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NTE7178 thru NTE7181
Integrated Circuit
Module–3 Channel Convergence Correction Circuit for Video Projection Televisions

Description:

The NTE7178 thru NTE7181 are convergence correction circuits designed for use in video projectors. These devices incorporate three output amplifiers in a single package, making possible the construction of CRT horizontal and vertical convergence correction output circuits for each of the RGB colors using just two hybrid ICs.

The NTE7178 is available in an 18–Lead SIP package while the NTE7179 thru NTE7181 is packaged in a 22–Lead SIP.

Features:

- 3 Output Amplifier Circuits in a Single Package
- High Maximum Supply Voltage
- Low Thermal Resistance
- High Temperature Stability (T_C max = +125°C)
- Seperate Predriver and Output Stage Supplies
- Output Stage Supply Switching for High–Performance Designs
- Low Inrush Current when Power is Applied

Applications:

- Video Projectors (Both Standard and High Definition)

Absolute Maximum Ratings: (T_A = +25°C unless otherwise specified)

Operating Supply Voltage, V_{CC}
- NTE7178, NTE7179 . . . . . ±38V
- NTE7180 . . . . . ±44V
- NTE7181 . . . . . ±50V

Collector Current, I_C
- NTE7178 . . . . . 3A
- NTE7179 . . . . . 5A
- NTE7180 . . . . . 6A
- NTE7181 . . . . . 7A

Thermal Resistance, Junction–to–Case, R_{thJC}
- NTE7178 . . . . . +3.0°C/W
- NTE7179 . . . . . +2.6°C/W
- NTE7180 . . . . . +2.1°C/W
- NTE7181 . . . . . +1.8°C/W

Maximum Horizontal Frequency, f_H
- NTE7178, NTE7179 . . . . . 15KhZ
- NTE7180 . . . . . 35kHz
- NTE7181 . . . . . 100kHz

Junction Temperature, T_j . . . . . +150°C

Operating Temperature, T_C . . . . . +125°C

Storage Temperature Range, T_{stg} . . . . . –30° to +125°C

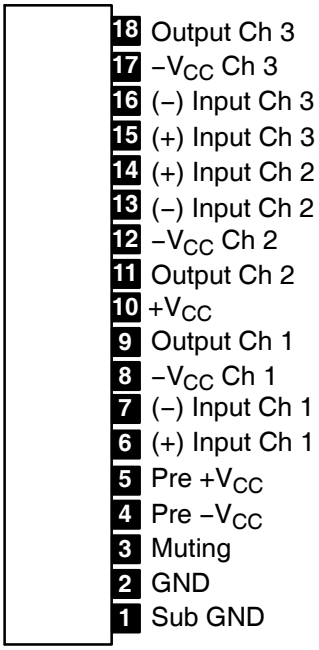
Note 1. **NTE7179** and **NTE7181** are **discontinued** devices and **no longer available**.

Electrical Characteristics: (T_A = +25°C, R_g = 50Ω, unless otherwise specified)

