



## M3355

Preliminary

LINEAR INTEGRATED CIRCUIT

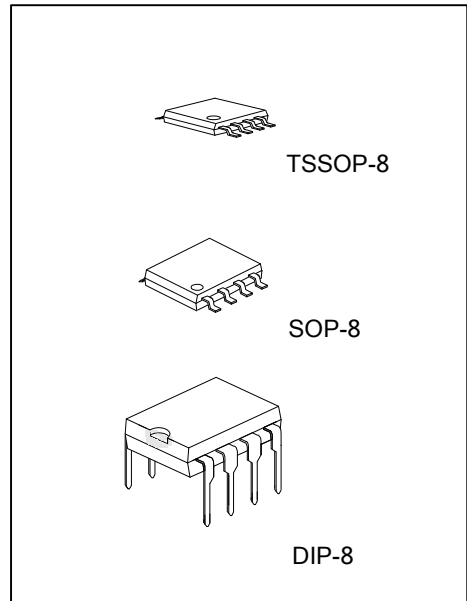
### 2-INPUT SINGLE VIDEO SWITCH

#### DESCRIPTION

The UTC **M3355** is 2-input signal video switch selecting one of two video or audio signals. Its operating voltage is 4.75 ~ 13V and bandwidth is 10MHz. Crosstalk is 70dB (at 4.43MHz). It is applied to both NTSC and PAL VTR.

#### FEATURES

- \* Operating Voltage: +4.75V ~ +13V
- \* 2 Input-1 Output
- \* Crosstalk 70dB (at 4.43MHz)

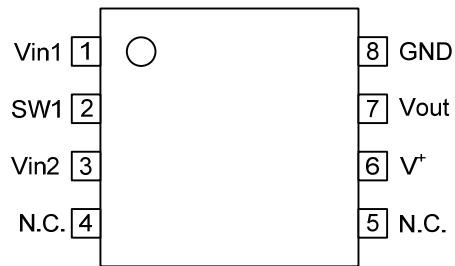


#### ORDERING INFORMATION

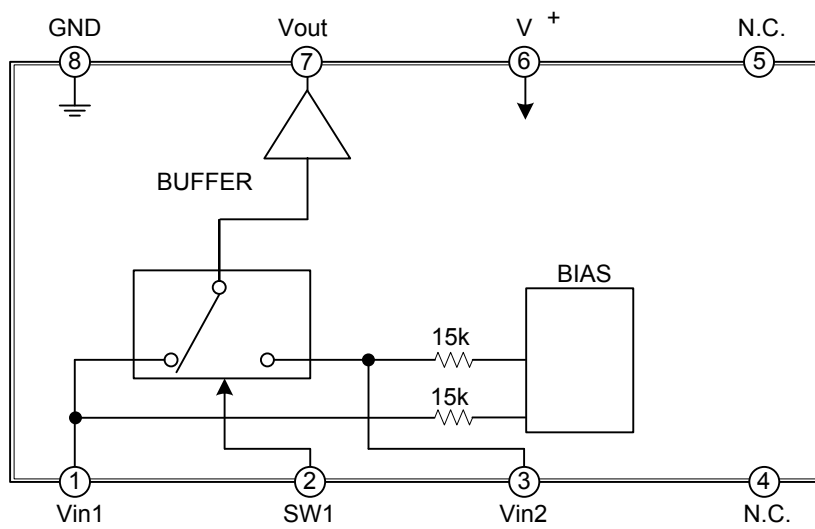
Ordering Number		Package	Packing
Lead Free	Halogen Free		
M3355L-S08-R	M3355G-S08-R	SOP-8	Tape Reel
M3355L-S08-T	M3355G-S08-T	SOP-8	Tube
M3355L-D08-T	M3355G-D08-T	DIP-8	Tube
M3355L-P08-R	M3355G-P08-R	TSSOP-8	Tape Reel

<p>M3355L-S08-R</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Lead Free</p>	<p>(1) R: Tape Reel, T: Tube</p> <p>(2) S08: SOP-8, D08: DIP-8, P08: TSSOP-8</p> <p>(3) G: Halogen Free, L: Lead Free</p>
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■ PIN CONFIGURATION



■ BLOCK DIAGRAM



■ EQUIVALENT CIRCUIT

PIN NO.	PIN NAME	INSIDE EQUIVALENT CIRCUIT
1	$V_{IN1}$	
2	SW1	
3	$V_{IN2}$	
4	NC	-
5	NC	-
6	$V^+$	-
7	$V_{OUT}$	
8	GND	-

■ ABSOLUTE MAXIMUM RATING ( $T_A=25^\circ\text{C}$ )

PARAMETER		SYMBOL	RATINGS	UNIT
Supply Voltage		$V^+$	15	V
Power Dissipation	DIP-8	$P_D$	500	mW
	SOP-8		300	
	TSSOP-8		250	
Operating Temperature		$T_{OPR}$	-20~+75	$^\circ\text{C}$
Storage Temperature		$T_{STG}$	-40~+125	$^\circ\text{C}$

