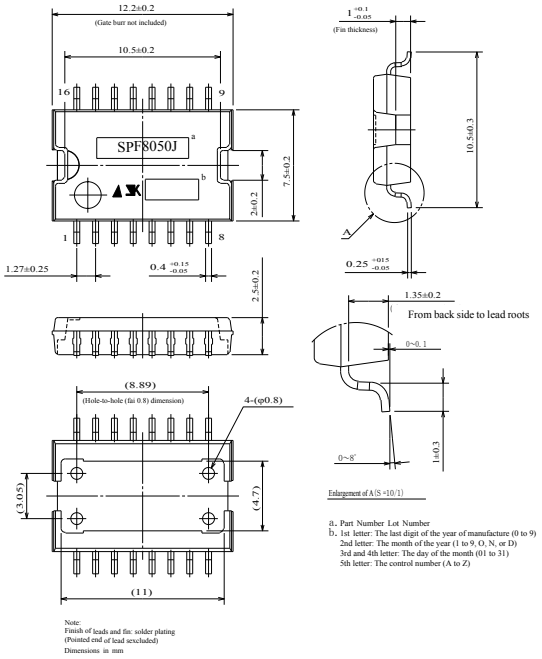
Automotive Surface Mount Type Switching Regulator SPF8050J

■Features

- ●Output voltage: 5V±2%
  (VIN=14V, Io=0.5A, Tj=25℃)
- ●Possible to apply output current 1.5A
  (Ta=25℃) with compact HSOP16 package
- ●High efficiency 82% (Vin=14V, Io=0.5A)
- ●External components: 4 parts
- ●Built-in reference oscillator (125kHz)
- ●ON/OFF function of low current consumption at OFF

■Package



a. Part Number Lot Number
b. 1st letter: The last digit of the year of manufacture (0 to 9)
2nd letter: The month of the year (1 to 9, O, N, or D)
3rd and 4th letter: The day of the month (01 to 31)
5th letter: The control number (A to Z)

Note:
Finish of leads and fin: solder plating
(Pointed end of lead sexcluded)
Dimensions in mm

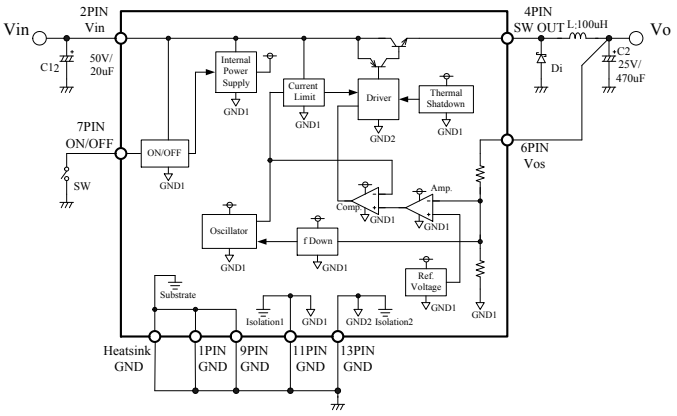
■Absolute Maximum Ratings

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 :1cm²
Junction temperature	Tj	125	℃	
Storage temperature	Tstg	-40～125	℃	

■Recommended Operating Conditions

Characteristic	Symbol	Ratings	Units	Remarks
Input voltage range	V_{IN}	7～35	V	Io=0～1A
		8～35	V	Io=0～1.5A
Output current range	Io	0～1.5	A	VIN≧8V
Operating junction Temperature range	Tjop	-30～125	℃	
Operating temperature range	Top	-30～125	℃	

■Circuit Block Diagram



■Electrical Characteristics (Tj=25℃)

Characteristic		Symbol	Limits Min.	Typ.	Max.	Units	Test conditions
Output voltage		V_O	4.90	5.00	5.10	V	V_{IN}=14V, I_O=0.5A
Temperature coefficient *5		TC		±0.5		mV/℃	
Efficiency *6		η		82		%	V_{IN}=14V, I_O=0.5A
Operating frequency		fo	70	125	180	kHz	V_{IN}=14V, I_O=0.5A
Line regulation		VLine		40	100	mV	V_{IN}=10～30V, I_O=0.5A
Load regulation		VLoad		10	40	mV	V_{IN}=14V, I_O=0.2～0.8A
Quiescent current		Iq		7	12	mA	V_{IN}=14V, I_O=0A
Standby current		Iq(off)			200	μA	V_{IN}=14V $V_{ON/OFF}$=0.3V
Current Limit		Is	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