FAIRCHILD
SEMICONDUCTOR®

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FSA641 – 2:1 MIPI Switch, Featuring 2-Data and 1-Data Lane Configuration

Features

Switch Type	2:1
Signal Types	MIPI, DPHY
V_{CC}	2.65 to 4.3V
Input Signals	0 to V_{CC}
R_{ON}	7Ω Typical HS MIPI 10Ω Typical LS MIPI
ΔR_{ON}	0.75Ω Typical HS & LS MIPI
I_{CC}	1µA Maximum
O_{IRR}	-50dB Typical
X_{TALK}	-40dB Typical
Bandwidth	720MHz Typical
Channel-to-Channel Skew	15ps Typical
C_{ON}	8pF Typical
Package	20-Lead UMLP 3.0x3.0x 0.55mm, 0.4mm Pitch
Ordering Information	FSA641UMX

Applications

- Cellular Phones, Smartphones
- Displays

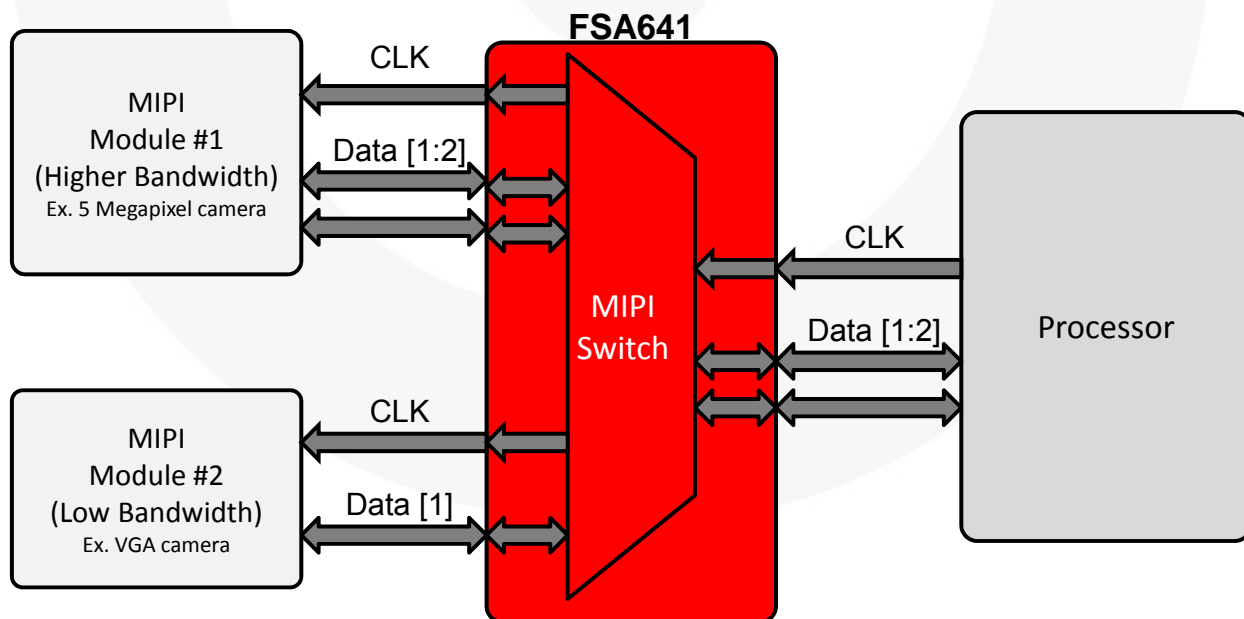## Description

The FSA641 is a 2:1 MIPI switch made for 2-data lane and 1-data lane modules. This part is configured as a single-pole, double-throw switch (SPDT) and is optimized for switching between two high-speed or low-power MIPI sources. The FSA641 has specially been designed for the MIPI specification and allows connection to either a CSI or DSI module. The FSA641 features an extremely low on capacitance (C_{ON}) of 8pF. The wide bandwidth (>720MHz) exceeds the bandwidth needed to pass the third harmonic, resulting in signals with minimum edge and phase distortion. Superior channel-to-channel crosstalk minimizes interference.

