ELECTRONICS, INC.
44 FARRAND STREET
BLOOMFIELD, NJ 07003
(973) 748–5089

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 wiht 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 . . . . . ±1mA
Output Current, I_1 . . . . . 50mA
Output Current, I_6 . . . . . 10mA
Device Dissipation ($T_A \le +25°C$, Including Q14), P_D 625mW
Derate Linearly Above 25°C . . . . . 5mW/°C
Q14 Dissipation ($T_A \le +25°C$), P_D 150mW
Derate Linearly Above 25°C . . . . . 1.2mW/°C
Operating Ambient Temperature Range, T_{opr} . . . . . 0° to +70°C
Storage Temperature Range, T_{stg} . . . . . –65° To +150°C
Lead Temperature (During Soldering, 1/16” from case, 10sec max), T_L . . . . . +265°C

Electrical Characteristics: (T_A = +25°C, V+ (V_5) = 15V 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} = 10V, I_6 = 0.1mA	45	–	–	V
		V_{CE} = 10V, I_6 = 2mA	45	–	–	V
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	I_7 = 0.2mA, I_6 = 2mA	–	–	0.6	V
Q1 Amplifier						
Collector–Emitter Saturation Voltage	$V_{CE(sat)}$	I_8 = 0.15mA, I_1 = 30mA	–	–	0.4	V

Pin Connection Diagram