ShinDengen

MH2511SC

Power Factor Correction(PFC) IC

Feature

- Follower IC
- Leader-Follower interleaved critical current mode
- Two or greater phase interleaving achieved
- Vcc(max)=26V
- Over current protection
- Pb free
- RoHS:Yes

Outline

House Name: SOP8J

1 絶対最大定格 (at Tc=25℃)
Absolute Maximum Ratings (at Tc=25℃)

1-1 熱規格
Thermal Ratings

項目 Item	記号 Symbol	規格値 Ratings	単位 Unit
保存温度 Storage temperature	Tstg	−55～150	℃
接合部温度 Junction temperature	Tj	−40～150	℃
許容損失 Total power dissipation	Pt	1.5	W

1-2 電気的規格
Electrical Ratings

項目 Item	記号 Symbol	規格値 Ratings	単位 Unit
VCC端子最大印加電圧 VCC maximum applied voltage	VCC	26	V
IL_IN端子最大流入電流 IL_IN into maximum current	IIL_IN	±5	mA
LATCH端子最大流入電流 LATCH into maximum current	ILATCH	±5	mA
OCL端子最大流入電流 OCL into maximum current	IOCL	±5	mA
TIMER端子最大流入電流 TIMER into maximum current	ITIMER	±5	mA
IL_OUT端子最大流入電流 IL_OUT into maximum current	IIL_OUT	±5	mA

注意 ：本仕様書に記載されていない項目、使用条件、論理の組み合わせでの使用は保証していません。
記載されている以外の条件で使用する場合は必ず事前に当社担当営業部門までご相談下さい。
記載内容は改良などのためにお断り無しに変更することがあります。

Notes : Using with parameters, condition of use and logic controls that are not specified in the specifications are not assured.
When used with the conditions that are not specified, please consult us in advance.
The contents described herein are subject to change without notice.

2 推奨動作条件
Recommended Operation Conditions

項目 Item	記号 Symbol	推奨値 Recommended value			単位 Unit
		min	typ	max	
動作温度 Operating temperature	Top	−20	---	125	℃
VCC端子印加電圧 VCC applied voltage	VCC	11	---	23	V

注意 ：上記の規格範囲内においても、製品寿命に関しましてはお客様の使用環境により異なりますので、長寿命を期待される製品にご使用される場合には、Tj=100℃以下でご使用頂く事を推奨致します。

Notes : The product life depends on the condition of use even within the above operating conditions.
Using at Tj = 100℃ or less is recommended for the equipment where a long life is expected.

3 電気的 (at Ta=25℃)
Electrical Characteristics (at Ta=25℃)

項目 Item	記号 Item	条件 Condition	規格値 Ratings min	規格値 Ratings typ	規格値 Ratings max	単位 Unit
VCC端子 (VCC Terminal)						
発振開始電圧 On-state voltag	VCC(start)	FB=1V COMP=3.0V OCL=0V	10.1	11.0	12.0	V
発振停止電圧 Off-state voltage	VCC(stop)	FB=1V COMP=3.0V OCL=0V	6.5	7.5	8.2	V
ﾗｯﾁ解除電圧 Latch reset voltage	SSR					
VCC電流(動作時) VCC current (Active mode)	ICC(active)	VCC=15V f_IL_IN=30kHz OCL=0V TIMER=0V	1.5	2.5	3.5	mA
OUT端子 (OUT Terminal)						
ｿｰｽ電流 Source current	Iout(source)	VCC=12V OUT=6.5V	−0.8	−0.5	−0.2	A
ｼﾝｸ電流 Sink current	Iout(sink)	VCC=12V OUT=4.0V	0.8	1.2	1.5	A
IL_OUT端子 (IL_OUT Terminal)						
ｿｰｽ電流 Source current	IL_Iout(source)	IL_OUT=0V	−6.5	−4.5	−2.0	mA
ｼﾝｸ電流 Sink current	IL_Iout(sink)	IL__OUT=5V	12	22	32	mA
IL_IN端子 (IL_IN Terminal)						
IL_IN検出電圧 IL_IN detection voltage	VIL_IN(L)	OCL=0V TIMER=0V	1.0	1.5	2.0	V
	VIL_IN(H)	OCL=0V TIMER=0V	3.0	3.5	4.0	V
ｵﾝﾃﾞｯﾄﾞﾀｲﾑ On dead time	Tondead	OCL=0V TIMER=0V	−	500	−	ns
入力最大ON時間 Maximum input on time	IL_IN MAX	OCL=0V TIMER=0V	35	45	50	μs

