm) Package
    - -40°C to +85°C Operating Temperature Range
- Robust and Safety
    - Positive Overvoltage Protection up to +12.5V
    - Hot Plug-In Robustness: MAX14743A

Applications/Uses

- Phablets
- Smartphones
- Table

Part Number	Channels	V_{IN} (V) min	V_{IN} (V) max	Over Voltage Trip Level (V)	V_{GATE} (V)	Over Volt. Flag	t_{GATE} (On) (ms)	t_{GATE} (Off) (µs)	Oper. Temp. (°C)	Package/Pins
MAX14743	2	-6	12	Adjustable (12V)	5.75	Open-Drain	4	0.2	-40 to +85	WLP/12

Pricing Notes:

This pricing is BUDGETARY, for comparing similar parts. Prices are in U.S. dollars and subject to change. Quantity pricing may vary substantially and international prices may differ due to local duties, taxes, fees, and exchange rates. For volume-specific and version-specific prices and delivery, please see the price and availability page or contact an authorized distributor.

Device	Fab Process	Technology	Sample size	Rejects	FIT at 25°C	FIT at 55°C

Note : The failure rates are summarized by technology and mapped to the associated material part numbers. The failure rates are highly dependent on the number of units tested.

Please check latest availability status for a specific part variant.

Key: Material Analysis Non Cancellable Non Reschedulable **NLA**=No longer available

Symbols in part number: ✚ Lead-free, RoHS compliant ━ Not qualified as lead-free RoHS # RoHS compliant, lead exemption
***PRICE/UNIT shows budgetary pricing for 1K units. Some parts do not have standard pricing and require a quote.**

Part Number	Price /Unit*	Status	Carrier Type	Package
MAX14743EWC+	BUY	Active	Tape	WLP; 0Pin; 0mm²; See Material Analysis for RoHS info Temp: -40°C to +85°C
MAX14743EWC+T	BUY	Active	Reel	WLP; 0Pin; 0mm²; See Material Analysis for RoHS info Temp: -40°C to +85°C
MAX14743AEWC+T	BUY	Active	Reel	WLP; 0Pin; 0mm²; See Material Analysis for RoHS info Temp: -40°C to +85°C
MAX14743AEWC+	BUY	Active	Tape	WLP; 0Pin; 0mm²; See Material Analysis for RoHS info Temp: -40°C to +85°C
MAX14743EVKIT#	BUY	Active	Box	