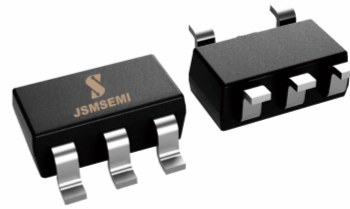


1. Description

The JSM27519 device is a low voltage power MOSFET and IGBT in phase gate driver. Proprietary latch-immune of CMOS technology enables single-chip integrated architectures with high robustness. The JSM27519 logic input level is compatible with CMOS or TTL logic output levels down to 3.3V. The output driver has Internal Undervoltage Lockout (UVLO) circuitry with hysteresis and buffer stage of output current . The JSM27519 is designed to operate over a wide VCC range of -10 V to 25 V and wide temperature range of -40°C to 125°C.



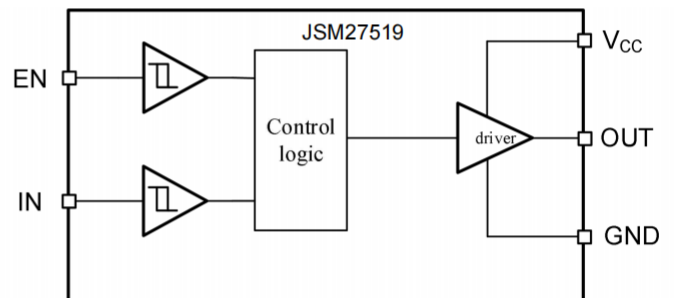
2. Features

- Input output in-phase
- Compatible with 3.3V、5V、15V input logic
- -10 to 25V Single-Supply Range
- High capacitance load driving capability
- Operating Temperature Range of -40 to 125°C
- Undervoltage Lockout
 - Undervoltage Lockout turn-on threshold 4.5V
 - Undervoltage Lockout turn-off threshold 4.2V
- Turn on/Turn off Delays:
 - Ton/Toff =25ns/25ns
- 4-A Peak Source and Sink-Drive Current

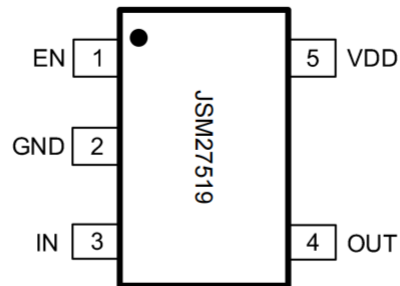
3. Applications

- Switch-Mode Power Supplies
- General Gate Driver
- Driving MOSFETs and IGBTs

Pin Configuration



4. Pin Configuration and Functions



Pin Functions

PIN	NAME	DESCRIPTION
1	EN	Enable input.
2	GND	Ground: All signals are referenced to this pin.
3	IN	Logic input.
4	OUT	Gate drive output.
5	VDD	Bias supply input.

5. Absolute Maximum Ratings

Stresses beyond those listed under Absolute Maximum Ratings may cause permanent damage to the device. All voltages are with respect to GND unless otherwise noted, Currents are positive into, negative out of the specified terminal, environment temperature is 25 °C.

Symbol	Definition	MIN	MAX	UNIT
V _{DD}	Supply voltage range	-0.3	25	V
V _O	OUT voltage range	-0.3	V _{DD} +0.3	
V _{IN}	IN voltage	-12	25	

Thermal Information

Symbol	Definition	MIN	MAX	UNIT
R _{thJA}	thermal resistance		151	°C/W
T _S	Storage temperature	-55	+150	°C
T _J	Operating junction temperature		+150	
T _L	Lead temperature		300	

Recommended Operating Conditions

To properly operate, device should be used in the following recommended conditions. All voltages are with respect to GND unless otherwise noted, Currents are positive into, negative out of the specified terminal, environment temperature is 25 °C.

Symbol	Definition	MIN	MAX	UNIT
V _{DD}	Supply voltage range	5.0	20	V
V _O	OUT voltage range	0	V _{DD}	
V _{IN}	IN voltage	-10	20	
T _A	ambient temperature	-40	125	°C

Electrical Characteristics

TA= 25°C, VDD=15V, CL=1nF(unless otherwise noted)

