

NTE1408 Integrated Circuit CMOS, Color Signal Processor for VCR

Description:

The NTE1408 is a CMOS circuit in a 16-Lead DIP type package designed for use in VTR color signal processing circuitry for the VHS system video tape recorders. This device provides 4 color control signals, each having 90-degree phase shift.

Absolute Maximum Ratings: ($T_A = +25^\circ\text{C}$ unless otherwise specified)

Supply Voltage, V_{DD} -0.3V to $+8\text{V}$
 Input Voltage, V_I -0.3V to $V_{DD} + 0.3\text{V}$
 Output Voltage, V_O -0.3V to $V_{DD} + 0.3\text{V}$
 Operating Temperature Range, T_{opr} -10° to $+70^\circ\text{C}$
 Storage Temperature Range, T_{stg} -40° to $+100^\circ\text{C}$

Electrical Characteristics: ($f_{i(FCI)} = 2.52\text{MHz}$, $V_{CC} = 6.2\text{V}$, $V_{SS} = 0\text{V}$, $T_A = +25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Supply Current	I_{DD}	No Load, $V_I = 1.0V_{P-P}$	—	—	1.2	mA
Power Dissipation	P_{tot}		—	—	7.44	mW
Input Terminal FCI Input Voltage	V_I		1.0	—	—	V_{P-P}
Pulse Width Duty Ratio	t_w (duty)		40	50	60	%
Input Terminal SYNC High Level Input Voltage	$V_{IH(1)}$		4.6	—	6.2	V
Low Level Input Voltage	$V_{IL(1)}$		0	—	1.6	V
Output Leakage Current	$I_{Leak(1)}$	$V_I = 0\text{V}$	—	—	—30	μA
Input Terminal PGI, HDI, IDI, DOC High Level Input Voltage	$V_{IH(2)}$		4.6	—	6.2	V
Low Level Input Voltage	$V_{IL(2)}$		0	—	1.6	V
Output Leakage Current	$I_{Leak(2)}$	$V_I = 0\text{V}, 6.2\text{V}$	—	—	± 30	μA
Input Terminal MMI High level Input Voltage	$V_{IH(3)}$		4.6	—	6.2	V
Low Level Input Voltage	$V_{IL(3)}$		—	—	1.6	V
Output Leakage Current	$I_{Leak(3)}$	$V_I = 1.5\text{V}, \text{MMO} = \text{"H"}$	—	—	± 10	μA
Low Level Input Current	I_{IL}	$V_I = 1.5\text{V}, \text{MMO} = \text{"L"}$	0.6	1.0	—	mA

Electrical Characteristics (Cont'd): ($f_{i(FCI)} = 2.52\text{MHz}$, $V_{CC} = 6.2\text{V}$, $V_{SS} = 0\text{V}$, $T_A = +25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Terminal FSO High Level Output Current	$I_{OH(1)}$	$V_O = 4.7\text{V}$	-1.0	-1.5	-	mA
Low Level Output Current	$I_{OL(1)}$	$V_O = 1.5\text{V}$	1.0	1.5	-	mA
Output Leakage Current	$I_{Leak(4)}$	$V_O = 0, 6.2\text{V}$	-	-	± 30	μA
Output Terminal HSS High Level Output Current	$I_{OH(2)}$	$V_O = 4.7\text{V}$	1.0	-1.5	-	mA
Low Level Output Current	$I_{OL(2)}$	$V_O = 1.5\text{V}$	1.0	1.5	-	mA
Output Leakage Current	$I_{Leak(5)}$	$V_O = 0\text{V}, 6.2\text{V}$	-	-	± 30	μA
Delay Time	$t_{pd(1)}$	With Respect to SYNC	-	-	500	ns
Output Terminal HDO Low level Output Current	$I_{OL(3)}$	$V_O = 1.5\text{V}$	2	3	-	mA
Output Leakage Current	$I_{Leak(6)}$	$V_O = 12\text{V}$	-	-	30	μA
Delay Time	$t_{pd(2)}$	With Respect to SYNC	-	-	500	ns
Output Terminal FH0, FH7, MMO High Level Output Current	$I_{OH(3)}$	$V_O = 4.7\text{V}$	-0.5	-0.75	-	mA
Low Level Output Current	$I_{OL(4)}$	$V_O = 1.5\text{V}$	0.5	0.75	-	mA
Output Leakage Current	$I_{Leak(7)}$	$V_O = 0\text{V}, 6.2\text{V}$	-	-	± 30	μA

Pin Connection Diagram