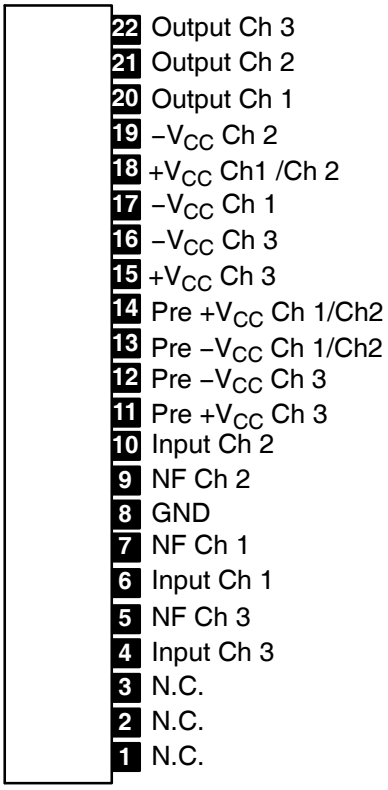
Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Output Noise Voltage NTE7178, NTE7179	V_{NO}	V_{CC} = ±30V		–	–	0.2	mVrms
NTE7180		V_{CC} = ±35V		–	–	0.2	mVrms
NTE7181		V_{CC} = ±40V		–	–	0.2	mVrms
Quiescent Current NTE7178	I_{CCO}	V_{CC} = ±30V		15	22	30	mA
NTE7179		V_{CC} = ±30V		30	90	150	mA
NTE7180		V_{CC} = ±35V		30	90	150	mA
NTE7181		V_{CC} = ±40V		30	90	150	mA
Neutral Voltage NTE7178, NTE7179	V_N	V_{CC} = ±30V		–50	0	+50	mV
NTE7180		V_{CC} = ±35V		–50	0	+50	mV
NTE7181		V_{CC} = ±40V		–50	0	+50	mV
Output Delay Time NTE7178, NTE7179	t_D	Triangle Wave Input, V_{OUT} = 1.5V_{P-P}	V_{CC} = ±30V, f = 15.75kHz	–	–	1	µs
NTE7180			V_{CC} = ±35V, f = 15.75kHz	–	–	1	µs
NTE7181			V_{CC} = ±40V, f = 64kHz	–	–	0.2	µs
Frequency Respone NTE7179	f_H	0dB at 1kHz, sine wave input, V_{in} = 50mV_{p-p}	V_{CC} = ±30V, –3dB	–	1.8	–	MHz
NTE7181			V_{CC} = ±35V, –3dB	–	3.8	–	MHz

Pin Connection Diagram
(Front View)

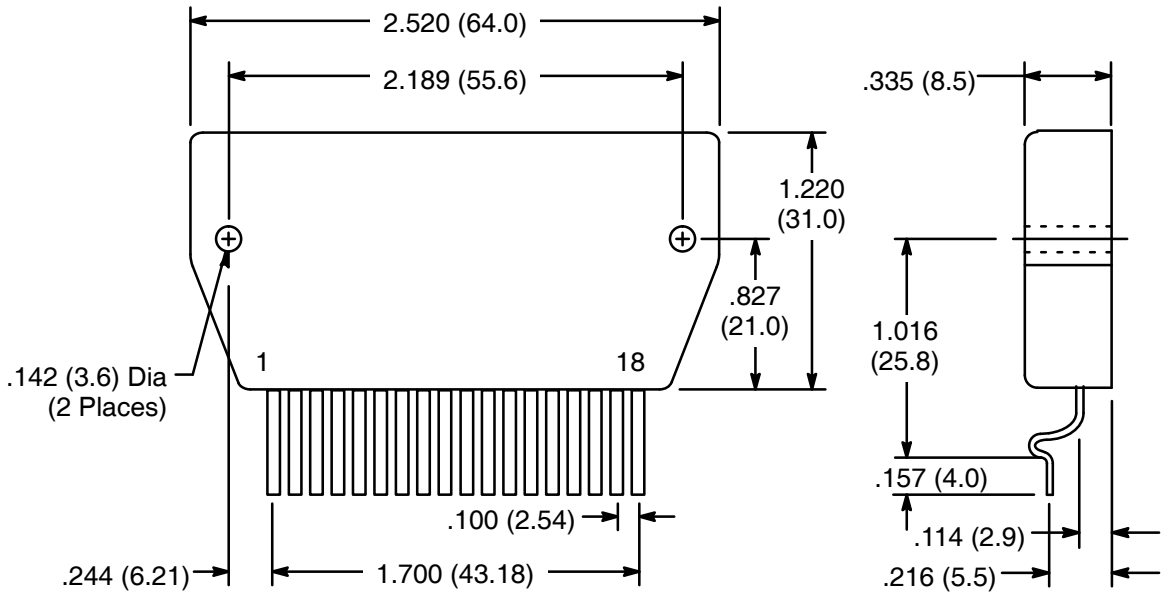
NTE7178



NTE7179, NTE7180, NTE7181



NTE7178



NTE7179, NTE7180, NTE7181