Symbol	Definition	MIN	TYP	MAX	UNIT
V _{IH}	Input signal high threshold	2.7			V
V _{IL}	Input signal low threshold			0.8	V
V _{EN+}	EN input rising threshold	2.5			V
V _{EN-}	EN input drop threshold			0.8	V
V _{DDUV+}	Undervoltage Lockout (UVLO) turn-on threshold VDD		4.5	5	V
V _{DDUV-}	Undervoltage Lockout (UVLO) turn-off threshold VDD		4.2		V
V _{DDUVHY}	UVLO threshold hysteresis VDD		0.3		V
I _{IN+}	Input current (IN=5V)		50	100	μA
I _{IN-}	Input current (IN= 0V)			5	μA
V _{OH}	High output voltage			0.35	V
V _{OL}	Low output voltage			0.35	V
I _Q	VDD quiescent supply current		280	400	μA
I _{O+}	Output high short-circuit pulse current		4		A
I _{O-}	Output low short-circuit pulse current		4		A
t _R	Rise time		5		ns
t _F	Fall time		4		ns
t _{ON}	Turn-on propagation delay		25		ns
t _{OFF}	Turn-off propagation delay		25		ns

6. Function Description

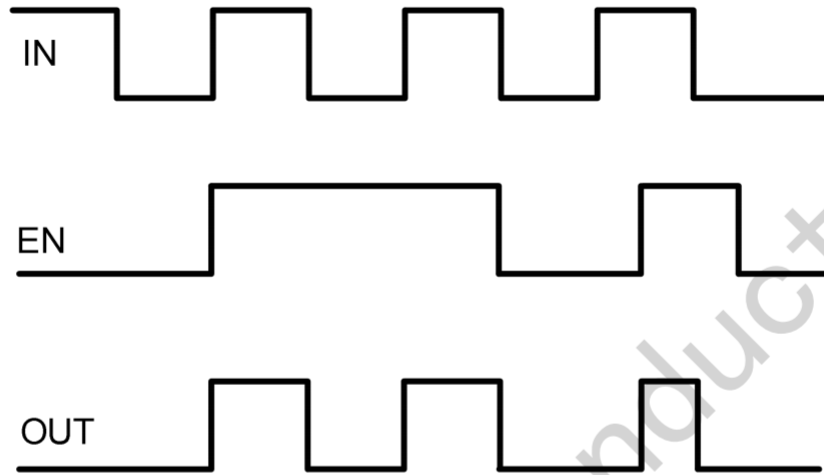


Figure 6 - 1 Input-Output waveform



Figure 6 - 2 Propagation Time Waveform Definition

7. Function Block Diagram

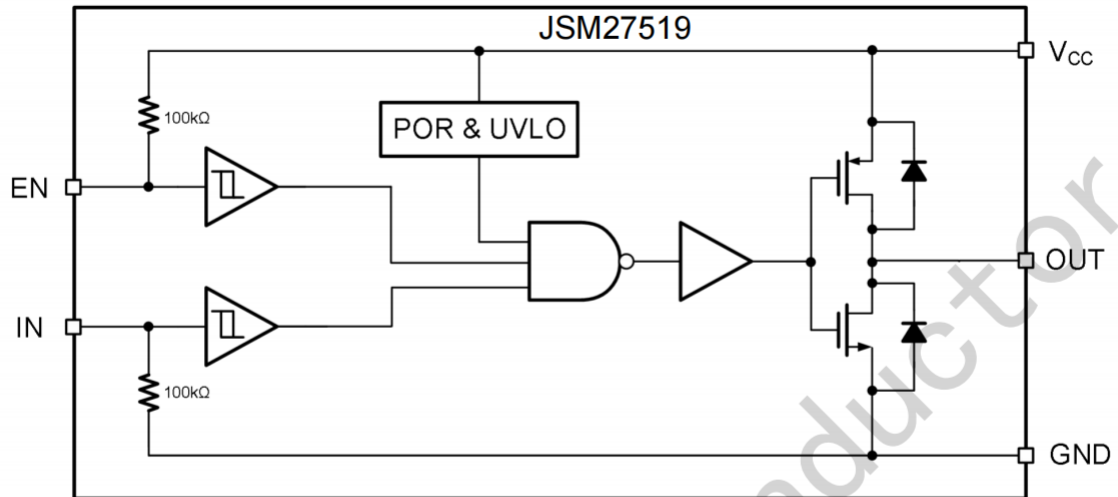


Figure 7-1 Function Block Diagram of JSM27519

8. Application message

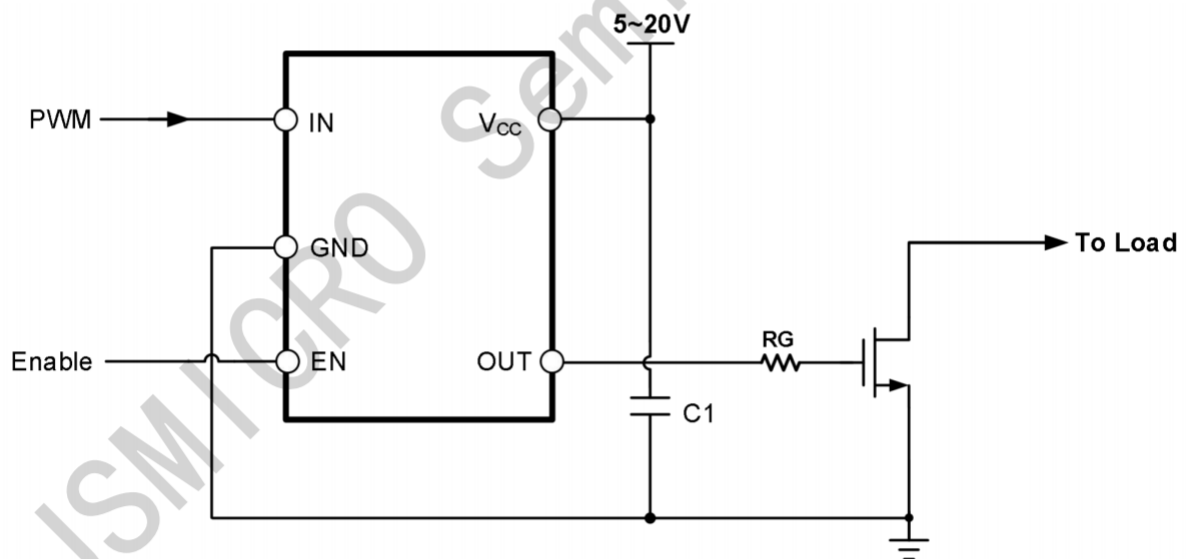
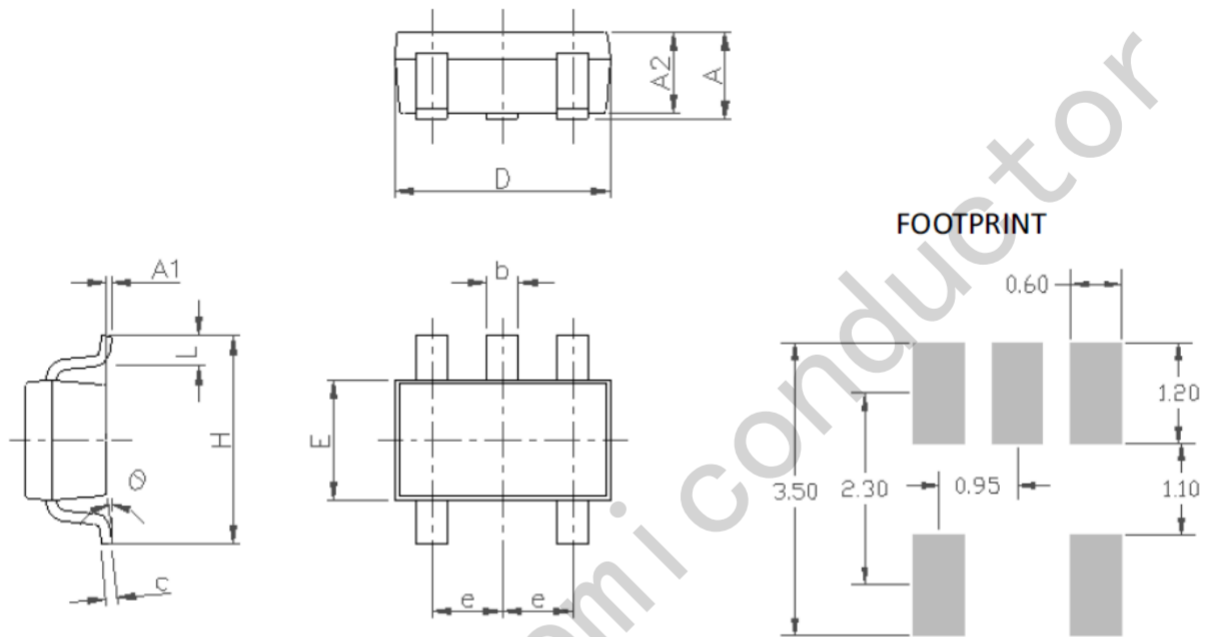


Figure8-2 Typical application circuit of JSM27519

8 PACKAGING INFORMATION

SOT23-5 Package Outlines



SOT23-5 Package Dimensions

Size Symbol	MIN(mm)	TYP(mm)	MAX(mm)	Size Symbol	MIN(mm)	TYP(mm)	MAX(mm)
A	0.9	-	1.45	E	1.50	-	1.75
A1	0.00	-	0.15	e	-	0.95	-
A2	0.90	-	1.30	H	2.60	-	3.00
b	0.30	-	0.50	L	0.30	-	0.60
c	0.09	-	0.20	θ	0.00	-	10.00
D	2.80	-	3.05				