

**Description:**  
M81716FP is a dual inverting general purpose driver.

**Features:**

- Power Supply Range of Operation (4.5V ~ 24V)
- High Speed Switching Time (22ns Typical, CL = 1000pF)
- Dual Inverting
- SOP-8 Package
- +0.8A to -0.6A Output Current

**Applications:**

- HID Ballast
- PDP
- MOSFET Driver

**Ordering Information:**

M81716FP is a +0.8A/-0.6A, 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



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

**M81716FP**

**HVIC, General Purpose Driver**

24 Volts/+0.8A/-0.6A

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

Characteristics	Symbol	M81716FP	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)	$P_d$	—	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,  $V_{DD} = 15\text{V}$ ,  $V_{IN} = 0\text{V}$ , 5V unless otherwise specified**

Characteristics	Symbol	Test Conditions	Min.	Typ.	Max.	Units
Turn-On Rise Time	$t_r$	CL = 1000pf	—	35	—	ns
Turn-Off Fall Time	$t_f$	CL = 1000pf	—	25	—	ns
Delay Time 1	$t_{D1}$	CL = 1000pf	—	22	—	ns
Delay Time 2	$t_{D2}$	CL = 1000pf	—	22	—	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	$V_{IH}$	$V_{DD} = 15\text{V}$	4.4	—	—	Volts
Logic "0" Input Voltage	$V_{IL}$	$V_{DD} = 15\text{V}$	—	—	1.8	Volts
Input Bias Current	$I_{IN}$	$V_{IN} = 0\text{V}$ or $V_{DD}$	-1.0	—	1.0	$\mu\text{A}$
Output Protection Diode Current Capability	$I_{DI}$	—	300	—	—	mA
High Level Output Voltage	$V_{OH}$	$I_O = 0$	$V_{DD}-0.1$	—	—	Volts
Low Level Output Voltage	$V_{OL}$	$I_O = 0$	—	—	0.1	Volts
$V_{DD}$ Supply Current	$I_{supp}$	$V_{DD} = 15\text{V}$ , $V_{IN} = 3\text{V}$ (Both Inputs)	—	4.0	8.0	mA
		$V_{DD} = 15\text{V}$ , $V_{IN} = 0\text{V}$ (Both Inputs)	—	—	0.05	mA
Output High Level Short-Circuit Pulsed Current	IO+	$V_{DD} = 15\text{V}$ , $PW^* \leq 10\mu\text{s}$ , $V_{OUT} = 0\text{V}$	0.8	1.0	—	Amperes
Output Low Level Short-Circuit Pulsed Current	IO-	$V_{DD} = 15\text{V}$ , $PW^* \leq 10\mu\text{s}$ , $V_{OUT} = 9\text{V}$	0.6	0.8	—	Amperes
Output High Level ON Resistance	$R_{OUT}$	$V_{DD} = 15\text{V}$ , $I_{load}^{**} = 10\text{mA}$ , $V_{OUT} = \text{"H"}$	—	7.0	12.0	$\Omega$
Output Low Level ON Resistance	$R_{OUT}$	$V_{DD} = 15\text{V}$ , $I_{load}^{**} = 10\text{mA}$ , $V_{OUT} = \text{"L"}$	—	6.0	11.0	$\Omega$

