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NTE1701 Integrated Circuit VCR Cylinder Servo Control Circuit

Features:

- Phase Control Circuit
- Speed Control Circuit
- CTL Amplifier
- Capstan PG Amplifier
- Sample Hold Type Speed Control
- Supply Voltage Either 9V or 12V

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

Supply Voltage, V_{1-7}	14.4V
Power Dissipation ($T_A = +70^\circ\text{C}$), P_D	880mW
Operating Ambient Temperature Range, T_{opr}	-20° to $+70^\circ\text{C}$
Storage Temperature Range, T_{stg}	-40° to $+150^\circ\text{C}$

Electrical Characteristics: ($T_A = +25^\circ\text{C} \pm 2^\circ\text{C}$, $V_{CC} = 12\text{V}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Circuit Current	I_1	$V_{1-7} = 12\text{V}$	33	–	65	mA
PG (–) Amp Input Sensitivity	S_{24}	V_i Pin23 $1V_{O-P}$, V_i Pin24 30Hz, Duty 4%	1	–	–	V_{O-P}
PG (+) Amp Input Sensitivity	S_{23}		1	–	–	V_{O-P}
Cap PG Amp Input Sensitivity	S_3		50	–	–	mV_{O-P}
V_{SS} Amp Input Sensitivity	S_{25}		2	–	–	V_{O-P}
REC/PB Select Sensitivity	V_{28}		5	–	–	V
Phase System Trapezoidal Wave Reference Voltage	V_{17}		2.7	–	3.7	V
Head SW Output Voltage, High	V_{20-H}	Pin24 $2V_{P-P}$ 30Hz, Duty 96%, Pin23 $2V_{P-P}$ 30Hz, Duty 4%	9	–	–	V
Head SW Output Voltage, Low	V_{20-L}		–	–	600	mV
REC CTL Amp Output Voltage, High	V_{6-H}		8	–	–	V
REC CTL Amp Output Voltage, Low	V_{6-L}		–	–	1	V
S/H 1 Output Voltage, High	V_{15-H}		9	–	–	V
S/H 1 Output Voltage, Low	V_{15-L}		–	–	600	mV

Note 1. Operating supply voltage range, $V_{CC(opr)} = 8.8\text{V}$ to 13V .

Electrical Characteristics (Cont'd): ($T_A = +25^{\circ}\text{C} \pm 2^{\circ}\text{C}$, $V_{CC} = 12\text{V}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
CTL Amp Gain	B_2		62	–	70	dB
FG Amp Input Sensitivity	S_{14}		100	–	–	mV _{P-P}
Speed System Trapezoidal Reference Voltage	V_{10}		2.7	–	3.7	V
S/H 2 Output Voltage, High	V_{8-H}		10	–	–	V
S/H 2 Output Voltage, Low	V_{8-L}		–	–	1.8	V
Cap PG Output Voltage, High	V_{2-H}		44	–	6.6	V
Cap PG Output Voltage, Low	V_{2-L}		–	–	600	mV

Note 1. Operating supply voltage range, $V_{CC(\text{opr})} = 8.8\text{V}$ to 13V .

Pin Connection Diagram



