

Description:
M81711FP is a dual inverting general purpose driver.

- Features:**
- Power Supply Range of Operation (4.5V ~ 24V)
 - High Speed Switching Time (25ns Typical, CL = 1000pF)
 - Dual Inverting
 - SOP-8 Package
 - 400mA Output Current

- Applications:**
- HID Ballast
 - PDP
 - MOSFET Driver

Ordering Information:
M81711FP is a ±0.4A, 24 Volt HVIC, General Purpose Driver

Outline Drawing and Circuit Diagram

Dimensions	Inches	Millimeters
A	0.24±0.01	6.2±0.3
B	0.2±0.008	5.0±0.2
C	0.17±0.008	4.4±0.2
D	0.08 Max.	1.9 Max.
E	0.05	1.27
F	0.015±0.002	0.4±0.05
G	0.004	0.1
H	0.06	1.5
J	0.002 Min.	0.05 Min.

Dimensions	Inches	Millimeters
K	0.04	0.9
L	0.015±0.008	0.4±0.2
M	0.006±0.002	0.15±0.05
N	10° Max.	10° Max.
P	0.03	0.745
Q	0.023	0.595
R	0.05 Min.	1.27 Min.
S	0.23	5.72
T	0.76	0.76

M81711FP

HVIC, General Purpose Driver

24 Volts/±0.4A

Absolute Maximum Ratings, $T_a = 25^\circ\text{C}$ unless otherwise specified

Characteristics	Symbol	M81711FP	Units
Supply Voltage	V_{DD}	0 ~ 24	Volts
Logic Input Voltage (IN A/B Terminal)	V_{IN}	GND-0.3 ~ $V_{DD}+0.3$	Volts
Package Power Dissipation ($T_a = 25^\circ\text{C}$, On Board)	P_d	0.9	Watts
Junction Temperature	T_j	-40 ~ 125	$^\circ\text{C}$
Storage Temperature	T_{stg}	-40 ~ 125	$^\circ\text{C}$

Recommended Operating Conditions

Characteristics	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Supply Voltage	V_{DD}		4.5	—	17	Volts
Logic Supply Voltage	V_{IN}	IN A/B Terminal	GND	—	V_{DD}	Volts
Operating Temperature	T_{opr}		-40	—	100	$^\circ\text{C}$

Electrical AC Characteristics, $V_{DD} = 9\text{V}$, $V_{IN} = 0\text{V}$, 5V unless otherwise specified

Characteristics	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Turn-On Rise Time	t_r	CL = 1000pf	—	40	—	ns
Turn-Off Fall Time	t_f	CL = 1000pf	—	30	—	ns
Delay Time 1	t_{D1}	CL = 1000pf	—	25	—	ns
Delay Time 2	t_{D2}	CL = 1000pf	—	25	—	ns

Electrical DC Characteristics, $V_{DD} = 4.5 \sim 17\text{V}$ unless otherwise specified

Characteristics	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Logic "1" Input Voltage	V_{IH}	$V_{DD} = 9\text{V}$	2.8	—	—	Volts
Logic "0" Input Voltage	V_{IL}	$V_{DD} = 9\text{V}$	—	—	1.0	Volts
Input Bias Current	I_{IN}	$V_{IN} = 0\text{V}$ or V_{DD}	-1	—	1	μA
Output Protection Diode Current Capability	I_{DI}		300	—	—	mA
High Level Output Voltage	V_{OH}	IO = 0	$V_{DD}-0.1$	—	—	Volts
Low Level Output Voltage	V_{OL}	IO = 0	—	—	0.1	Volts
V_{DD} Supply Current	I_{supp}	$V_{DD} = 9\text{V}$, $V_{IN} = 3\text{V}$ (Both Inputs)	—	1.0	4.5	mA
		$V_{DD} = 9\text{V}$, $V_{IN} = 0\text{V}$ (Both Inputs)	—	—	0.02	mA
Output High Level Short-Circuit Pulsed Current	IO+	$V_{DD} = 9\text{V}$, $PW^* \leq 10\mu\text{s}$, $V_{OUT} = 9\text{V}$	0.38	0.45	—	Amperes
Output Low Level Short-Circuit Pulsed Current	IO-	$V_{DD} = 9\text{V}$, $PW^* \leq 10\mu\text{s}$, $V_{OUT} = 9\text{V}$	0.34	0.40	—	Amperes
Output High Level ON Resistance	R_{OUT}	$V_{DD} = 9\text{V}$, $I_{load}^{**} = 10\text{mA}$, $V_{OUT} = \text{"H"}$	—	9	14	Ω
Output Low Level ON Resistance	R_{OUT}	$V_{DD} = 9\text{V}$, $I_{load}^{**} = 10\text{mA}$, $V_{OUT} = \text{"L"}$	—	7	12	Ω