\*PW : Input Pulse Width

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

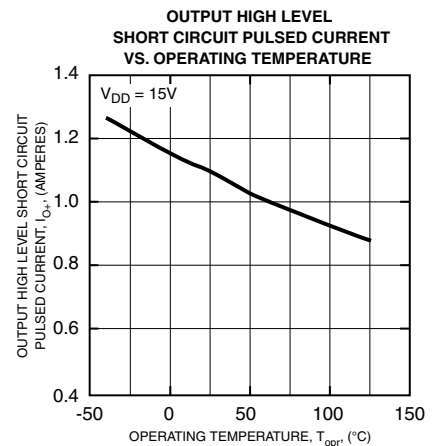
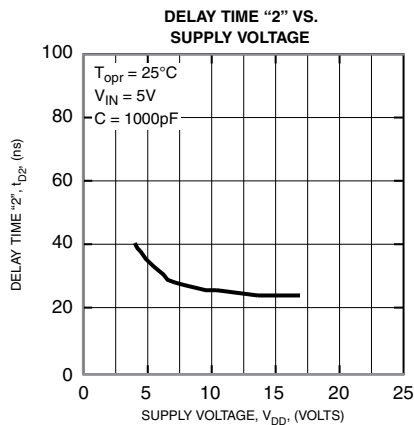
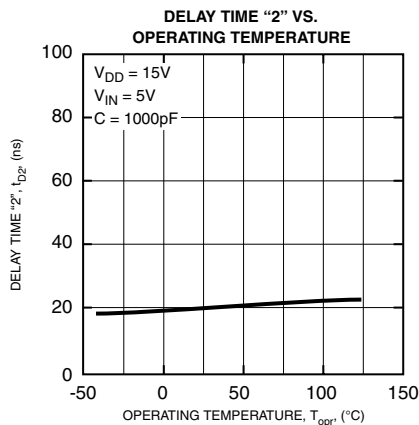
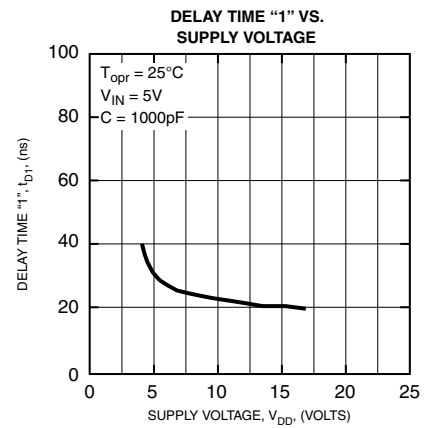
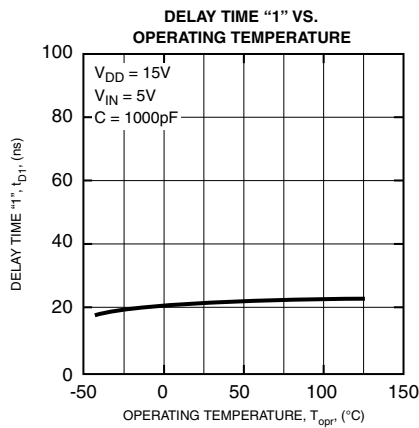
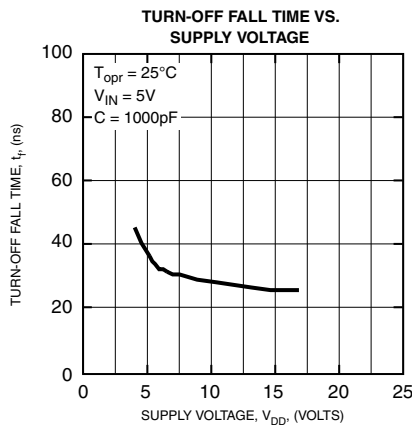
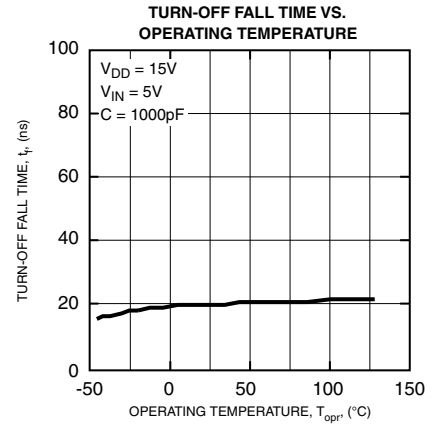
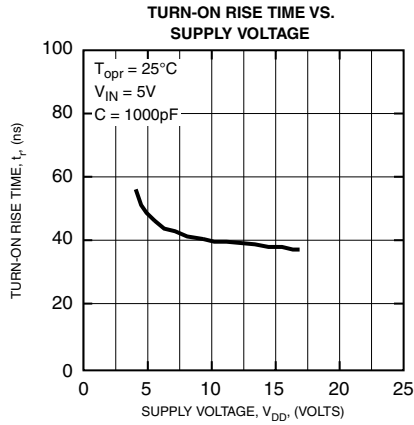
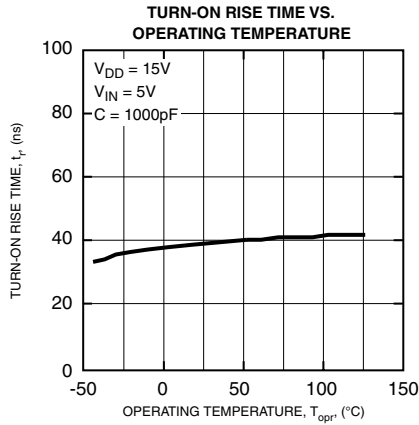


