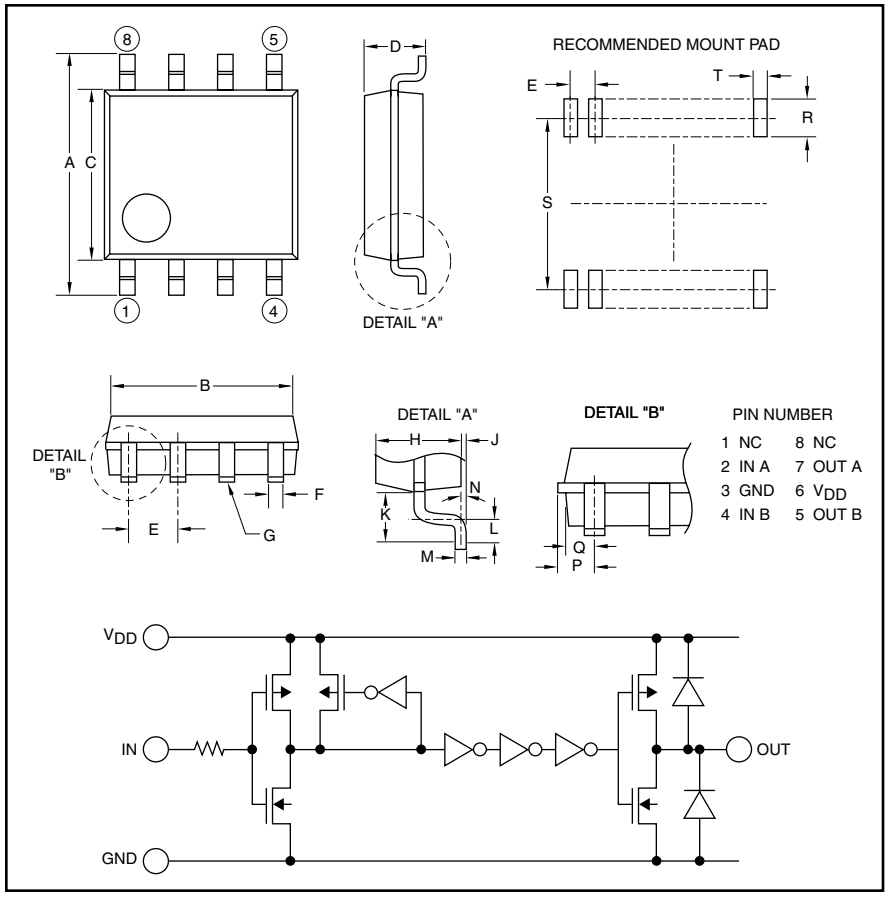
Powerex, Inc., 200 E. Hillis Street, Youngwood, Pennsylvania 15697-1800 (724) 925-7272

HVIC

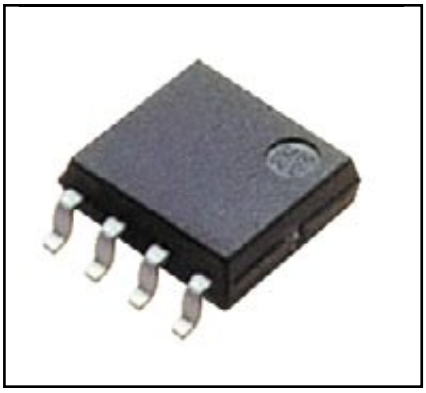
General Purpose Driver
24 Volts/±0.4A



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



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

Absolute Maximum Ratings, T_a = 25°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°C, On Board)	P_d	0.9	Watts
Junction Temperature	T_j	-40 ~ 125	°C
Storage Temperature	T_{stg}	-40 ~ 125	°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	°C

Electrical AC Characteristics, V_{DD} = 9V, V_{IN} = 0V, 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

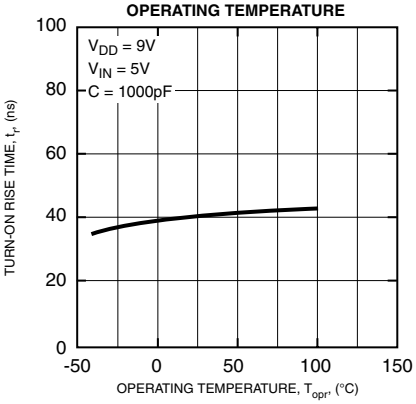
Electrical DC Characteristics, V_{DD} = 4.5 ~ 17V unless otherwise specified

Characteristics	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Logic "1" Input Voltage	V_{IH}	V_{DD} = 9V	2.8	—	—	Volts
Logic "0" Input Voltage	V_{IL}	V_{DD} = 9V	—	—	1.0	Volts
Input Bias Current	I_{IN}	V_{IN} = 0V 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} = 9V, V_{IN} = 3V (Both Inputs)	—	1.0	4.5	mA
		V_{DD} = 9V, V_{IN} = 0V (Both Inputs)	—	—	0.02	mA
Output High Level Short-Circuit Pulsed Current	IO+	V_{DD} = 9V, PW* ≤ 10μs, V_{OUT} = 9V	0.38	0.45	—	Amperes
Output Low Level Short-Circuit Pulsed Current	IO-	V_{DD} = 9V, PW* ≤ 10μs, V_{OUT} = 9V	0.34	0.40	—	Amperes
Output High Level ON Resistance	R_{OUT}	V_{DD} = 9V, I_{load}** = 10mA, V_{OUT} = "H"	—	9	14	Ω
Output Low Level ON Resistance	R_{OUT}	V_{DD} = 9V, I_{load}** = 10mA, V_{OUT} = "L"	—	7	12	Ω

