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FSA551

Dual SPST Depletion Mode Audio Switch

Features

- Dual SPST
- Depletion Mode Technology
- 3 dB Bandwidth: 240 MHz
- V_{CC-OFF} : 1.5 V to 3.0 V
- V_{CC-ON} : 0 V to 0.2 V
- V_{SW-OFF} : -0.3 V to 3 V
- V_{SW-ON} : -0.3 V to 3 V
- R_{ON} : 0.38
- R_{ON} Flat: 0.01 (Typical)
- THD+N: 0.0005% (Typical)
- Fairchild Green, RoHS Compliant, Halogen Free

Description

The FSA551 is a high-performance dual single-pole single-throw (SPST x 2) audio switch. The Depletion Mode technology

Pin Configuration

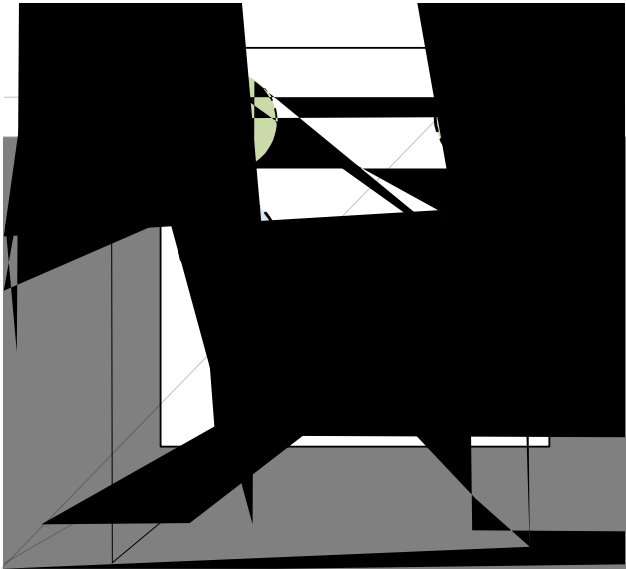


Figure 2. Top Through View

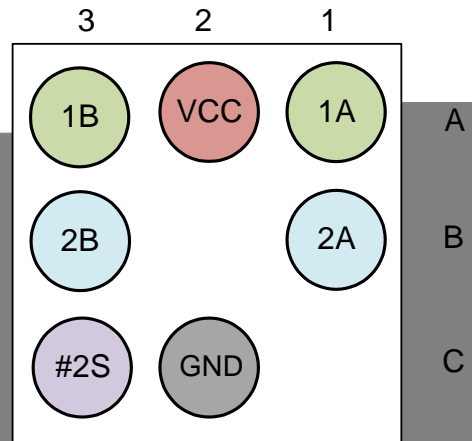


Figure 3. Bottom View

Pin Descriptions

Pin #	Name	Type	Description
A1	1A	Depletion I/O	A-Port of Switch 1 (Normally Closed)
A3	1B	Depletion I/O	B-Port of Switch 1 (Normally Closed)
C1	#1S	Control	Select to Enable/Disable SW1 (Enable LOW)

Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only.

Symbol	Parameter		Min.	Max.	Unit
V _{CC}	Supply/Control Voltage		-0.5	4.6	V
V _{CNTRL}	Control Input Voltage	#1S, #2S	-0.5	4.6	V
V _{SW(ON)}	DC Switch I/O Voltage (Switch Conducting)	1A, 1B, 2A, 2B	-0.5	3.3	V

DC Electrical Characteristics

Unless otherwise specified, typical values are for $T_A=25^\circ\text{C}$.

Symbol	Parameter	Condition	V_{CC} (V)	$T_A=-40^\circ\text{C}$ to $+85^\circ\text{C}$			Unit
				Min.	Typ.	Max.	
$V_{CC(HYS)}$	Supply Voltage Hysteresis				450		mV
I_{ON}	Switch-to-GND Leakage Current (Switch Conducting)	1A=2.6 V, 1B=Float, 2A=2.6 V, 2B=Float	0		0.1	5	μA

