

M81716FP

GENERAL PURPOSE DRIVER

DESCRIPTION

M81716FP is a dual buffer type general purpose driver by 24V rating voltage.

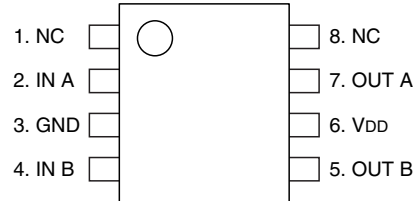
FEATURES

- RATING VOLTAGE 24V
- OUTPUT CURRENT +0.8A, -0.6A
- POWER-SUPPLY RANGE OF OPERATION ... 4.5V ~ 24V
(RECOMMENDATION POWER SUPPLY RANGE : 4.5V ~ 17 V)
- HIGH-SPEED SWITCHING TIME
(22ns typ, CL = 1000pF)
- DUAL BUFFER
- SOP-8 PACKAGE

APPLICATIONS

Motor drive, switching power supply, DC/DC converter and general purpose.

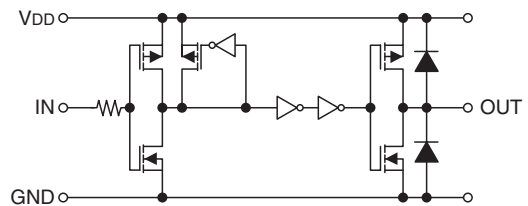
PIN CONFIGURATION (TOP VIEW)



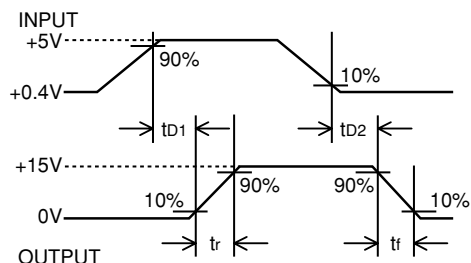
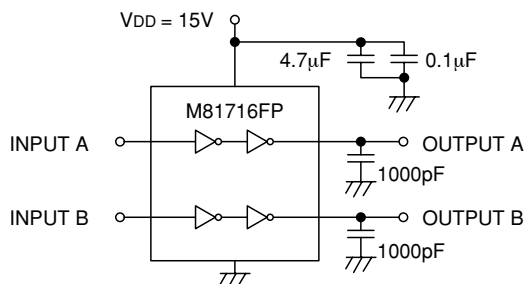
NC:NO CONNECTION

Outline:8P2S

BLOCK DIAGRAM



SWITCHING TIME EXAMINATION CIRCUIT DIAGRAM



※ INPUT
RISE AND FALL
TIMES = 5ns

ABSOLUTE MAXIMUM RATINGS (Ta = 25°C unless otherwise specified)

Symbol	Parameter	Test conditions	Ratings	Unit
V _{DD}	Supply Voltage		0 ~ 24	V
V _{IN}	Logic Input Voltage	IN A/B Terminal	GND-0.3 ~ V _{DD} +0.3	V
P _d	Package Power Dissipation	Ta = 25°C, On Board	0.5	W
T _j	Junction Temperature		-40 ~ 125	°C
T _{stg}	Storage Temperature		-40 ~ 125	°C

RECOMMENDED OPERATING CONDITIONS

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
V _{DD}	Supply Voltage		4.5	—	17	V
V _{IN}	Logic Input Voltage	IN A/B Terminal	GND	—	V _{DD}	V
T _{opr}	Operation Temperature		-40	—	100	°C

* For proper operation, the device should be used within the recommended conditions.

ELECTRICAL CHARACTERISTICS (AC characteristic ; V_{DD} = 15V, V_{IN} = 0V, 5V)

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.*	Max.	
t _r	Turn-On Rise Time	CL = 1000pF	—	35	—	ns
t _f	Turn-Off Fall Time	CL = 1000pF	—	25	—	ns
t _{D1}	Delay Time1	CL = 1000pF	—	22	—	ns
t _{D2}	Delay Time2	CL = 1000pF	—	22	—	ns

* Typ. is not specified.

