SMSC® SUCCESS BY DESIGN

USB3740

fleXPWR®

High Speed Switch for Mobile and Portable Applications

PRODUCT FEATURES

- High Speed USB Mux for multiplexing the USB lanes between different functions
  - Switch the USB connector between two different functions
  - Up to 1GHz Bandwidth
- USB Port ESD Protection (**DP**/**DM**)
  - ±15kV (air discharge)
  - ±15kV (contact discharge)
  - IEC 61000-4-2 level 4 ESD protection without external devices
- flexPWR^{TM} Technology
  - 30nA Active/Standby Current
  - Extremely low power design ideal for battery powered applications

- Control inputs accommodate 1.8V to 5V inputs
- DP/DM tolerate up to 5.5V
- Industrial Operating Temperature -40°C to +85°C
- 10 pin, QFN lead-free RoHS compliant package; (1.3mm x 1.8mm x 0.55mm height, 0.4mm pitch)
- 10 pin, QFN lead-free RoHS compliant package; (1.6mm x 2.1mm x 0.55mm height, 0.5mm pitch)

USB3740 Block Diagram

PRODUCT PREVIEW
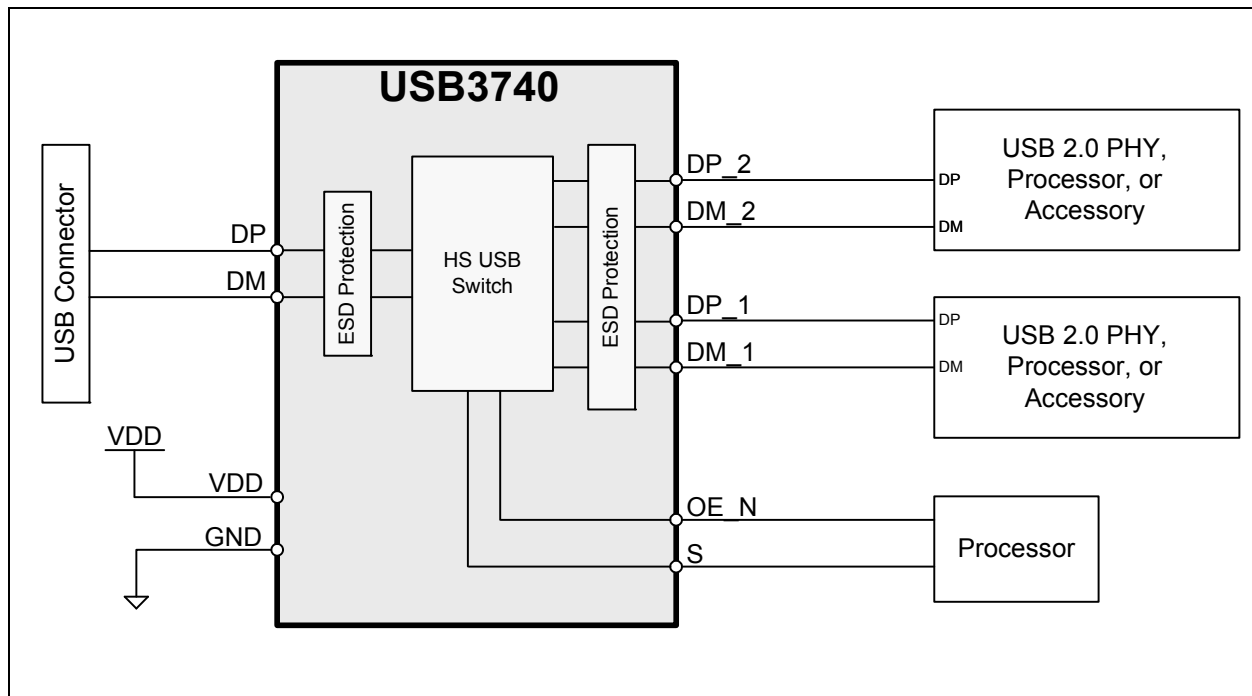
Order Numbers:

USB3740B-AI2-TR for 10-pin, 1.3mm x 1.8mm QFN lead-free RoHS compliant package

USB3740B-AI9-TR for 10-pin, 1.6mm x 2.1mm QFN lead-free RoHS compliant package

This product meets the halogen maximum concentration values per IEC61249-2-21

For RoHS compliance and environmental information, please visit www.smsc.com/rohs

PRODUCT PREVIEW

General Description

The USB3740 is a USB 2.0 compliant High Speed switch that provides robust ESD protection to the interface in an extremely small package. Outstanding ESD robustness eliminates the need for external ESD protection devices to save eBOM cost and PCB area.

The high bandwidth capabilities of the USB3740 enable extremely low high frequency loss and an exceptionally clean USB 2.0 High Speed eye diagram.