AC Electrical Characteristics

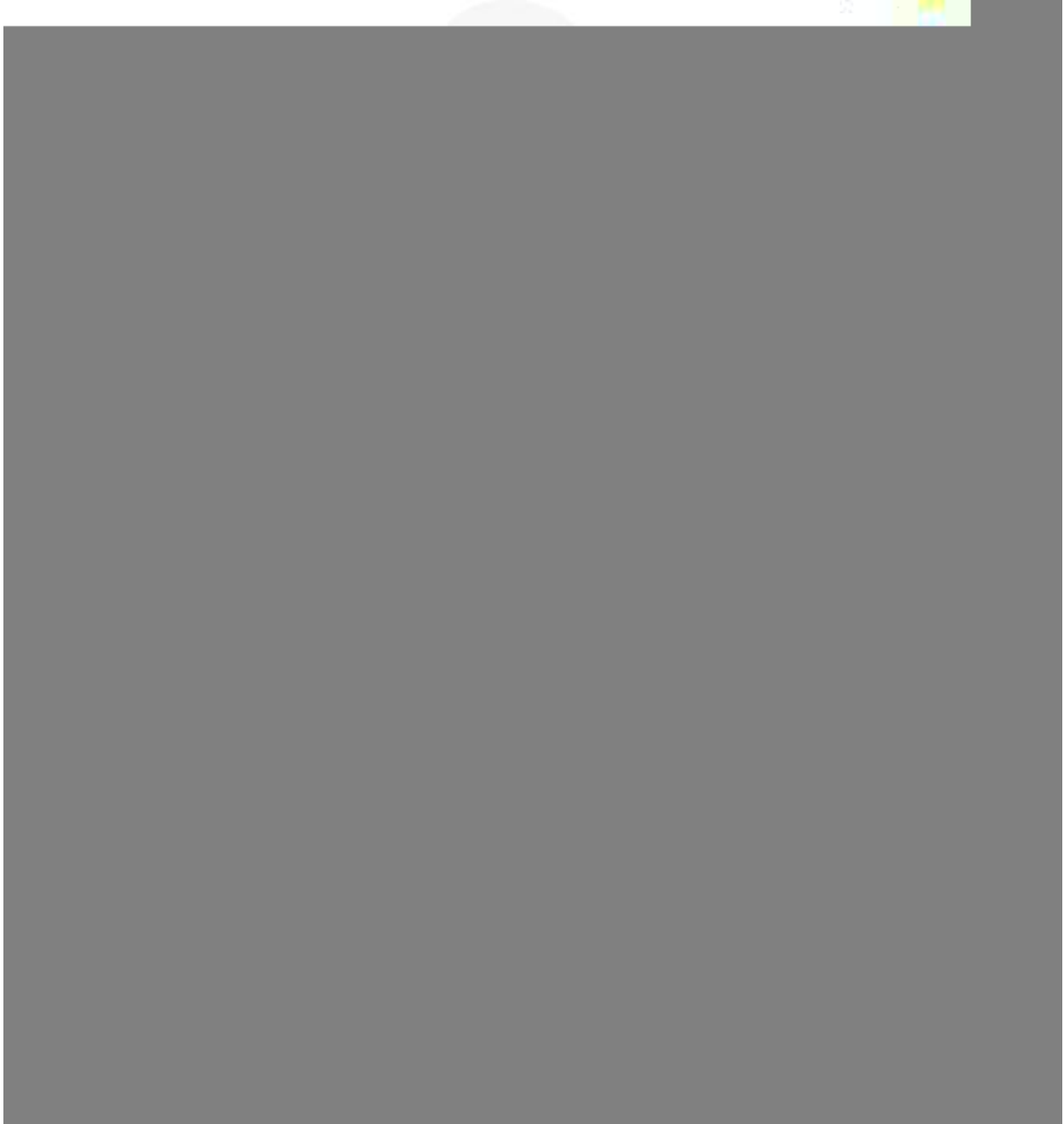
Unless otherwise specified, typical values are for $T_A=25^\circ\text{C}$.

Symbol	Parameter	Condition	V_{CC} (V)	$T_A=-40^\circ\text{C}$ to $+85^\circ\text{C}$			Unit
				Min.	Typ.	Max.	
t_{ON}	Turn-On Time V_{CC} to Output	$R_L=2\ \Omega$, $C_L=10\ \text{pF}$, $V_{SW}=3\ \text{V}$, (Measured 90/10%), Figure 5	1.8 0		445		μs
t_{OFF}	Turn-Off Time V_{CC} to Output	$R_L=2\ \Omega$, $C_L=10\ \text{pF}$, $V_{SW}=3\ \text{V}$, (Measured 90/10%), Figure 5	1.8		175		μs
t_{ONS}	Turn-On Time Control Pin	$I_n=2\ \text{mA}$, $V_n=1\ \text{V}$, $C_n=1\ \text{pF}$ to GND, $\#_n=1.8\ \text{ns}$, $V_n=0\ \text{V}$, (Measured 20/80%), Figure 5	1.8		205		μs



Product-Specific Dimensions

E	D	X	Y
1.215±.03 mm	1.385±.03 mm	0.2075 mm	0.2925 mm

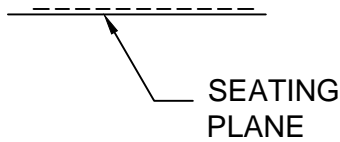


E

BALL A1
INDEX AREA


TOP VIEW

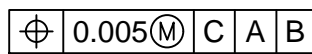
RECOMMENDED LAND PATTERN
(NSMD PAD TYPE)



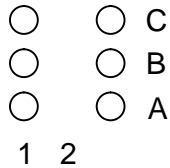
SIDE VIEWS

NOTES

- A. NO JEDEC REGISTRATION APPLIES.
- B. DIMENSIONS ARE IN MILLIMETERS.
- C. DIMENSIONS AND TOLERANCE PER ASME Y14.5M, 2009.
-  D. DATUM C IS DEFINED BY THE SPHERICAL CROWNS OF THE BALLS.
- E. FOR DIMENSIONS D,E,X, AND Y SEE PRODUCT DATASHEET.
- F. DRAWING FILNAME: MKT-UC009Ak rev3



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9X



BOTTOM VIEW

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