ELECTRICAL CHARACTERISTICS (DC characteristic ; V_{DD} = 4.5V ~ 17V)

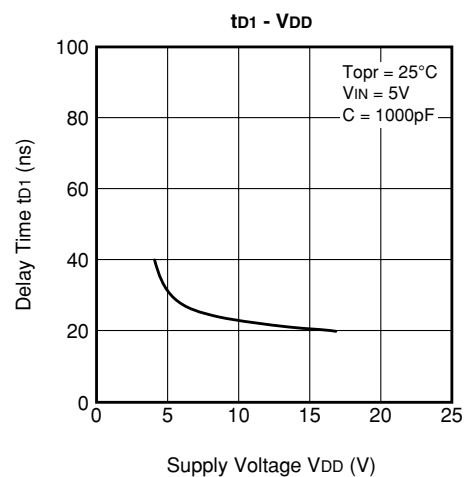
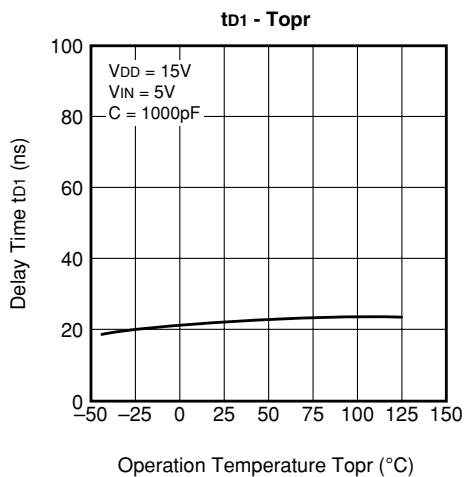
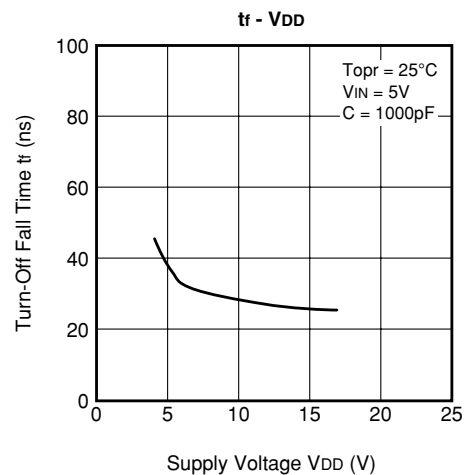
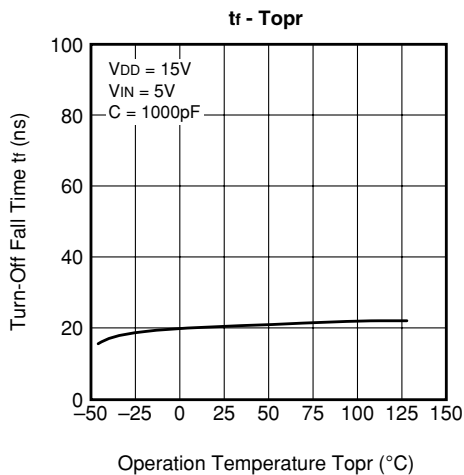
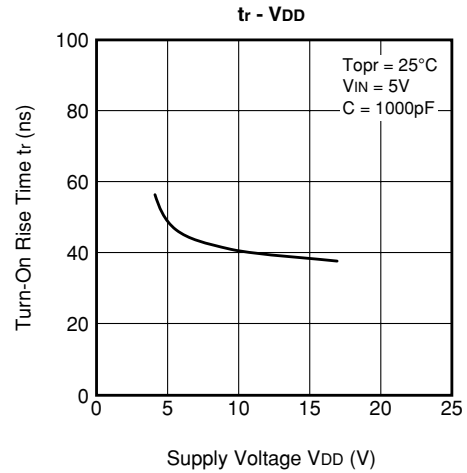
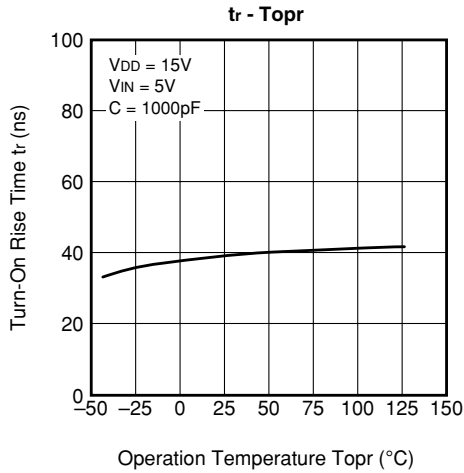
Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.*	Max.	
V _{IH}	High Level Input Threshold Voltage	V _{DD} = 15V	4.4	—	—	V
V _{IL}	Low Level Input Threshold Voltage	V _{DD} = 15V	—	—	1.8	V
I _{IN}	Input Bias Current	V _{IN} = 0V or V _{DD}	-1	—	1	μA
V _{OH}	High Level Output Voltage	I _O = 0A	V _{DD} -0.1	—	—	V
V _{OL}	Low Level Output Voltage	I _O = 0A	—	—	0.1	V
I _{supp}	V _{DD} Supply Current	V _{DD} = 15V, V _{IN} = 5V(both inputs)	—	4.0	8.0	mA
		V _{DD} = 15V, V _{IN} = 0V(both inputs)	—	—	0.05	mA
I _{OH}	Output High Level Short Circuit Pulsed Current	V _{DD} = 15V, PW ≤ 10μs, V _{OUT} = 0V	0.80	1.00	—	A
I _{OL}	Output Low Level Short Circuit Pulsed Current	V _{DD} = 15V, PW ≤ 10μs, V _{OUT} = 9V	0.60	0.80	—	A
R _{OUT}	Output High Level On Resistance	V _{DD} = 15V, I _{load} = 10mA, V _{OUT} = "H"	—	7	12	Ω
	Output Low Level On Resistance	V _{DD} = 15V, I _{load} = 10mA, V _{OUT} = "L"	—	6	11	Ω