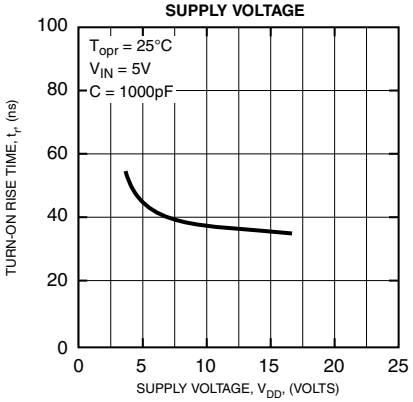
*PW : Input Pulse Width
**I load : Supply Input and Output Current to the OUT A/B Terminal

M81711FP
HVIC, General Purpose Driver
24 Volts/±0.4A

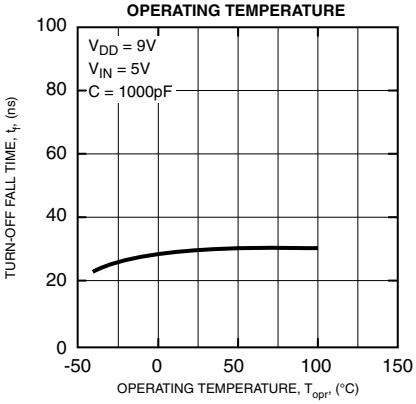
TURN-ON RISE TIME VS. OPERATING TEMPERATURE



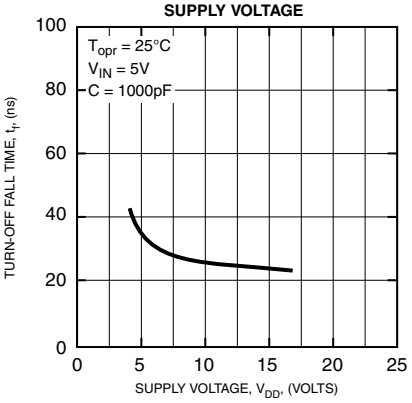
TURN-ON RISE TIME VS. SUPPLY VOLTAGE



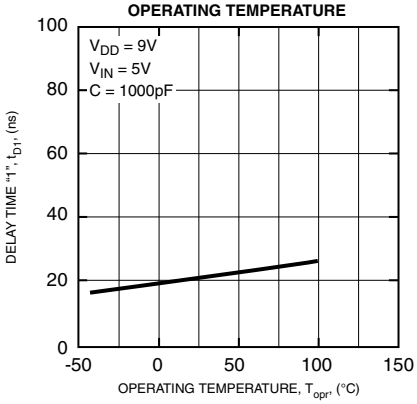
TURN-OFF FALL TIME VS. OPERATING TEMPERATURE



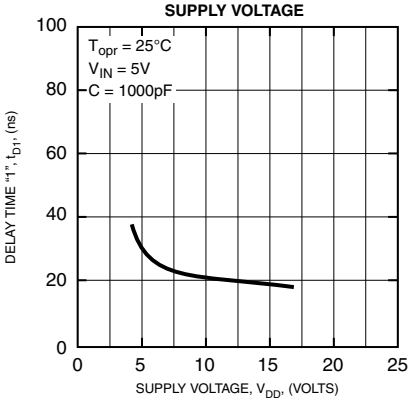
TURN-OFF FALL TIME VS. SUPPLY VOLTAGE



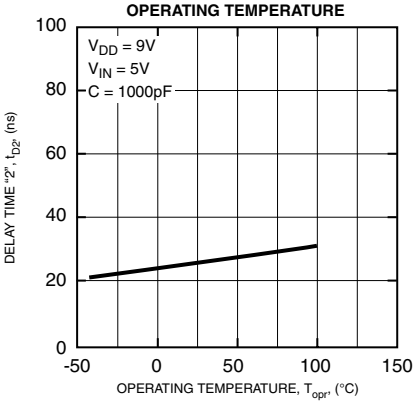
DELAY TIME "1" VS. OPERATING TEMPERATURE



