



**ELECTRONICS, INC.**

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## NTE7160 Integrated Circuit Video Switch

**Features:**

- Standard Connection for VCR and Peri TV Sets
- Input Clamping
- Positive and Negative Video Outputs

**Absolute Maximum Ratings:**

Supply Voltage,  $V_S$  ..... 16.5V  
 Operating Junction Temperature,  $T_J$  ..... +150°C  
 Storage Temperature Range,  $T_{stg}$  ..... -40° to +125°C  
 Thermal Resistance, System-to-Ambient,  $R_{thSA}$  ..... 70K/W

**Recommended Operating Conditions:**

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Supply Voltage	$V_S$		10.0	-	15.8	V
Video Bandwidth	$B_{video}$		-	6	-	MHz
Ambient Temperature Range	$T_A$		0	-	70	°C

**Electrical Characteristics:** ( $V_S = 13V$ ,  $T_A = +25°C$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Current Consumption	$I_7$	Pin2 Open	-	23	-	mA
Switch Input VCR, Recording	$V_{3/1}$		0	-	1.2	Vdc
Switch Input VCR, Playback	$V_{3/1}$		3	-	$V_7$	Vdc
Switch Input	$I_3$	$V_{3/1} = 15V$	-	-	1	mA
Video Output Voltage, Positive	$V_{O5pp}$	$V_3 = 1.2V$ , $V_{8pp} = 3V$	-	3	-	V
		$V_3 \geq 3V$ , $V_{4pp} = 1V$	-	3	-	V
Sync Pulse Level	$V_{5/1}$		-	2	-	V
Output Current (To GND)	$I_{O5}$		-	-5	-	mA
Output Current (To +)	$I_{O5}$		-	2	-	mA
Output Resistance	$R_{O5}$		-	150	-	$\Omega$
Video Output Voltage, Negative	$V_{O6pp}$	$V_3 = 1.2V$ , $V_{8pp} = 3V$	-	3	-	V
		$V_3 \geq 3V$ , $V_{4pp} = 1V$	-	3	-	V
Sync Pulse Level	$V_{6/1}$		-	$V_{7-2}$	-	V

**Electrical Characteristics (Cont'd):** ( $V_S = 13V$ ,  $T_A = +25^\circ C$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Current (To GND)	$I_{O6}$		-	-5	-	mA
Output Current (To +)	$I_{O6}$		-	1	-	mA
Output Resistance	$R_{O6}$		-	150	-	$\Omega$
Video Output Voltage, Positive	$V_{O2pp}$	$V_{8pp} = 3V$ , $R_{2/1} = 75\Omega$	-	1	-	V
Sync Pulse Level	$V_{2/1}$	$R_{2/1} = 75\Omega$	-	1	-	V
Output Current (To GND)	$I_{O2}$		-	-30	-	mA
Output Current (To +)	$I_{O2}$		-	2	-	mA
Output Resistance	$R_{O2}$		-	75	-	$\Omega$
Video Input Current	$I_{I8}$	$V_{8pp} = 3V$	-	-	40	$\mu A$
	$I_{I4}$	$V_{4pp} = 1V$	-	-	20	$\mu A$
Video Gain	$G_{2/8}$	$V_{8pp} = 3V$ , $R_{2/1} = 75\Omega$	-	1/3	-	
	$G_{5/8}$	$V_{8pp} = 3V$ , $V_3 = 1.2V$	-	1	-	
	$G_{6/8}$	$V_{8pp} = 3V$ , $V_3 = 1.2V$	-	-1	-	
	$G_{5/4}$	$V_{4pp} = 1V$ , $V_3 \geq 3V$	-	3	-	
	$G_{6/4}$	$V_{4pp} = 1V$ , $V_3 \geq 3V$	-	-3	-	
Video Bandwidth	$B_{video}$	-3dB	6	-	-	MHz
Crosstalk Rejection	$\alpha$	Referred to $V_{5pp} = 3V$ , $f = 50Hz$ to $6MHz$ , $V_3 = 1.2V$ , $V_{4pp} = 1V$	-	50	-	dB

