

TECHNICAL DATA
DATA SHEET: 416, REV. -

Three-Phase MOSFET/IGBT Bridge Driver

Absolute Maximum Rating:

Absolute Maximum Rating indicate sustained limits beyond which damage to the device may occur. All voltage parameters are absolute voltages referenced to COM. The thermal resistance is specified under board mounted and still air conditions.

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
High Side Floating Supply Voltage	$V_{B1,2,3}$	-0.3	-	500	V
High Side Floating Supply Voltage	$V_{S1,2,3}$	$V_{B1,2,3} - 25$	-	$V_{B1,2,3} + 0.3$	V
Supply Voltage	V_{CC}	-0.3	-	25	V
Logic Ground	V_{SS}	- 0.3	-	$V_{CC} + 0.3$	V
Logic Input Voltage (HIN, LIN, SD)	V_{IN}	$V_{SS} - 0.3$	-	$V_{CC} + 0.3$	V
Thermal Resistance	R_{thJA}	-	-	50	°C/W
Junction Temperature	T_j	-55	-	150	°C
Lead Soldering Temperature, 10 sec	T_L	-	-	250	°C

Recommended Operating Conditions

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
High Side Floating Supply Voltage	$V_{B1,2,3}$	$V_{S1,2,3} + 10$	-	$V_{S1,2,3} + 20$	V
High Side Floating Supply Voltage	$V_{S1,2,3}$	-5	-	300	V
Supply Voltage	V_{CC}	10	-	20	V
Logic Ground	V_{SS}	- 5	-	5	V
Logic Input Voltage (HIN, LIN, SD)	V_{IN}	V_{SS}	-	$V_{SS} + 5$	V

Dynamic Characteristics

$V_{CC}=V_{BS1,2,3} = 15V$, $V_{S1,2,3} = V_{SS}$, $C_L = 1 \text{ nF}$

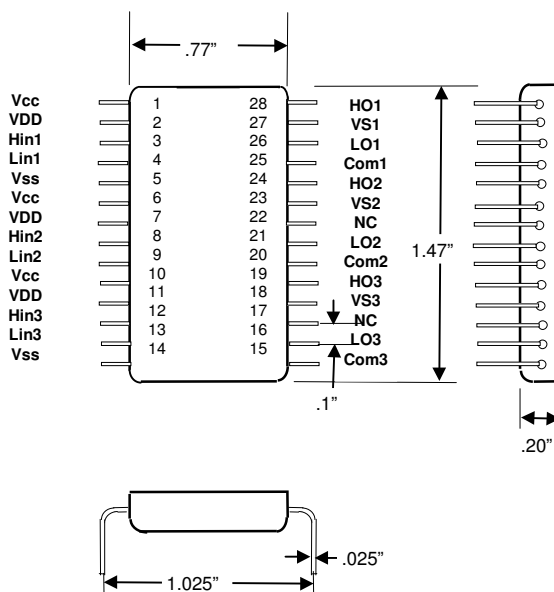
PARAMETER	TEST CONDITIONS	SYMBOL	MIN	TYP	MAX	UNIT
Turn-On Propagation Delay	$V_{IN} = 0 \text{ \& } 5V$ $V_{S1,2,3} = 0 \text{ to } 300V$	t_{on}	-	120	-	nsec
Turn-Off Propagation Delay		t_{off}	-	95	-	nsec
Turn-On Rise Time		t_r	-	25	-	nsec
Turn-Off Fall Time		t_F	-	20	-	nsec
SD to Output Shutdown Propagation Delay	V_{IN} , $V_{ITRIP} = 0V$, $V_{SD} = 0 \text{ \& } 5V$	t_{sd}	-	110	-	nsec
Delay Matching, HS & LS Turn-On/Off	-	MT	-	-	10	nsec

Static Characteristics

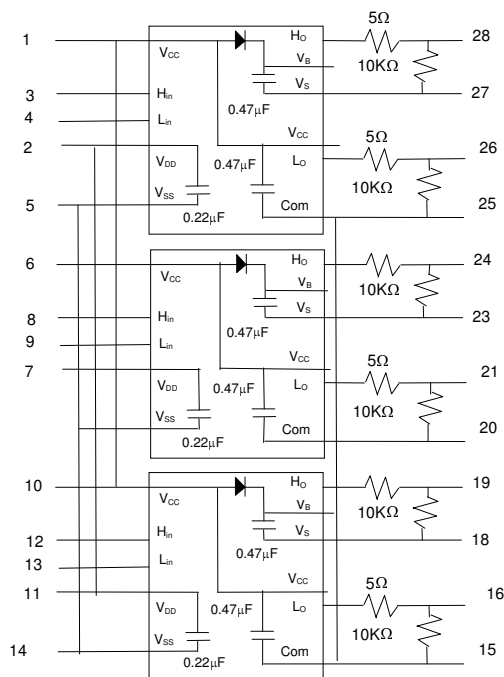
$V_{CC} = V_{DD} = V_{BS1,2,3} = 15V$, $V_{S1,2,3} = V_{SS}$

PARAMETER	TEST CONDITIONS	SYMBOL	MIN	TYP	MAX	UNIT
Logic "1" Input Voltage (Output =HI)	-	V_{IH}	9.5	-	-	V
Logic "0" Input Voltage (Output = LO)	-	V_{IL}	-	-	6.0	V
Quiescent V_{CC} Supply Current	$V_{IN} = 0V$, or V_{DD}	I_{QCC}	-	-	0.34	mA
Quiescent V_{DD} Supply Current	$V_{IN} = 0V$, or V_{DD}	I_{QDD}	-	-	0.23	mA
Quiescent V_{BS} Supply Current	$V_{IN} = 0V$, or V_{DD}	I_{QBS}	-	-	0.03	mA
Supply Under Voltage Positive Going Threshold	-	V_{CCIUV+} $V_{BSIUUV+}$	7.5	8.6	9.7	V
Supply Under Voltage Negative Going Threshold	-	V_{CCIUV-} $V_{BSIUUV-}$	7.0	8.2	9.4	V
Output High Short Circuit Pulsed Current	$V_{OUT} = 0V$, $V_{IN} = V_{DD}$, $t_p < 10\mu\text{sec}$	I_{O+}	2.0	2.5	-	A
Output Low Short Circuit Pulsed Current	$V_{OUT} = 0V$, $V_{IN} = 15V$, $t_p < 10\mu\text{sec}$	I_{O-}	2.0	2.5	-	A

Mechanical Dimensions: In inches



Schematic Diagram



TECHNICAL DATA

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