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NTE1478 Integrated Circuit Solenoid Driver & Signal Sensing Circuit

Description:

The NTE1478 is an integrated circuit in a 10-Lead SIP type package that detects the stopping of a rotary signal and drives a plunger. It is designed for use in auto-reverse and auto-eject car stereo applications and can be used as a solenoid driver in many other control circuits.

Features:

- Internal Output Power Transistor: 5A Load Current Capability
- Programmable Switch: Manual Operation Can be Obtained
- Pause Switch: Switching Pause (Switch ON), Plunger Does Not Operate Even if the Rotary Detective Signal Stops.
- Internal Load Dump Protector (Excessive Supply Voltage)
- Response Time and Driving Time are Variable with External Capacitors
- Input Sensitivity Voltage: $2V_{P-P}$ Min
- Operating Supply Voltage Range: $V_{CC} = 9V$ to $18V$

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

Supply Voltage, V_{CC}	18V
Load Current, I_{OUT}	5A
Power Dissipation ($T_C = +25^{\circ}C$), P_D	12.5W
Peak Supply Voltage (1200 ms), $V_{CCsurge}$	40V
Operating Temperature Range, T_{opr}	-30° to $+75^{\circ}C$
Storage Temperature Range, T_{stg}	-55° to $+150^{\circ}C$

Electrical Characteristics: ($V_{CC} = 13.2V$, $R_L = 3.3\Omega$, $T_A = +25^{\circ}C$, unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Plunger Response Time	T_{rp}	$C_1 = 47\mu F$, $C_2 = 10\mu F$	–	1.3	–	sec
Plunger Driving Time	T_{dp}	$C_1 = 47\mu F$, $C_2 = 10\mu F$	–	100	–	msec
Supply Current	$I_{CC(OFF)}$	Current at Plunger OFF	3.0	5.6	9.0	mA
	$I_{CC(ON)}$	Current at Plunger ON	–	3.96	–	A
Pin2 Voltage	V_2	Pin8 = GND, Pin4 = 9V	–	0.6	1.0	V
Power Transistor Cutoff Current	I_{CER}	Pin2 = 40V, Pin10 = GND	–	–	100	μA

Pin Connection Diagram
(Front View)