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS ( $V^+=5\text{V}$ ,  $T_A=25^\circ\text{C}$ )

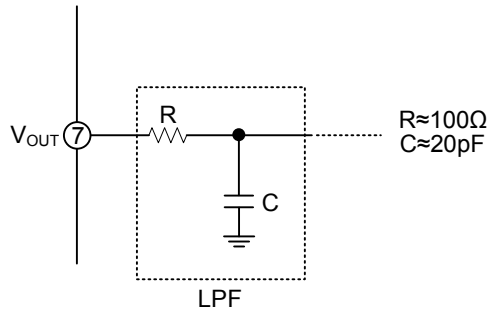
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Operating Voltage	$V^+$		4.75		13.0	V
Operating Current	$I_{CC}$	$S1=S2=S3=1$		8.5	11.0	mA
Frequency Characteristic (1)	G11	$V_i=2.5\text{Vpp}$ , $V_o(20\text{Hz})/V_o(100\text{kHz})$		0	$\pm 1.0$	dB
Frequency Characteristic (2)	G12	$V_i=2.0\text{Vpp}$ , $V_o(10\text{MHz})/V_o(100\text{kHz})$		0	$\pm 1.0$	dB
Voltage Gain	$G_v$	$V_i=2.5\text{Vpp}$ , 100kHz, $V_o/V_i$	-0.5	0		dB
Total Harmonic Distortion	THD	$V_i=2.5\text{Vpp}$ , 1kHz		0.01		%
Differential Gain	DG	$V_i=2\text{Vpp}$ standard staircase signal		0		%
Differential Phase	DP	$V_i=2\text{Vpp}$ standard staircase signal		0		deg
Output Offset Voltage	$V_{off}$	$S1=S2=1$ , $S3=1\sim 2$ , $V_o$ voltage change		0	$\pm 15$	mV
Crosstalk	CT	$(S1=S3=1, S2=2)$ and $(S1=S3=2, S2=1)$ , $V_i=2.0\text{Vp-p}$ , 4.43MHz, $V_o/V_i$		-70		dB
Switch Change Voltage	$V_{CH}$	Garanteed voltage of all switch on	2.4			V
	$V_{CL}$	Garanteed voltage of all switch off			0.8	
Input Impedance	$R_i$			15		k $\Omega$
Output impedance	$R_o$			10		$\Omega$

■ CONTROL SIGNAL-OUTPUT SIGNAL

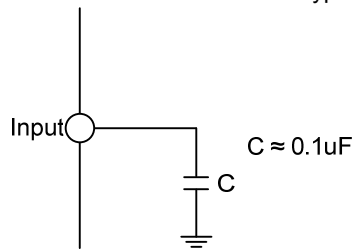
SW1	OUTPUT SIGNAL
L	Vin 1
H	Vin 2

■ APPLICATION

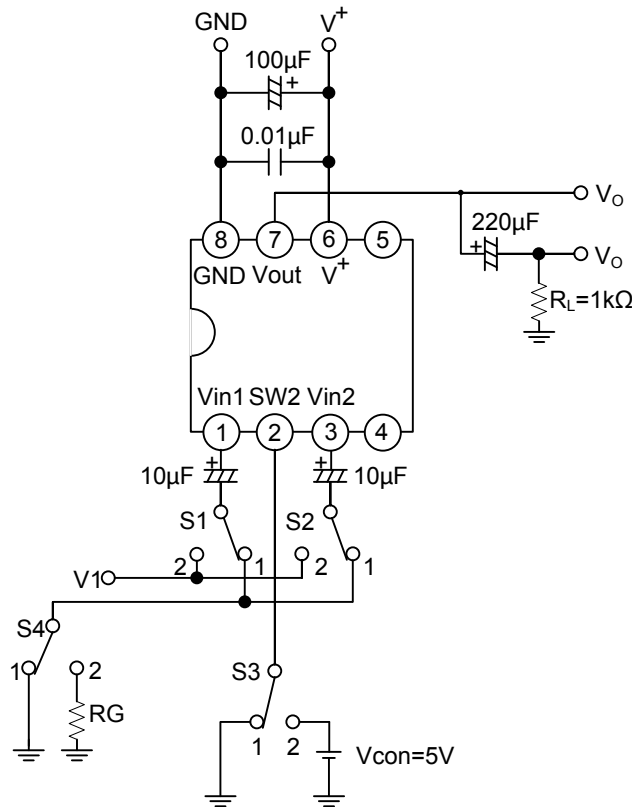
Oscillation Prevention on light loading conditions  
 Recommended under circuit



This IC requires 0.1μF capacitor between INPUT and GND for bias type input at mute mode



■ TEST CIRCUIT



■ DC VOLTAGE EACH TERMINAL (Typ. on Test Circuit  $T_A=25^\circ\text{C}$ )

Terminal Name	$V_{IN1}$	SW1	$V_{IN2}$	$V^+$	$V_{OUT}$	GND
DC Voltage	$\frac{3}{5}V^+$		$\frac{3}{5}V^+$		$\frac{3}{5}V^+ - 0.7$	

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