

USB 2.0 High-Speed (480 Mbps) Signal Switch with Vbus Short Protection

Features

→ USB 2.0 compliant (high speed and full speed)

 \rightarrow R_{ON} is 3.0 Ω typical @ V_{DD} = 3.0V

→ Low bit-to-bit skew

→ Low Crosstalk: -33dB @ 480 Mbps

→ Off Isolation: -30dB @ 480 Mbps

→ Near-Zero propagation delay: 250ps

→ Channel On Capacitance: 6.0pF (typ)

→ V_{DD} Operating Range: 2.7V to 4.4V

→ Data pin I/O ESD (pins 1, 2, 4, 5, 6, and 7): ±4kV contact per IEC61000-4-2 spec

→ -0.5dB BW of 400MHz

→ I/O pins have over-voltage protection and can tolerate a short to Vbus

→ Packaging (Pb-free and Green):

10-contact UQFN, 1.4mm x 1.8mm x 0.5mm (ZM10)

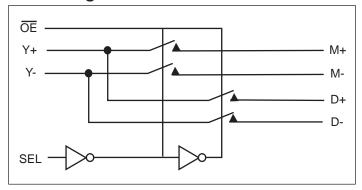
10-contact TQFN, 1.3mm x 1.6mm x 0.75mm (ZL10)

Description

The PI3USB103 is a single differential channel 2:1 multiplexer/demultiplexer USB 2.0 Switch. Industry leading advantages include a propagation delay of less than 250ps, resulting from its low channel resistance and I/O capacitance. The device multiplexes differential outputs from a USB Host device to one of two corresponding outputs. The switch is bidirectional and offers little or no attenuation of the high-speed signals at the outputs. It is designed for low bit-to-bit skew, high channel-to-channel noise isolation and is compatible with various standards, such as High Speed USB 2.0 (480 Mb/s).

The PI3USB103 offers over voltage protection per the USB 2.0 specification. With the chip powered on or off, all I/O pins can withstand a short to Vbus. If $V_{\rm DD} = 0V$, the I/Os can still have signals present, and the signal will NOT leak through to $V_{\rm DD}$.

Block Diagram



Ordering Information

Ordering Code	Package Code	Package Type
PI3USB103ZLE	ZL	Pb-free & Green, 10-contact TQFN
PI3USB103ZME	ZM	Pb-free & Green, 10-contact UQFN

1. Thermal characteristics can be found on the company web site at www.pericom.com/packaging/

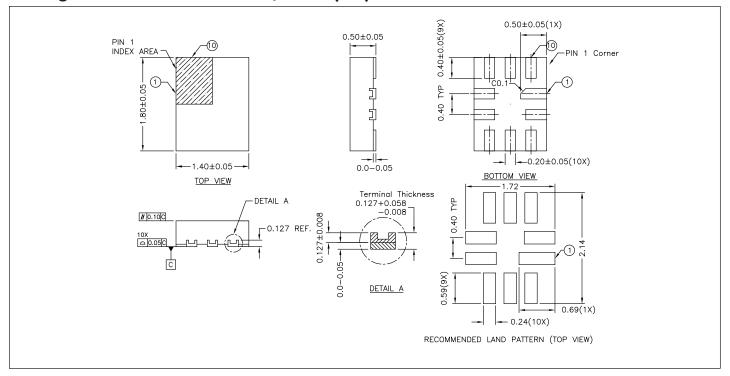
2. E = Pb-free and Green

3. Adding an X Suffix = Tape/Reel

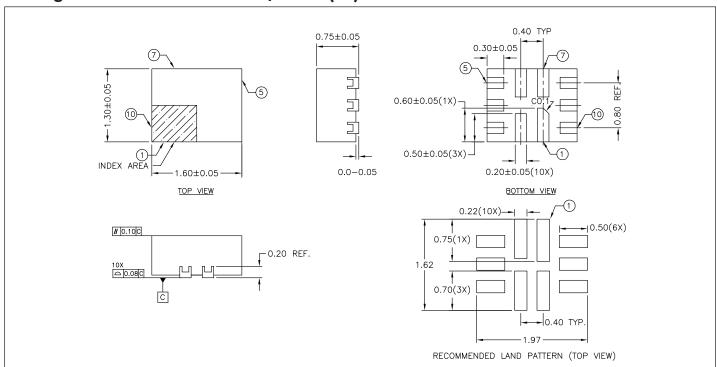


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Package Mechanical: 10-Contact, TQFN (ZM)



Package Mechanical: 10-Contact, TQFN (ZL)



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