

Pin Configuration



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Min	Мах	Unit
V _{CC}	Supply/Control Voltage	-0.5	4.3	V

V_{CNTRL}

FSA553

				T _A = −40°C to +85°C			
Symbol	Parameter	Condition	V _{CC} (V)	Min	Тур	Max	Unit
VCC(HYS)	Supply Voltage Hysteresis				450		mV
I _{ON}	Switch ON Leakage Current	nA=-0.5 V, 0.5 V, 1.5 V, -1.5 V, nB=Float, #1S=#2S=Float	0		0.1		μΑ
I _{OFF}	Switch OFF Leakage Current	nA=-0.5 V, 0.5 V, 1.5 V, -1.5 V, nB=GND, #1S=#2S=V _{CC}	1.8		0.5		μΑ
I _{CCT}	Increase in I _{CC} for each Select Pin	#1S=V _{CC} , #2S=1.2 V, #1S=1.2 V, #2S=V _{CC}	3.0		7		μΑ
R _{ON}	Switch On Resistance	I_{SW} =100 mA, V_{SW} =-1.5 V to +1.5 V	0		0.40	0.80	Ω
ΔR_{ON}	Switch On Resistance Difference, Channel to Channel	I_{SW} =100 mA, V_{SW} =-1.5 V to +1.5 V	0		0.01		Ω
RFLAT(ON)	On Resistance Flatness	I_{SW} =100 mA, V_{SW} =-1.5 V to +1.5 V	0		0.01		Ω
R _{PD}	V _{CC} Pull–Down Resistance		<0.2		5.0		MΩ
R _{PU}	Select Pull–Up Resistance		<0.2		3.0		MΩ
I _{CC}	Quiescent Supply Current	Switch Isolated, #1S=#2S=V _{CC}	1.5 to 3.0		80		μΑ
		Switch On	0.2		0.5		
V _{IH}	Select Pin Input High Voltage		1.5 to 3.0	1.2			V
V _{IL}	Select Pin Input Low Voltage		1.5 to 3.0			0.55	V

DC ELECTRICAL CHARACTERISTICS (Typical values are for $T_A = 25^{\circ}C$ unless otherwise specified.)

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

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					T _A = -	-40°C to -	+85°C	
Symbol	Parameter	Condition		V _{CC} (V)	Min	Тур	Max	Unit
t _{ON}	Turn-On Time V _{CC} to Output	R _L =32 Ω, C _L =10 pF, #nS=Float, Figure 4	$W_{SW} = 1.5 V$	1.8→0		450		μs
			$W_{SW} = -1.5 V$	1.8→0		350		
t _{OFF}	Turn-Off Time V _{CC} to Output	R _L =32 Ω, C _L =10 pF, #nS=Float, Figure 4	W _{SW} =1.5 V	0→1.8		250		μs
			W _{SW} =-1.5 V	0→1.8		150		
t _{ONS}	Turn-On Time Select Pin	R_L =32 Ω, C_L =10 pF, #nS=V _{CC} →0, Figure 5	W _{SW} =1.5 V	1.8		350		μs
			W _{SW} =-1.5 V	1.8		300		1
t _{OFFS}	Turn-Off Time Select Pin	R_L =32 Ω, C_L =10 pF, #nS=0→V _{CC} , Figure 5	W _{SW} =1.5 V	1.8		150		μs
			$W_{SW} = -1.5 V$	1.8		50		
BW	–3 dB Bandwidth	V _{SW} =600 mV _{p-p} , R _L =50 Ω; C _L =5 pF,		0		200		MHz
THD+N	Total Harmonic Distortion + Noise	V_{SW} =1 V_{RMS} , R_L =32 Ω , f=1 kHz	Non A-weighted	0		-104		dB
			A-weighted			-107		dB
O _{IRR}	Port Off Isolation	$V_{SW}{=}0.707~V_{RMS},~R_{L}{=}32~\Omega,~f{=}20~Hz$ to 100 kHz, Figure 6		1.8	-70	-82		dB
X _{TALK}	Cross Talk	$\label{eq:VSW} \begin{split} & V_{SW} \!=\! 1 \; V_{RMS}, f \!=\! 100 \; kHz, R_{L} \!=\! 32 \; \Omega \\ & V_{SW} \!=\! 1 \; V_{RMS}, f \!=\! 20 \; kHz, R_{L} \!=\! 32 \; \Omega \end{split}$		1.8		-75		dB
]		-100		
PSRR	Power Supply Rejection Ratio	Switch Isolating, $V_{Ripple} = V_{CC} + 300 \text{ mV}_{p-p},$ $R_L = 32 \Omega$	217 Hz	1.8		-80		dBR

AC ELECTRICAL CHARACTERISTICS (Typical values are for $T_A = 25^{\circ}C$ unless otherwise specified.)

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TIMING DIAGRAMS

nA (nB)

nB (nA) = +1.5 V #nS = Float

nB (nA) = -1.5 V #nS = Float

Figure 4. t

#nS

WLCSP9 1.385x1.215x0.581 CASE 567SV ISSUE O

DATE 30 NOV 2016



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