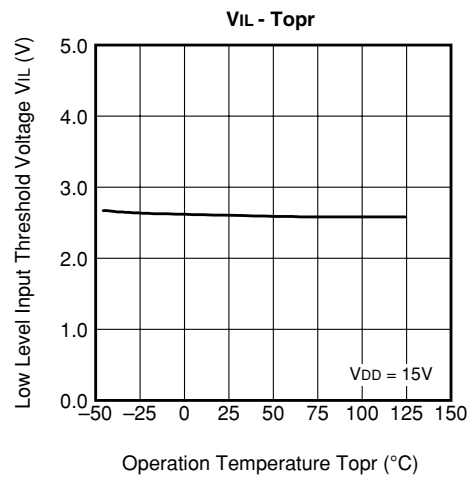
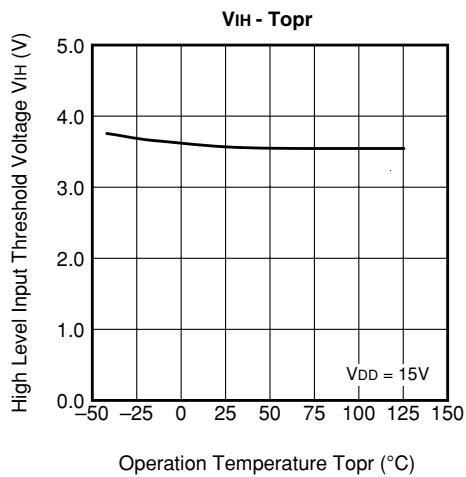
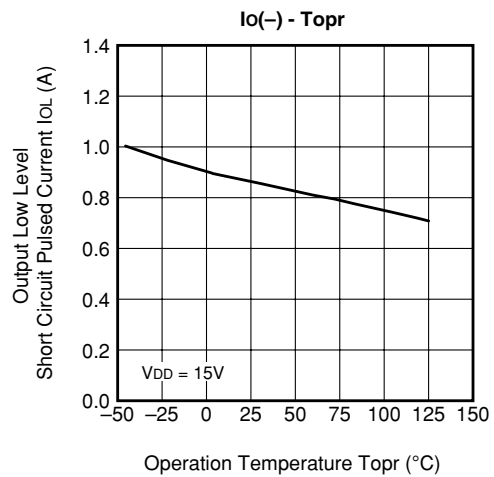
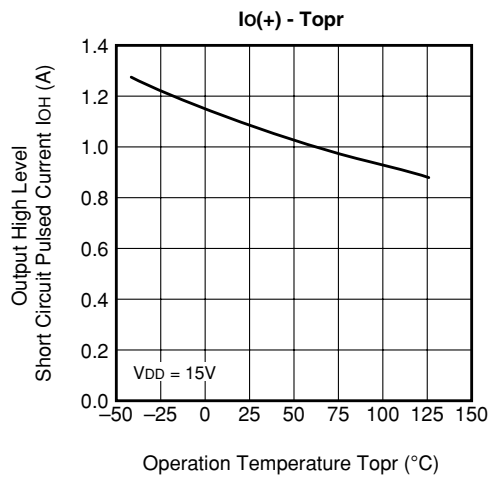
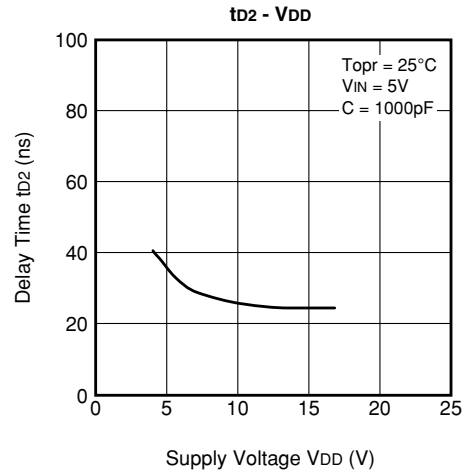
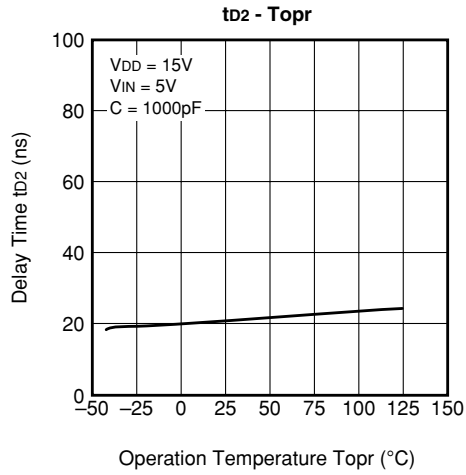
* Typ. is not specified.