Related Resources

- For samples and questions, please contact: Analog.Switch@fairchildsemi.com.
- FSA641 Demonstration Board

Typical Application

Figure 1.   Mobile Phone Example

Physical Dimensions

TOP VIEW

SIDE VIEW

BOTTOM VIEW

RECOMMENDED LAND PATTERN

NOTES:

A. PACKAGE CONFORMS TO JEDEC MO-248 VARIATION UEEE.

B. DIMENSIONS ARE IN MILLIMETERS.

C. DIMENSIONS AND TOLERANCES PER ASME Y14.5M, 1994.

D. LAND PATTERN RECOMMENDATION IS FROM PCB MATRIX CALCULATOR V2009.
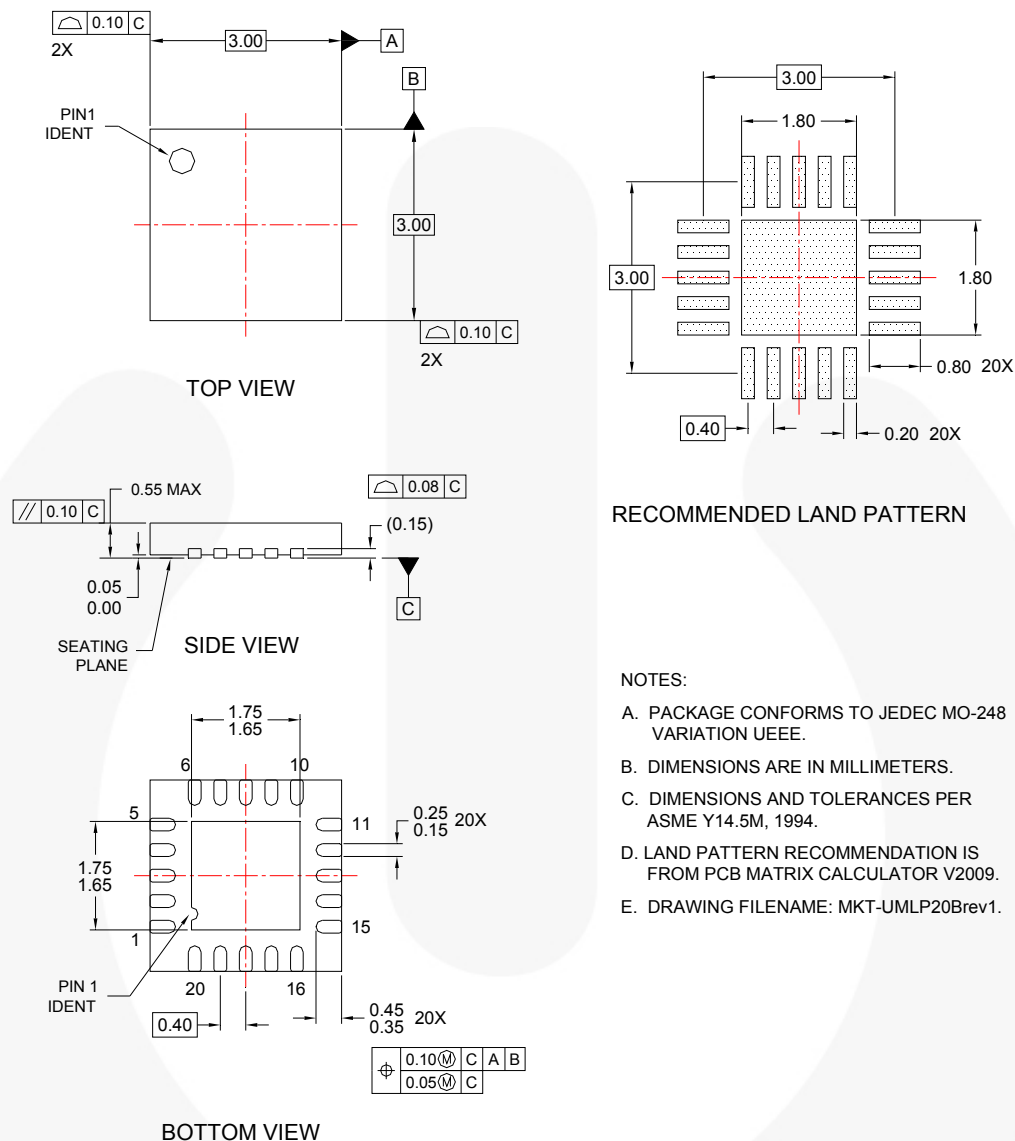
E. DRAWING FILENAME: MKT-UMLP20Brev1.

Figure 16. 20-Lead, Quad, Ultrathin Molded Leadless Package (UMLP), 3.0 x 3.0mm

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For current tape and reel specifications, visit Fairchild Semiconductor's online packaging area:
http://www.fairchildsemi.com/packaging/3.0x3.0_UMLP_Pack_TNR_Spec.pdf .

Ordering Information

Part Number	Top Mark	Operating Temperature Range	Package
FSA641UMX	F641	–40 to +85°C	20-Lead, Quad, Ultrathin Molded Leadless Package (UMLP), 3.0 x 3.0mm

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