

NTE863 Integrated Circuit OP Amp/Comparator

Description:

The NTE863 is a multiple-control amplifier/comparator monolithic integrated circuit in an 8-Lead DIP type package intended for use in general purpose applications requiring comparator functions with logic override switching and control. An op-amp with differential inputs drives an output transistor with high current capability. An isolated transistor is also available for optional use.

Features:

- High Output Current (50 mA max)
- Output Sink Current or Drive Current Capability
- Output Disable Control

Applications:

- Comparator
- Switching and Gating Control
- Pulse Width Modulator
- TV Horizontal Drive Amplifier

Absolute Maximum Ratings:

DC Supply Voltage, V_1, V_5	+15V
Input Current, I_3, I_4, I_7, I_8	$\pm 1\text{mA}$
Output Current, I_1	50mA
Output Current, I_6	10mA
Device Dissipation ($T_A \leq +25^\circ\text{C}$, Including Q14), P_D	625mW
Derate Linearly Above 25°C	5mW/ $^\circ\text{C}$
Q14 Dissipation ($T_A \leq +25^\circ\text{C}$), P_D	150mW
Derate Linearly Above 25°C	1.2mW/ $^\circ\text{C}$
Operating Ambient Temperature Range, T_{opr}	0° to $+70^\circ\text{C}$
Storage Temperature Range, T_{stg}	-65° To $+150^\circ\text{C}$
Lead Temperature (During Soldering, 1/16" from case, 10sec max), T_L	$+265^\circ\text{C}$

Electrical Characteristics: ($T_A = +25^{\circ}\text{C}$, $V_+ (V_5) = 15\text{V}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Operational Amplifier						
Input Offset Voltage	V_{10}		–	–	100	mV
Input Bias Current	I_{IB}		–	–	15	μA
Common–Mode Input Voltage Range	V_{ICR}		2	–	12	V
Amplifier Supply Current	I_5		3	–	10	mA
Q1 Amplifier						
DC Forward–Current Transfer Ratio	h_{FE}	$V_{CE} = 10\text{V}$, $I_6 = 0.1\text{mA}$	45	–	–	V
		$V_{CE} = 10\text{V}$, $I_6 = 2\text{mA}$	45	–	–	V
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	$I_7 = 0.2\text{mA}$, $I_6 = 2\text{mA}$	–	–	0.6	V
Q1 Amplifier						
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	$I_8 = 0.15\text{mA}$, $I_1 = 30\text{mA}$	–	–	0.4	V

Pin Connection Diagram

