

UTC M3368 LINEAR INTEGRATED CIRCUIT

3-INPUT VIDEO SWITCH WITH 6dB AMPLIFIER

DESCRIPTION

The UTC M3368 is three input integrated video switch which selects one video or audio signal from three input signals.

It contains 6dB amplifier and its operating supply voltage range is 4.75 to 13V and bandwidth is 5MHz.

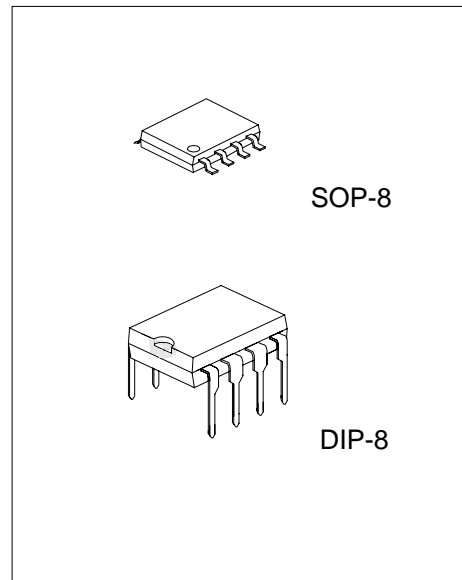
Crosstalk is 65dB (at 4.43MHz)

FEATURES

- *Operating Voltage: 4.75 to 13V
- *3 Input-1 Output
- *Internal 6dB Amplifier
- *Muting Function available
- *Internal Clamp Function
- *Cross-talk 65dB (at 4.43MHz)
- *Wide Frequency Range 5MHz (1Vp-p Input)

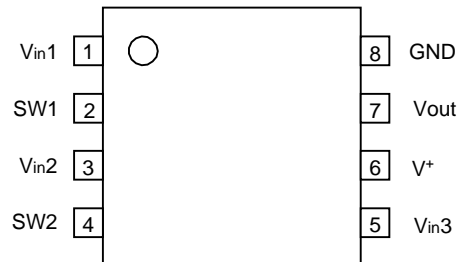
APPLICATION

*VCR, AV -TV, Video Disc Player



*Pb-free plating product number: M3368L

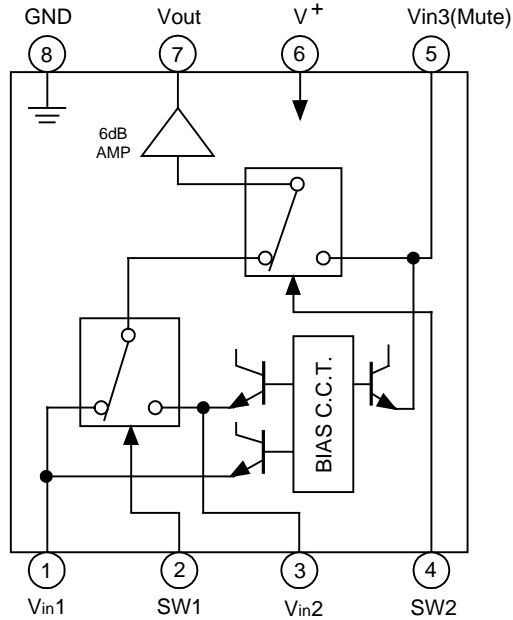
PIN CONFIGURATION



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BLOCK DIAGRAM



INPUT CONTROL SIGNAL-OUTPUT SIGNAL

SW1	SW2	OUTPUT SIGNAL
L	L	Vin1
H	L	Vin2
L/H	H	Vin3

Note: Input clamp voltage is about 2/5 of supply voltage

ABSOLUTE MAXIMUM RATINGS (Ta=25 °C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V ⁺	15	V
Power Dissipation	P _D	500	mW
		300	
Operating Temperature Range	T _{opr}	-40 ~ +85	°C
Storage Temperature Range	T _{stg}	-40 ~ +125	°C

UTC

UNISONIC TECHNOLOGIES CO., LTD.

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QW-R124-003,A

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ELECTRICAL CHARACTERISTICS ($V^+=5V, T_a=25^\circ C$)

PARAMETER	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Recommended Supply Voltage	V^+		4.75		13.0	V
Operating Current	I_{cc}	$S1=S2=S3=S4=S5=2$	9.5	14.0	21.0	mA
Voltage Gain	G_v	$V_{in}=1.0V_{p-p}, 1MHz, V_o/V_i, R_L=1k$	5.5	6.0	6.5	dB
Frequency Characteristic	G_f	$V_{in}=1.0V_{p-p}, V_o(10MHz)/V_o(1MHz)R_L=1k$	-1.0		+1.0	dB
Differential Gain	DG	$V_{in}=1.0V_{p-p}, staircase, R_L=1k$		0.3		%
Differential Phase	DP	$V_{in}=1.0V_{p-p}, staircase, R_L=1k$		0.3		deg.
Output Offset Voltage	V_{off}	$S1=S2=S3=2, S5=1, 2, V_o: voltage change$			± 60	mV
Crosstalk	CT	$V_{in}=1V_{p-p}, 4.43MHz, V_o/V_i$		-65		dB
Switch Change Voltage	V_{CH}	All inside SW: ON	2.4			V
	V_{CL}	All inside SW: OFF			0.8	

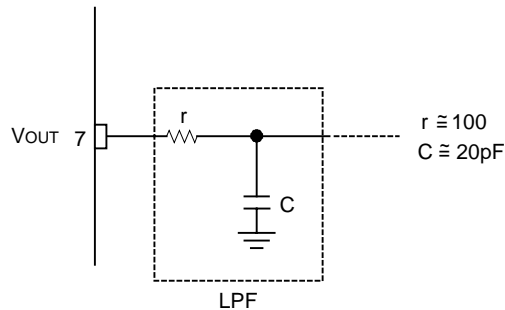
Note: Unless specified, tested with three mode below.