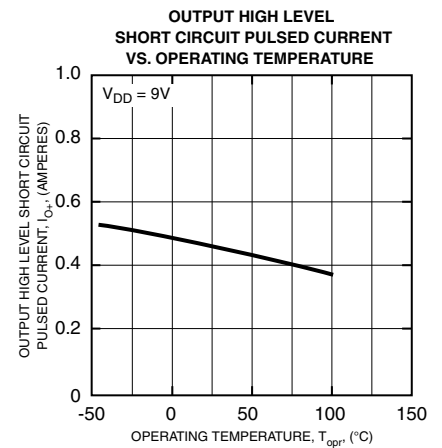
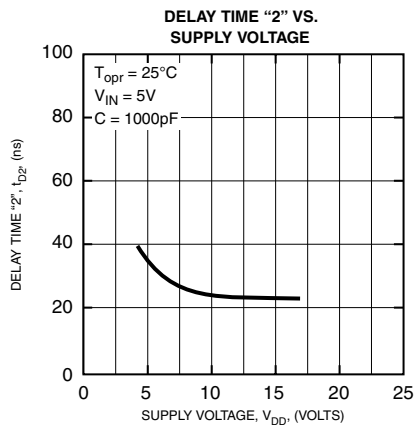
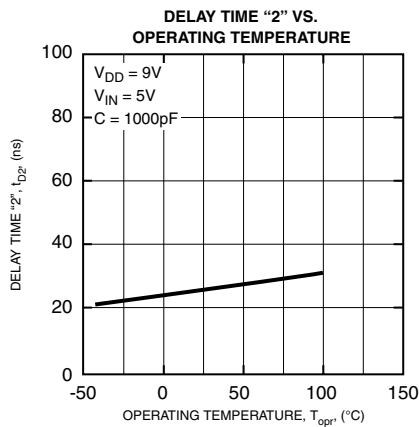
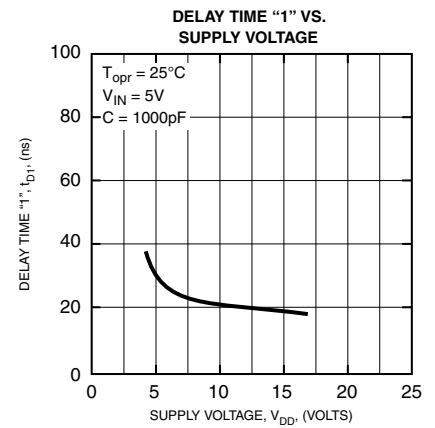
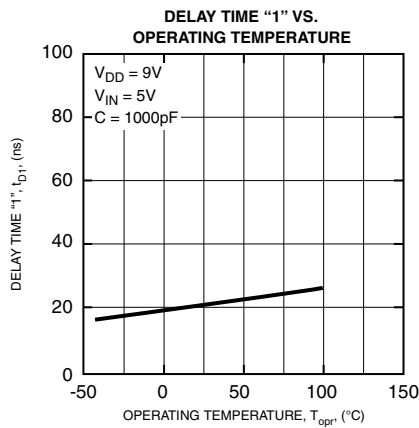
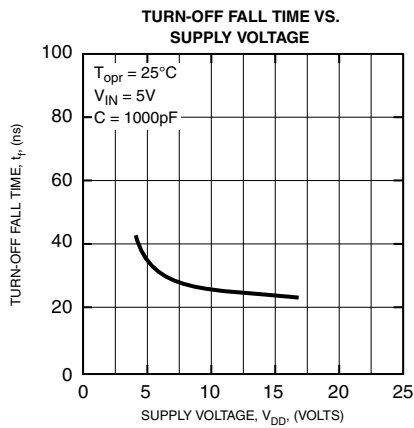
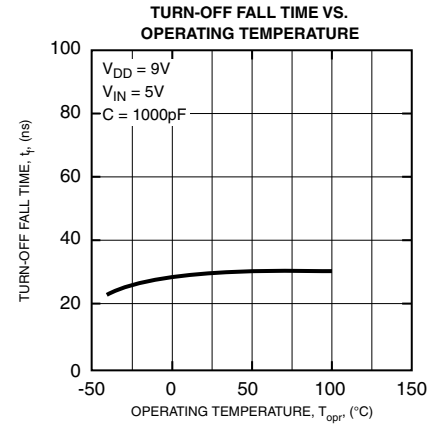
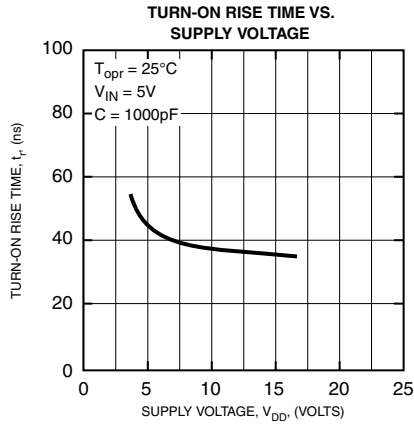
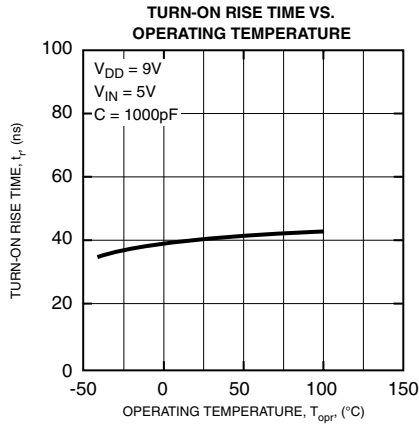
*PW : Input Pulse Width

