

## Features

- DMOS 4ch output
- Allows ON/OFF using C-MOS logic level
- Built-in over current and thermal protection circuit and diagnostic function to detect open load
- Built-in output status signals (over current, over heat and open load)

## Absolute Maximum Ratings

(Ta=25°C)

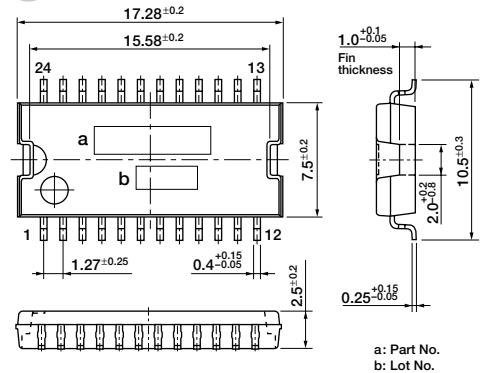
Parameter	Symbol	Ratings	Unit	Conditions
Power supply voltage	V <sub>B</sub>	40	V	
Output terminal voltage (DC)	V <sub>OUT</sub>	50	V	
Output terminal voltage (pulse)	V <sub>OUT</sub>	Output clamping (max 70V)	V	
Output current (DC)	I <sub>OUT</sub>	±2.9	A	
Output current (pulse)	I <sub>OUT</sub>	Over current protection starting current	A	
Input terminal voltage	V <sub>(IN,SEL,B/U)</sub>	-0.5 to +6.5	V	
Diag output source current	V <sub>DIAG</sub>	6.5	V	
Diag output voltage	I <sub>DIAG</sub>	5	mA	
Power Dissipation	P <sub>D</sub>	2.8	W	
Storage temperature	T <sub>stg</sub>	-40 to +150	°C	
Channel temperature	T <sub>ch</sub>	150	°C	
Output avalanche capability	E <sub>AV</sub>	80	mJ	Single pulse

## Electrical Characteristics

(V<sub>B</sub>=14V, Ta= 25°C unless otherwise specified)

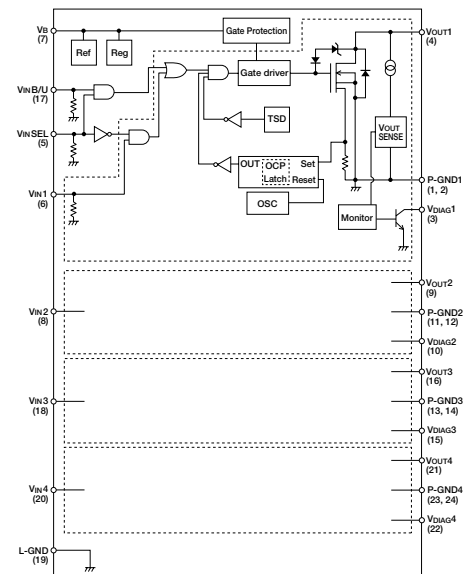
Parameter	Symbol	Ratings			Unit	Conditions
		min	typ	max		
Power supply voltage	V <sub>B (opr)</sub>	5.5		40	V	
Quiescent circuit current	I <sub>q</sub>		9	12	mA	V <sub>B</sub> =14V, V <sub>IN</sub> =0V
Operating circuit current	I <sub>d</sub>		12	15	mA	V <sub>B</sub> =14V, V <sub>IN</sub> =5V (all inputs)
Input voltage (1 to 4, SEL, B/U)	V <sub>IN (H)</sub>	3.5		6.5	V	V <sub>B</sub> =14V, V <sub>O</sub> =1A
	V <sub>IN (L)</sub>	-0.5		1.5	V	V <sub>B</sub> =14V
Input current (single circuit) (1 to 4, SEL, B/U)	I <sub>IN (H)</sub>			200	µA	V <sub>B</sub> =14V, V <sub>IN</sub> =5V
	I <sub>IN (L)</sub>			30	µA	V <sub>B</sub> =14V, V <sub>IN</sub> =0V
Output ON resistance	R <sub>DS (ON)</sub>			0.18	Ω	V <sub>B</sub> =14V, I <sub>O</sub> =1A
Output clamp voltage	V <sub>OUT (clamp)</sub>	60	65	70	V	V <sub>B</sub> =14V, I <sub>O</sub> =1A
Output leak current	I <sub>OH</sub>			50	µA	V <sub>B</sub> =14V, V <sub>O</sub> =50V
Forward voltage of output stage diode	V <sub>F</sub>			1.5	V	I <sub>F</sub> =1A
Output monitor threshold voltage	V <sub>thM</sub>			2	V	V <sub>B</sub> =14V
DIAG output voltage	V <sub>DIAG (H)</sub>	6.4		6.5	V	V <sub>B</sub> =14V, I <sub>DIAG</sub> =6.5V
	V <sub>DIAG (L)</sub>			0.5	V	V <sub>B</sub> =14V, I <sub>DIAG</sub> =5mA
DIAG output leak current	I <sub>DH</sub>			10	µA	V <sub>B</sub> =14V, V <sub>DIAG</sub> =6.5V
Thermal shutdown operating temperature	T <sub>TSD</sub>	151	165		°C	V <sub>B</sub> =14V
Overcurrent protection starting current	I <sub>S</sub>	3.0			A	V <sub>B</sub> =14V
Output transfer time	T <sub>ON</sub>			12	µs	V <sub>B</sub> =14V, R <sub>L</sub> =14Ω, I <sub>O</sub> =1A
	T <sub>OFF</sub>			8	µs	V <sub>B</sub> =14V, R <sub>L</sub> =14Ω, I <sub>O</sub> =1A
Output rise time	T <sub>r</sub>			5	µs	V <sub>B</sub> =14V, R <sub>L</sub> =14Ω, I <sub>O</sub> =1A
Output fall time	T <sub>f</sub>			10	µs	V <sub>B</sub> =14V, R <sub>L</sub> =14Ω, I <sub>O</sub> =1A
DIAG output transfer time	t <sub>DON</sub>			12	µs	V <sub>B</sub> =14V, R <sub>L</sub> =14Ω, I <sub>O</sub> =1A
	t <sub>DOFF</sub>			8	µs	V <sub>B</sub> =14V, R <sub>L</sub> =14Ω, I <sub>O</sub> =1A

## External Dimensions (unit: mm)

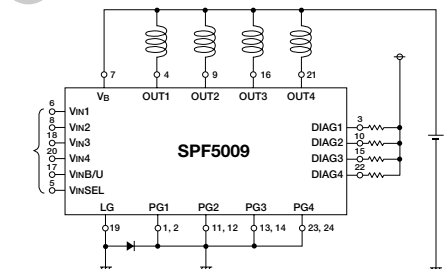


a: Part No.  
b: Lot No.

## Equivalent Circuit Diagram



## Circuit Example



## Timing Chart

