

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)

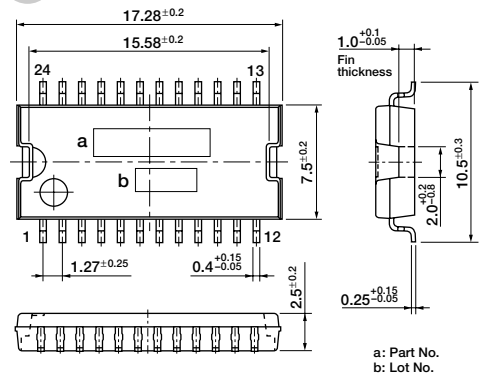
Parameter	Symbol	Ratings	Unit	Conditions
Power supply voltage	V _B	40	V	
Output terminal voltage (DC)	V _{OUT}	50	V	
Output terminal voltage (pulse)	V _{OUT}	Output clamping (max 70V)	V	
Output current (DC)	I _{OUT}	±2.9	A	
Output current (pulse)	I _{OUT}	Over current protection starting current	A	
Input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

Electrical Characteristics

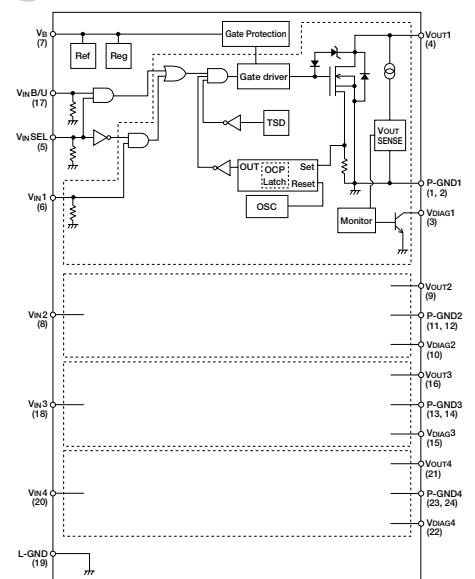
(V_B=14V, Ta= 25°C unless otherwise specified)

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

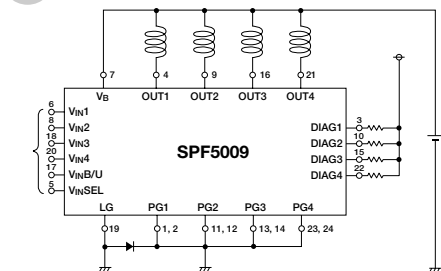
External Dimensions (unit: mm)



Equivalent Circuit Diagram



Circuit Example



Timing Chart

