PWM Controller

CYT 2023.07.14 001

Description

CD5025 is a voltage PWM controller that implements power converters utilizing the Active Clamp / Reset technique. With the active clamp technique, higher efficiencies and greater power densities can be realized compared to conventional catch winding or RDC clamp / reset techniques.

Two control outputs are provided, the main power switch control (OUT_A) and the active clamp switch control (OUT_B). The two internal compound gate drivers parallel both MOS and Bipolar devices, providing superior gate drive characteristics. This controller is designed for high-speed operation including an oscillator frequency range up to 1MHz and total PWM and current sense propagation delays less than 100ns.

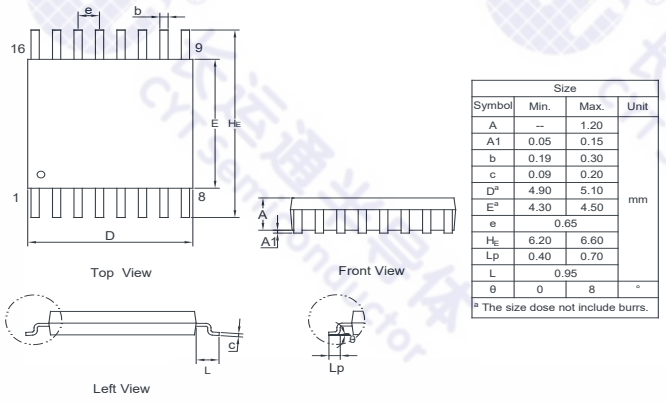
Absolute Maximum Ratings

VIN to GND	-0.3V to 105V
VCC to GND	-0.3V to 16V
CS1, CS2 to GND	-0.3V to 1V
All other inputs to GND	-0.3V to 7V
Junction Temperature	150℃
Storage Temperature Range	-65℃ to 150℃

Recommended Operating Conditions

VIN Voltage	13V to 100V
VCC Voltage	8V to 15V
Operating Junction Temperature (T_J)	-40℃ to 125℃

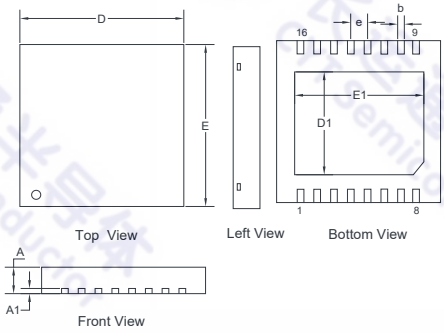
Package Diagram



Size			
Symbol	Min.	Max.	Unit
A	--	1.20	mm
A1	0.05	0.15	
b	0.19	0.30	
c	0.09	0.20	
D[a]	4.90	5.10	
E[a]	4.30	4.50	
e	0.65		
HE	6.20	6.60	
Lp	0.40	0.70	
L	0.95		
θ	0	8	°

[a] The size dose not include burrs.

TSSOP16



Size			
Symbol	Min.	Max.	Unit
A	0.70	0.80	mm
A1	0.15	0.25	
b	0.20	0.30	
D[a]	4.90	5.10	
D1	3.60	3.80	
E[a]	4.90	5.10	
E1	4.30	4.50	
e	0.50		

[a] The size dose not include burrs.

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Typical Application Circuit