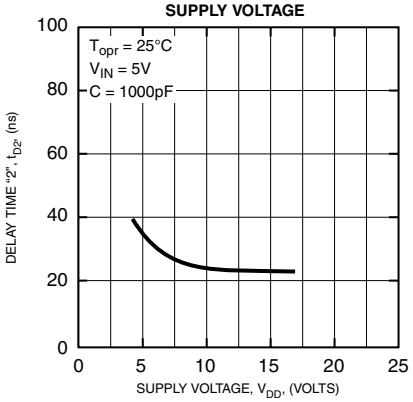
DELAY TIME "1" VS. SUPPLY VOLTAGE



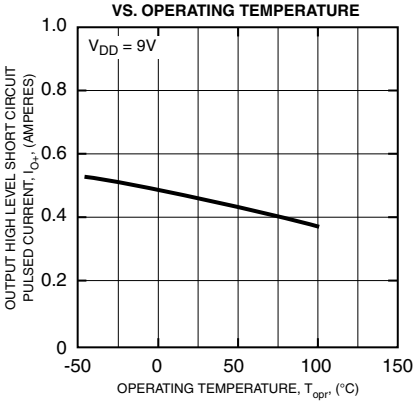
DELAY TIME "2" VS. OPERATING TEMPERATURE



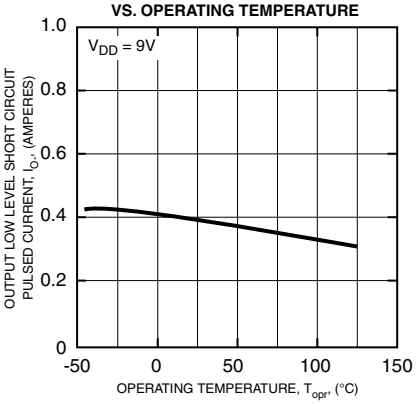
DELAY TIME "2" VS. SUPPLY VOLTAGE



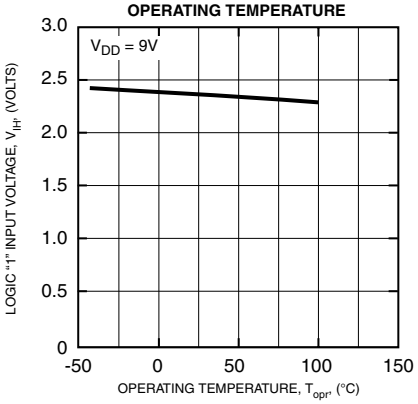
OUTPUT HIGH LEVEL SHORT CIRCUIT PULSED CURRENT VS. OPERATING TEMPERATURE



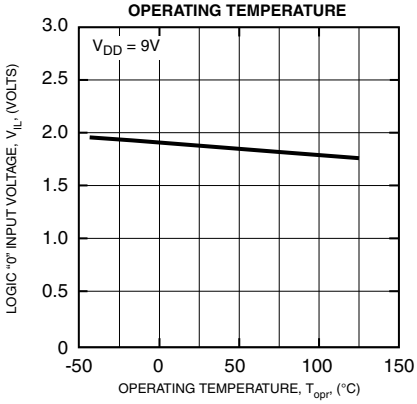
OUTPUT LOW LEVEL SHORT CIRCUIT PULSED CURRENT VS. OPERATING TEMPERATURE



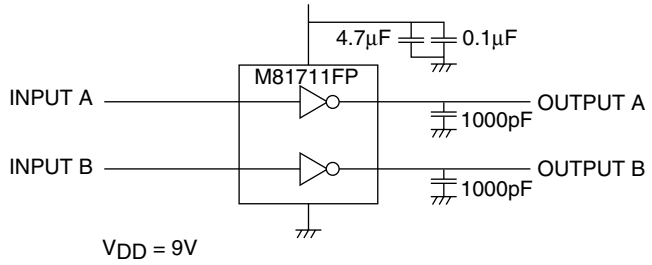
LOGIC "1" INPUT VOLTAGE VS. OPERATING TEMPERATURE

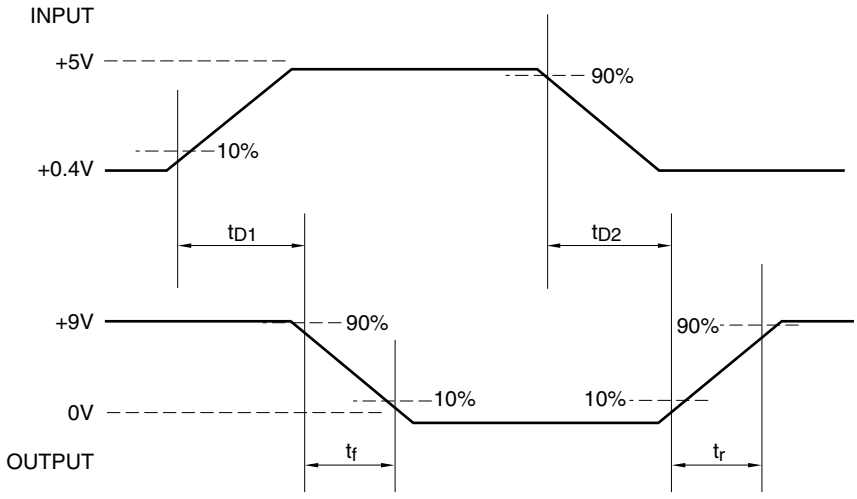


LOGIC "0" INPUT VOLTAGE VS. OPERATING TEMPERATURE



SWITCHING TIME EXAMINATION CIRCUIT DIAGRAM





INPUT RISE AND FALL TIMES = 5ns