

5752

T-52-17

DUAL PERIPHERAL AND POWER DRIVER —TRANSIENT-PROTECTED OUTPUTS

UDN5752M

Dwg. No. A-9790B

ABSOLUTE MAXIMUM RATINGS

Output Off-State Voltage, V_{OFF}	70 V
Output On-State Sink Current, I_{ON}	600 mA
Supply Voltage, V_{CC}	7.0 V
Input Voltage, V_{IN}	30 V
Suppression Diode Off-State Voltage, V_{OFF}	70 V
Suppression Diode On-State Current, I_{ON}	600 mA
Allowable Package Power Dissipation, P_D	See Graph
Operating Free-Air Temperature Range, T_A	-20°C to +85°C
Storage Temperature Range, T_S	-55°C to +150°C

Combining dual AND logic gates, high-current switching transistors, and transient suppression diodes in a bipolar monolithic integrated circuit, this peripheral and power driver meets interface requirements beyond the capabilities of standard logic buffers. The UDN5752M will sink 500 mA continuously for a single output (86% duty cycle for both outputs). In the OFF state, the drivers will withstand at least 70 V. In addition to driving common peripheral loads such as LEDs, heaters, or incandescent lamps with peak (in-rush) currents to 600 mA, the internal diodes allow its use directly with inductive loads such as stepping motors, relays, or solenoids. This device was previously sold as the UDN5732M.

The UDN5752M is supplied in a miniature 8-pin dual in-line plastic package with a copper lead frame for enhanced package power dissipation capabilities.

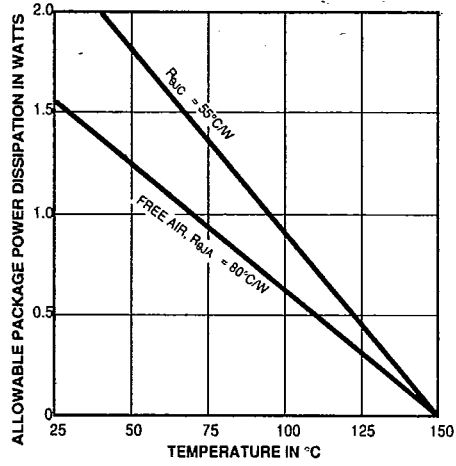
FEATURES

- DTL/TTL/PMOS/CMOS Compatible
- Low Input Current
- Output Current to 600 mA
- 70 V Output Standoff Voltage

Always order by complete part number: **UDN5752M**.

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Dwg. GP-009-1

RECOMMENDED OPERATING CONDITIONS

Operating Condition	Min.	Nom.	Max.	Units
Supply Voltage, V_{CC}	4.75	5.00	5.25	V
Output Current, I_{ON}	—	—	500	mA
Operating Temperature Range	0	+25	+85	°C

SWITCHING CHARACTERISTICS at $T_A = +25^{\circ}\text{C}$, $V_{CC} = 5.0\text{ V}$

Characteristic	Symbol	Test Conditions	Limits			
			Min.	Max.	Units	Notes
Turn-On Delay Time	t_{pd0}	$V_S = 30\text{ V}$, $R_L = 100\text{ (10 W)}$, $C_L = 15\text{ pF}$	—	750	ns	1, 2
Turn-Off Delay Time	t_{pd1}	$V_S = 30\text{ V}$, $R_L = 100\text{ (10 W)}$, $C_L = 15\text{ pF}$	—	1000	ns	1, 2

NOTES: 1. Capacitance value specified includes probe and test fixture capacitance.
 2. Voltage values shown in test circuit waveforms are with respect to network ground.

INPUT-PULSE CHARACTERISTICS

$V_{IN(0)} = 0\text{ V}$	$t_r \leq 7\text{ ns}$	$t_p = 1\text{ }\mu\text{s}$
$V_{IN(1)} = 3.5\text{ V}$	$t_f \leq 14\text{ ns}$	PRR = 500kHz

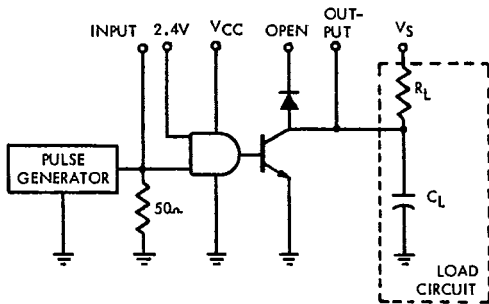
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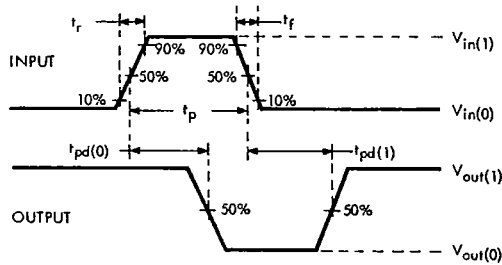
ELECTRICAL CHARACTERISTICS over recommended operating temperature range (unless otherwise noted).

Characteristic	Symbol	Test Conditions					Limits				Notes
		Temp.	V _{CC}	Driven Input	Other Input	Output	Min.	Typ.	Max.	Units	
Output Reverse Current	I _{CEX}	—	4.75	0.8 V	4.75 V	70 V	—	—	100	μA	—
			Open	0.8 V	4.75 V	70 V	—	—	100	μA	—
Output Voltage	V _{CE(SAT)}	—	4.75	2.0 V	2.0 V	300 mA	—	0.3	0.6	V	—
			4.75	2.0 V	2.0 V	500 mA	—	0.5	0.8	V	—
Input Voltage	V _{IN(1)}	—	4.75	—	—	—	2.0	—	—	V	—
	V _{IN(0)}	—	4.75	—	—	—	—	—	0.8	V	—
Input Current	I _{IN(0)}	—	5.25	0.4 V	30 V	—	—	-5.0	-10	μA	1
	I _{IN(1)}	—	5.25	30 V	0 V	—	—	5.0	10	μA	1
Enable Input Current	I _{IN(0)}	—	5.25	0.4 V	30 V	—	—	-10	-20	μA	—
	I _{IN(1)}	—	5.25	30 V	0 V	—	—	10	20	μA	—
Input Clamp Voltage	V _{CLAMP}	—	4.75	-12 mA	—	—	—	—	-1.5	V	—
Diode Leakage Current	I _R	+25°C	5.0	5.0 V	5.0 V	Open	—	—	100	μA	2
Diode Forward Voltage	V _F	+25°C	5.0	0 V	0 V	500 mA	—	1.5	2.0	V	—
Supply Current (Total Package)	I _{CC(1)}	+25°C	5.25	0 V	0 V	—	—	1.0	3.0	mA	—
	I _{CC(0)}	+25°C	5.25	5.0 V	5.0 V	—	—	20	25	mA	—

- NOTES: 1. Except ENABLE input, each input tested separately.
2. Diode leakage current measured at V_R = 70 V.



Dwg. No. A-11,746A



Dwg. No. A-7900B