**I load : Supply Input and Output Current to the OUT A/B Terminal

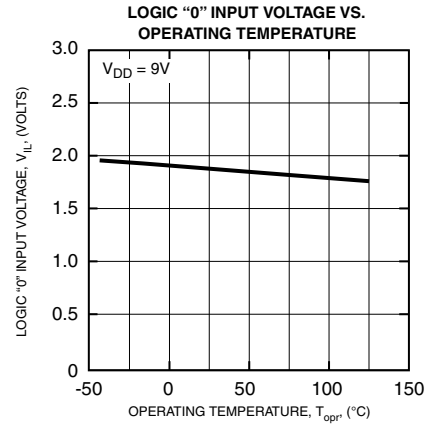
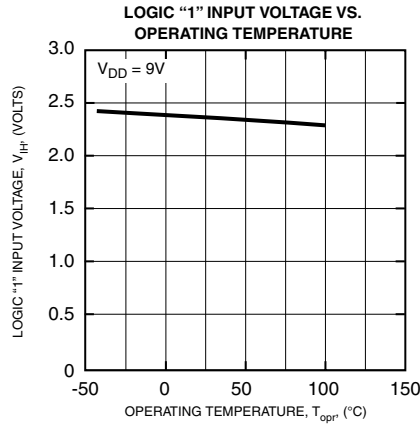
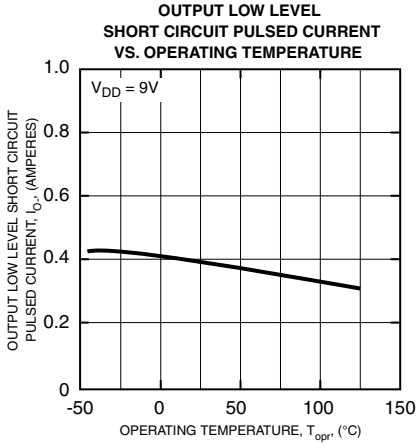


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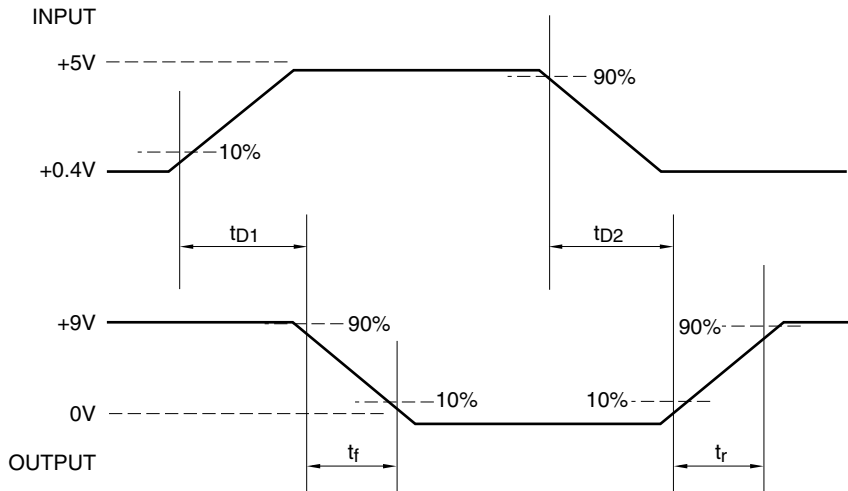
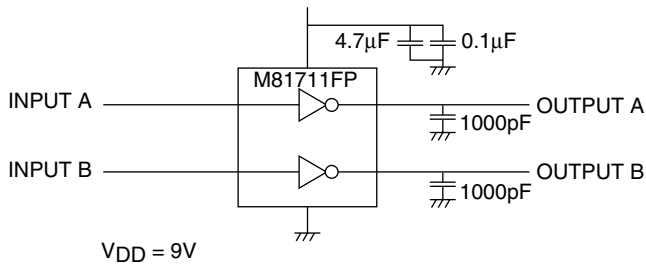
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SWITCHING TIME EXAMINATION CIRCUIT DIAGRAM



INPUT RISE AND FALL TIMES = 5ns