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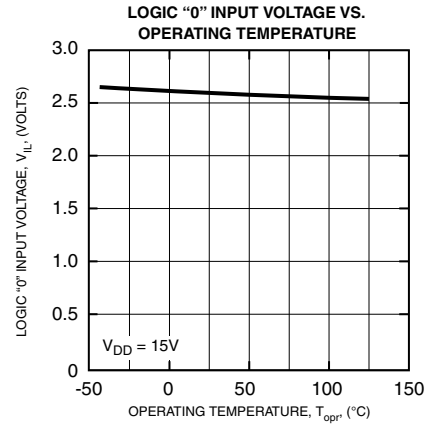
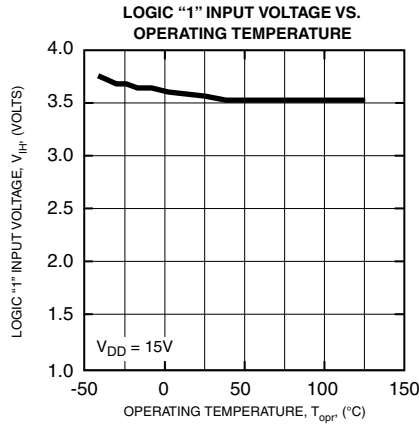
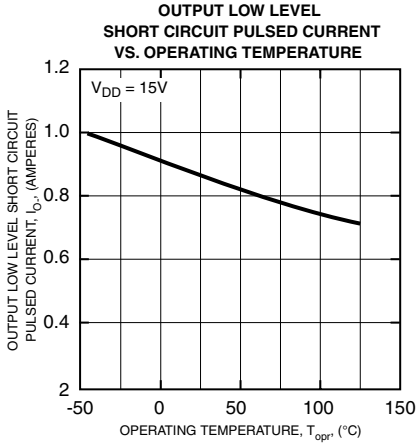
**M81716FP**

**HVIC, General Purpose Driver**

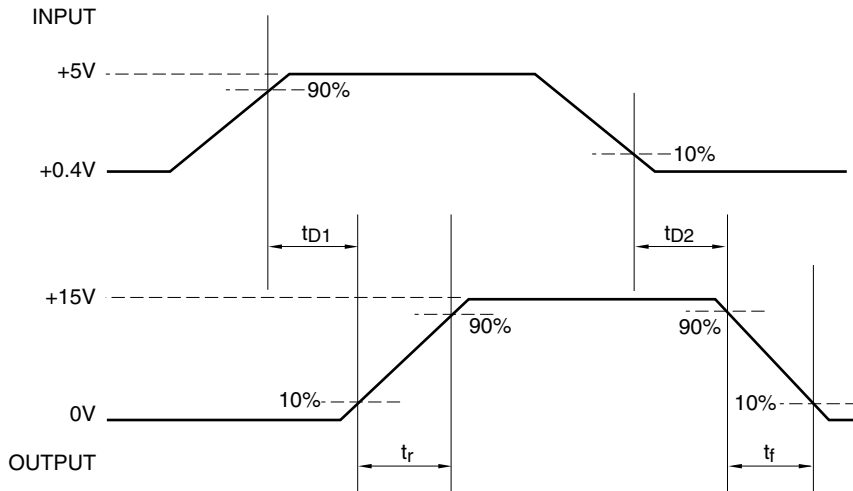
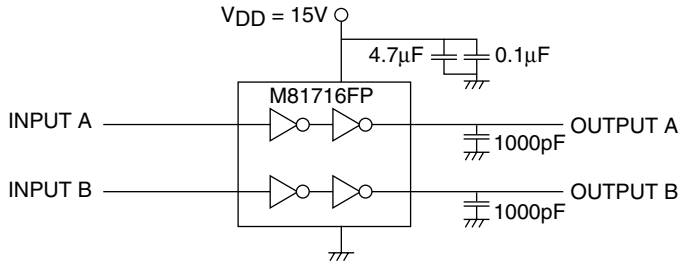
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**HVIC, General Purpose Driver**  
 24 Volts/+0.8A/-0.6A



SWITCHING TIME EXAMINATION CIRCUIT DIAGRAM



INPUT RISE AND FALL TIMES = 5ns