PW : Input Pulse Wide

I_{load} : Supply input-and-output current to the OUT A/B terminal

PERFORMANCE CURVES





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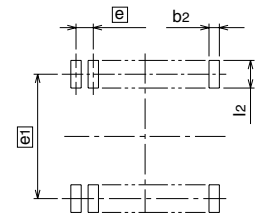
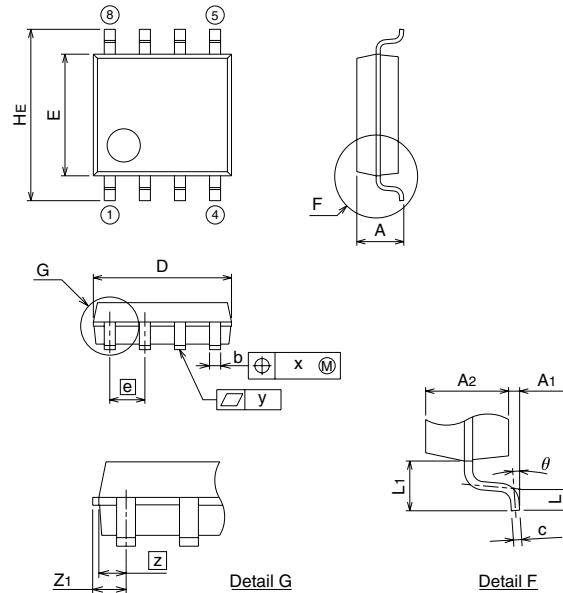
PACKAGE OUTLINE

8P2S-A

(MMP)

Plastic 8pin 225mil SOP

EIAJ Package Code	JEDEC Code	Weight(g)	Lead Material
SOP8-P-225-1.27	—	0.07	Cu Alloy



Recommended Mount Pad

Symbol	Dimension in Millimeters		
	Min	Nom	Max
A	—	—	1.9
A1	0.05	—	—
A2	—	1.5	—
b	0.35	0.4	0.5
c	0.13	0.15	0.2
D	4.8	5.0	5.2
E	4.2	4.4	4.6
[e]	—	1.27	—
HE	5.9	6.2	6.5
L	0.2	0.4	0.6
L1	—	0.9	—
[Z]	—	0.595	—
Z1	—	—	0.745
x	—	—	0.25
y	—	—	0.1
theta	0°	—	10°
b2	—	0.76	—
[e1]	—	5.72	—
l2	1.27	—	—