Input to Switch

Output of Switch
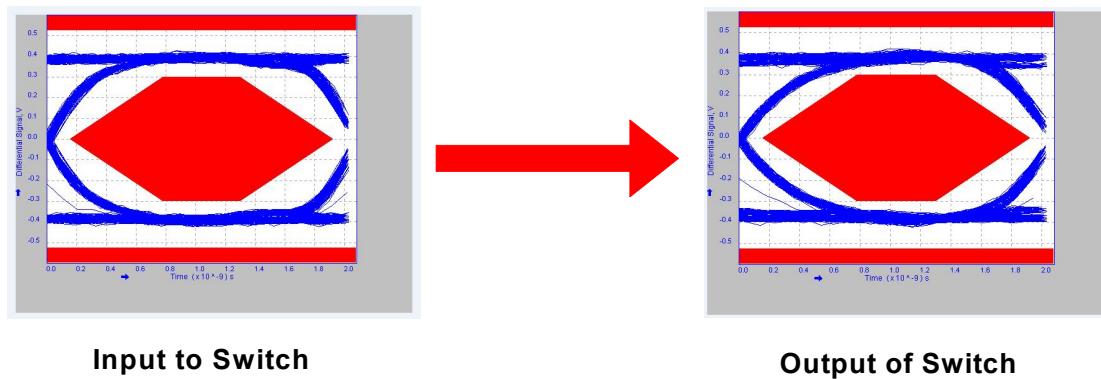
Figure 1 USB3740 USB 2.0 High Speed Eye Diagram

PRODUCT PREVIEW
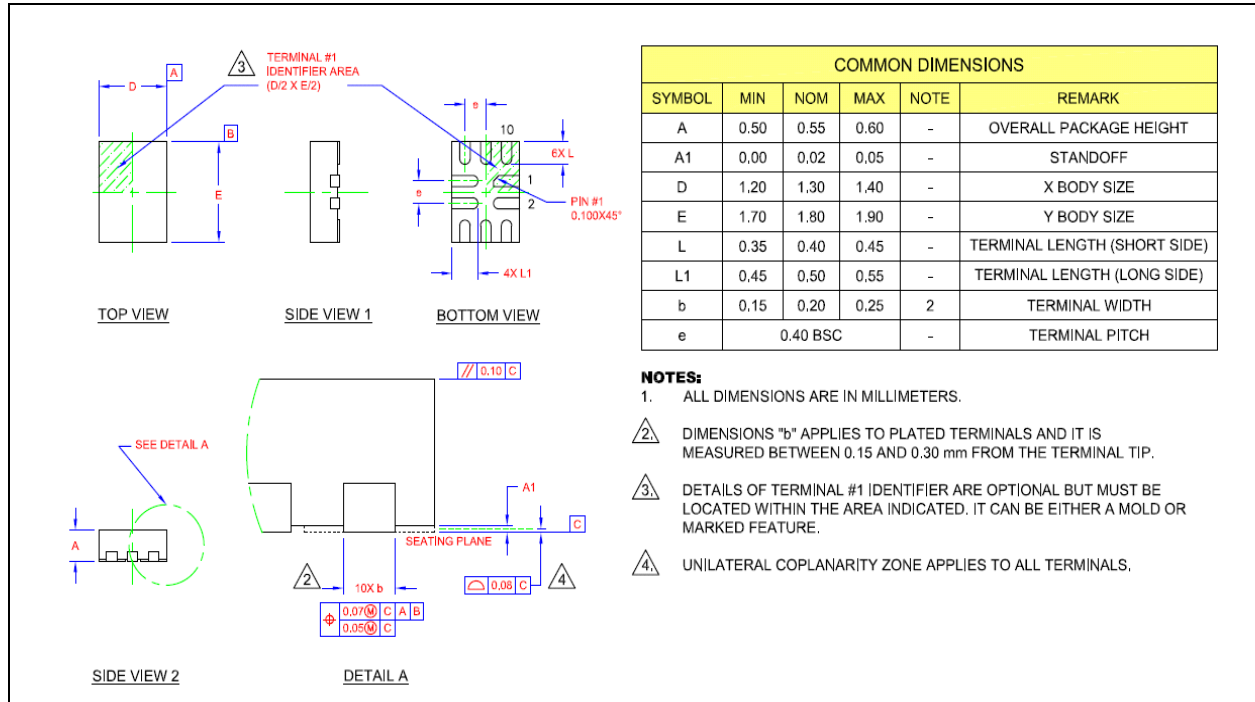
Package Outlines

Figure 2 10 pin, 1.3mm x 1.8mm QFN Package Outline

COMMON DIMENSIONS					
SYMBOL	MIN	NOM	MAX	NOTE	REMARK
A	0.50	0.55	0.60	-	OVERALL PACKAGE HEIGHT
A1	0.00	0.02	0.05	-	STANDOFF
D	1.20	1.30	1.40	-	X BODY SIZE
E	1.70	1.80	1.90	-	Y BODY SIZE
L	0.35	0.40	0.45	-	TERMINAL LENGTH (SHORT SIDE)
L1	0.45	0.50	0.55	-	TERMINAL LENGTH (LONG SIDE)
b	0.15	0.20	0.25	2	TERMINAL WIDTH
e	0.40 BSC			-	TERMINAL PITCH

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS.

