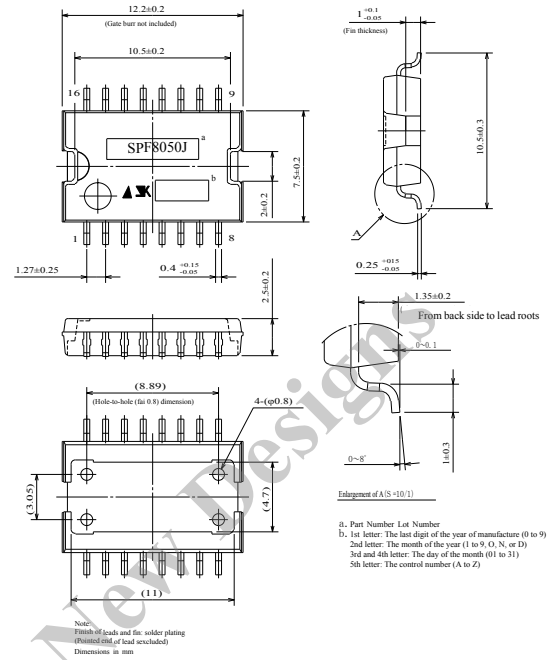


Automotive Surface Mount Type Switching Regulator SPF8050J

Features

- Output voltage: $5V \pm 2\%$
($V_{IN}=14V, I_o=0.5A, T_j=25^\circ C$)
- Possible to apply output current 1.5A
($T_a=25^\circ C$) with compact HSOP16 package
- High efficiency 82% ($V_{in}=14V, I_o=0.5A$)
- External components: 4 parts
- Built-in reference oscillator (125kHz)
- ON/OFF function of low current consumption at OFF

Package



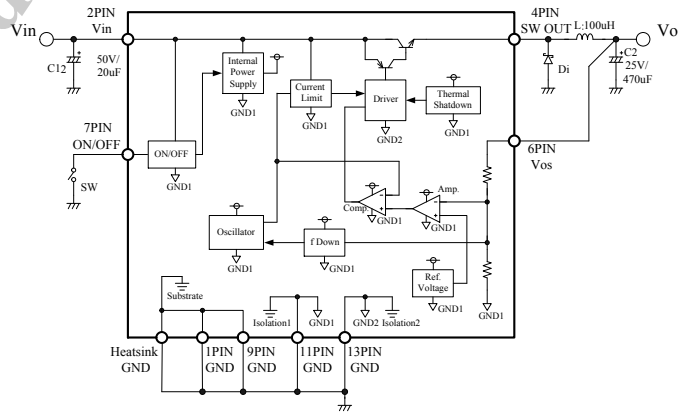
Absolute Maximum Ratings

Characteristic	Symbol	Ratings	Units	Remarks
Input voltage	V_{IN}	35	V	
		40	V	Within 300ms
Power dissipation *2	P_D	1.6	W	Heat sink land pattern : 1cm ²
Junction temperature	T_j	125	°C	
Storage temperature	T_{stg}	-40~125	°C	

Recommended Operating Conditions

Characteristic	Symbol	Ratings	Units	Remarks
Input voltage range	V_{IN}	7~35	V	$I_o=0\sim 1A$
		8~35	V	$I_o=0\sim 1.5A$
Output current range	I_o	0~1.5	A	$V_{IN} \geq 8V$
Operating junction Temperature range	T_{jop}	-30~125	°C	
Operating temperature range	T_{op}	-30~125	°C	

Circuit Block Diagram



Electrical Characteristics ($T_j=25^\circ C$)

Characteristic	Symbol	Limits			Units	Test conditions
		Min.	Typ.	Max.		
Output voltage	V_o	4.90	5.00	5.10	V	$V_{IN}=14V, I_o=0.5A$
Temperature coefficient *5	$\Delta V_o / \Delta T$	±0.5			mV/°C	
Efficiency *6	η	82			%	$V_{IN}=14V, I_o=0.5A$
Operating frequency	f_o	70	125	180	kHz	$V_{IN}=14V, I_o=0.5A$
Line regulation	ΔV_{Line}	40	100		mV	$V_{IN}=10\sim 30V, I_o=0.5A$
Load regulation	ΔV_{Load}	10	40		mV	$V_{IN}=14V, I_o=0.2\sim 0.8A$
Quiescent current	I_q	7	12		mA	$V_{IN}=14V, I_o=0A$
Standby current	$I_q(off)$		200		µA	$V_{IN}=14V, V_{ON/OFF}=0.3V$
Current Limit	I_s	1.6			A	$V_{IN}=14V$
ON/OFF terminal	Shutdown voltage	V_{SSL}		0.5	V	
	Outflow current	I_{SSL}		100	µA	$V_{SSL}=0V$