Analog IP Cell

LowSide MOSFET Driver
MOSDRIVER XC06

SERMA PRODUCTIVITY ENGINEERING

General Description

The low side MOSFET driver MOSDRIVER XC06 is a high power, high speed driver solution for externally connected power MOS transistors. Impulses with a minimum length of 500ns can be driven to a maximum capacitive load of 5nF. DC currents of up to 2A are feasible.
Equipped with several protection functions, the circuit ensures reliable operation of the actual power MOS transistor (Gate voltage limitation, defined DC levels in stand-by ensured by integrated clamping resistor). The circuit can be disabled by an additional control input.

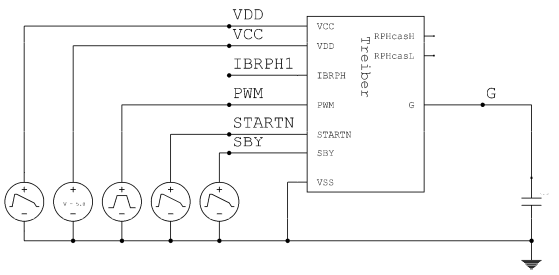
Ratings, Parameters and Conditions

Parameter / Condition	Symbol	Min	Typ.	Max	Unit	Comment
Electrical Parameters:						
Supply Voltage, logic level	V_{cc}	4.75	5	5.25	V	
Supply Voltage, high level	V_{DD}	8	12	25	V	
Active Supply Current	I_{dd}		25		mA	
Output Voltage High	V_{GH}	7	8.5	10	V	@I_{OH}=-100mA
Output Voltage Low	V_{GL}		1.0	2.2	V	@I_{OL}=200mA
Maximum Output Voltage	VGMAX			15	V	V_{DD} =20V
Output Voltage Before StartUp and after LockOut	V_{GST}			1	V	
RiseTime	t_{GR}	10	25	110	ns	@1nF load
FallTime	t_{GF}	5		55	ns	@1nF load
Absolute Maximum Ratings:						
Operating Temperature	T_{range}	-40		140	℃	
Supply Voltage	V_{dd}	-0.3		25	V	
Input Voltage	V_{in}	-0.3		V_{dd}+0.7		
Output Voltage	V_{out}	-0.3		V_{dd}+0.7		
Operating Conditions:						
Ambient Temperature	T_{amb}	-20	27	80	℃	

IO-Description

Interface	I/O	Function	Comment
VSS	input	Supply	
VCC	Input	Supply	
VDD	Input	Logic Level Supply	
SBY	Input	Enable Signals; logic and threshold level resp.	
STARTN	Input		
PWM	Input	Logic Level Input Signal	
IBRPH	Input	Bias	
RPHcasH			
RPHcasL			
G	Output	External MOSFET Gate Drive Output	

Block schematic, ext. component diagram



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