

Automotive Surface Mount Type Switching Regulator SPF8033J

■ Features

- Output voltage: $3.3V \pm 2\%$
($V_{IN}=14V, I_o=0.5A, T_j=25^\circ C$)
- 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

■ 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	$^\circ C$	
Storage temperature	T_{stg}	-40~125	$^\circ C$	

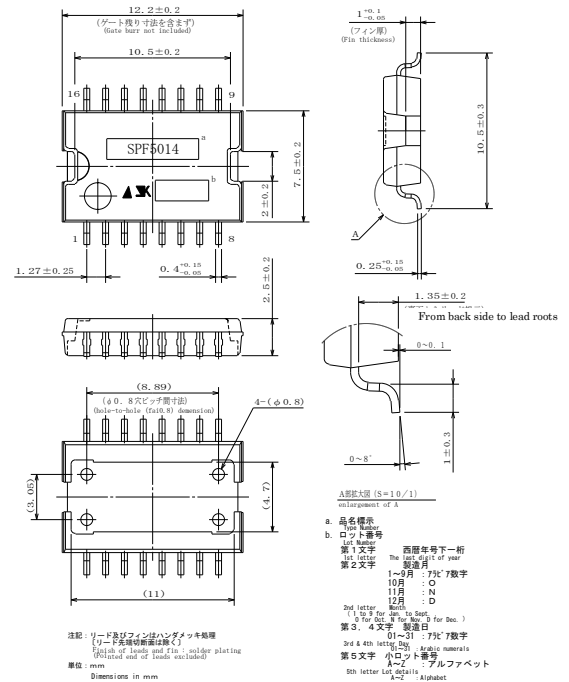
■ Recommended operating conditions

Characteristic	Symbol	Ratings	Units	Remarks
Input voltage range	V_{IN}	5.3~35	V	$I_o=0\sim 1A$
		6.3~35	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	$^\circ C$	
Operating temperature range	T_{op}	-30~125	$^\circ C$	

■ Electrical characteristics ($T_j=25^\circ C$)

Characteristic	Symbol	Limits			Units	Test conditions
		MIN	TYP	MAX		
Output voltage	V_o	3.234	3.30	3.366	V	$V_{IN}=14V, I_o=0.5A$
Temperature coefficient *5	TC		± 0.5		mV/ $^\circ C$	
Efficiency *6	η		77		%	$V_{IN}=14V, I_o=0.5A$
Operating frequency	f_o	70	125	180	kHz	$V_{IN}=14V, I_o=0.5A$
Line regulation	VLine		25	80	mV	$V_{IN}=8\sim 30V, I_o=0.5A$
Load regulation	VLoad		10	30	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	$V_{IN}=14V$
		Shutdown voltage	V_{SSL}		0.5	V
ON/OFF terminal	Outflow current	I_{SSL}		100	μA	$V_{SSL}=0V$

■ Package



■ Circuit block diagram