- (a) $S1=1, S2=S3=S4=S5=2$
- (b) $S2=S4=1, S1=S3=S5=2$
- (c) $S1=S2=2, S3=S5=1, S4=1$ or 2

APPLICATION

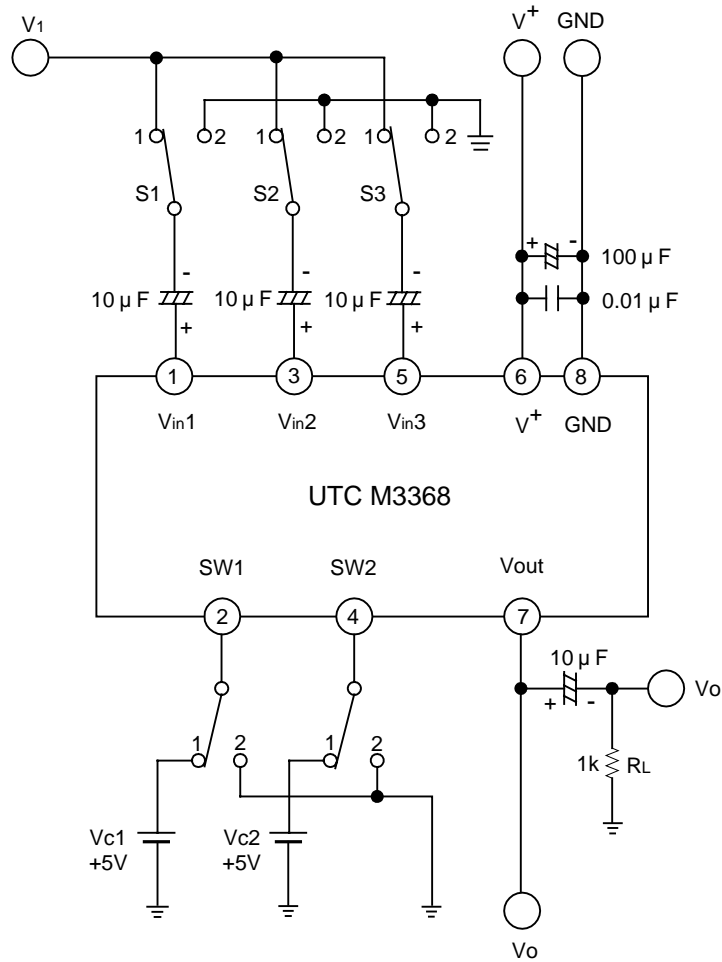
Oscillation Prevention on light loading conditions Recommended under circuit.

This IC requires 1M resistance between INPUT and GND pin for clamp type input since the minute current causes an unstable pin voltage.



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TEST CIRCUIT



DC Voltage Each Terminal (Typ.on Test Circuit Ta=25)

Terminal Name	VIN1	SW1	VIN2	SW2	VIN3	V ⁺	VOUT	GND
DC Voltage	$\frac{2}{5}V^+$	—	$\frac{2}{5}V^+$	—	$\frac{2}{5}V^+$	—	$\frac{2}{5}V^+-0.7$	—

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EQUIVALENT CIRCUIT

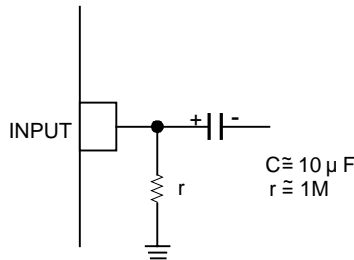
PIN NO.	FUNCTION	INSIDE EQUIVALENT CIRCUIT	PIN NO.	FUNCTION	INSIDE EQUIVALENT CIRCUIT
1	V _{IN1}		5	V _{IN3} (Mute)	
2	SW1		6	V+	_____
3	V _{IN2}		7	V _{OUT}	
4	SW2		8	GND	_____

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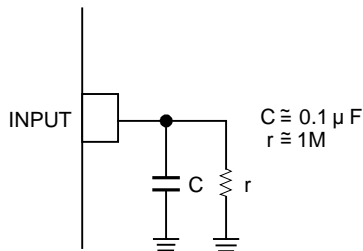
LINEAR INTEGRATED CIRCUIT

APPLICATION

This IC requires 1M resistance between INPUT and GND pin for clamp type input since the minute current causes an unstable pin voltage.



This IC requires 0.1 μ F capacitor between INPUT and GND ,1M resistance between INPUT and GND for clamp type input at mute mode.



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