2. DIMENSIONS "b" APPLIES TO PLATED TERMINALS AND IT IS MEASURED BETWEEN 0.15 AND 0.30 mm FROM THE TERMINAL TIP.

3. DETAILS OF TERMINAL #1 IDENTIFIER ARE OPTIONAL BUT MUST BE LOCATED WITHIN THE AREA INDICATED. IT CAN BE EITHER A MOLD OR MARKED FEATURE.
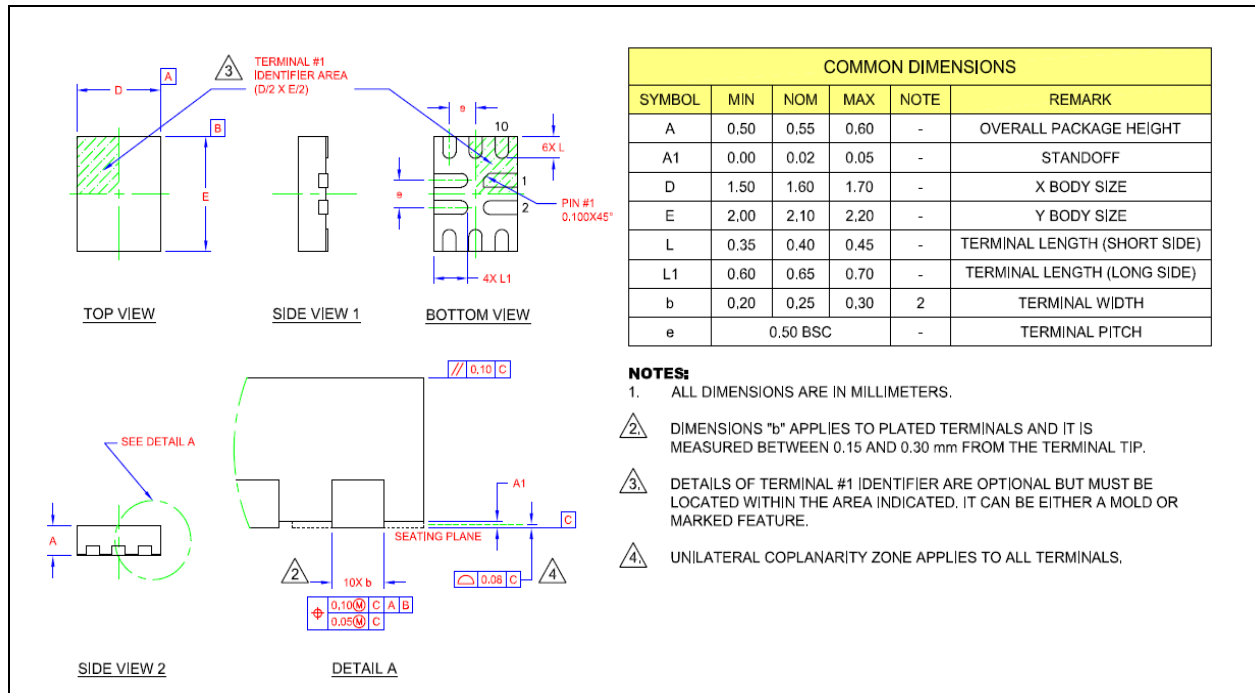
4. UNILATERAL COPLANARITY ZONE APPLIES TO ALL TERMINALS.

Figure 3 10 pin, 1.6mm x 2.1mm QFN Package Outline

COMMON DIMENSIONS					
SYMBOL	MIN	NOM	MAX	NOTE	REMARK
A	0.50	0.55	0.60	-	OVERALL PACKAGE HEIGHT
A1	0.00	0.02	0.05	-	STANDOFF
D	1.50	1.60	1.70	-	X BODY SIZE
E	2.00	2.10	2.20	-	Y BODY SIZE
L	0.35	0.40	0.45	-	TERMINAL LENGTH (SHORT SIDE)
L1	0.60	0.65	0.70	-	TERMINAL LENGTH (LONG SIDE)
b	0.20	0.25	0.30	2	TERMINAL WIDTH
e	0.50 BSC			-	TERMINAL PITCH

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETERS.

2. DIMENSIONS "b" APPLIES TO PLATED TERMINALS AND IT IS MEASURED BETWEEN 0.15 AND 0.30 mm FROM THE TERMINAL TIP.

3. DETAILS OF TERMINAL #1 IDENTIFIER ARE OPTIONAL BUT MUST BE LOCATED WITHIN THE AREA INDICATED. IT CAN BE EITHER A MOLD OR MARKED FEATURE.

4. UNILATERAL COPLANARITY ZONE APPLIES TO ALL TERMINALS.

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