項目 Item	記号 Item	条件 Condition	規格値 Ratings			単位 Unit
			min	typ	max	

TIMER端子 (TIMER Terminal)

ﾌｫﾛﾜｰ異常検出電圧 Follower abnormality detection voltage	Follower_AST	-	2.3	2.5	2.7	V

LATCH端子 (LATCH Terminal)

ﾗｯﾁ端子出力電圧 Latch terminal output voltage	AST_LATCH	OCL=0V TIMER=0V I_LATCH=5mA	-	-	300	mV

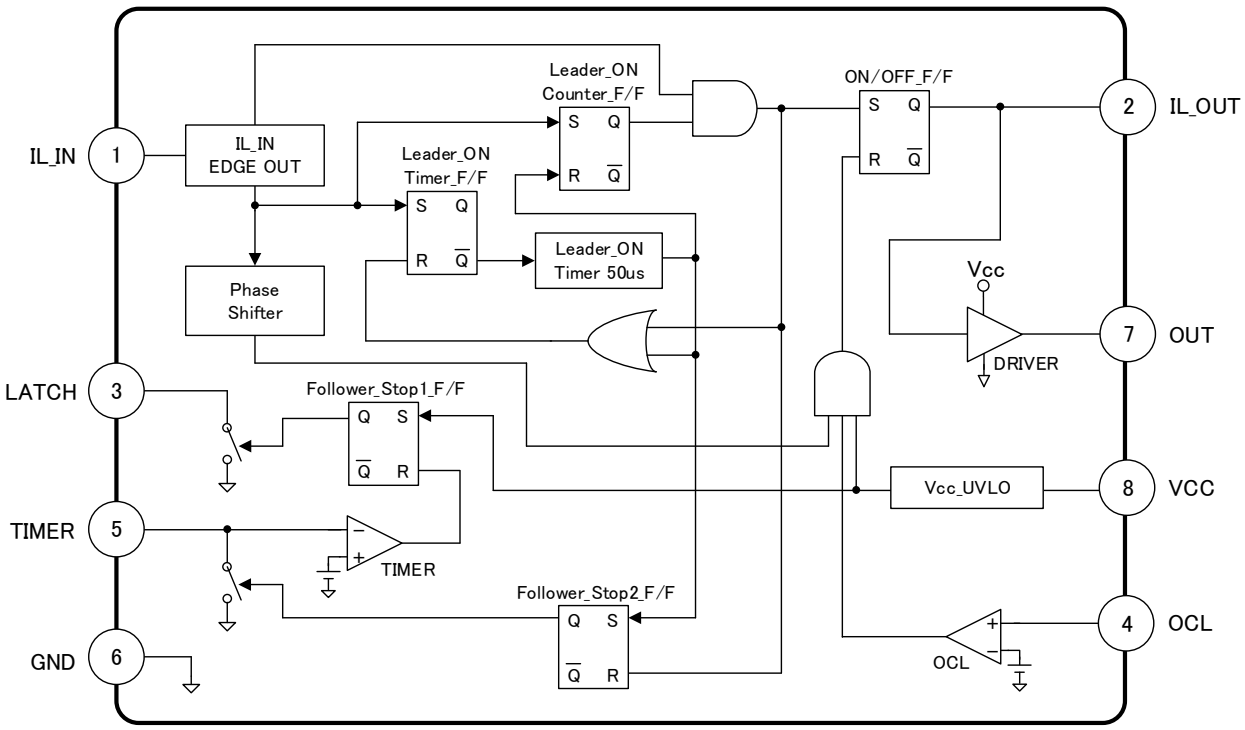
OCL端子 (OCL Terminal)

過電流保護電圧 Overcurrent protection voltage	VTH_OCL	TIMER=0V	0.45	0.50	0.55	V
ﾘｰﾃﾞｨﾝｸﾞｴｯｼﾞﾌﾞﾗﾝｸﾀｲﾑ Leading edge blanking time	TLEB	TIMER=0V	-	500	-	ns

ON/OFFタイマ機能 (ON/OFF timer section)

最大ON時間 Maximum on time	Ton(max)	OCL=0V TIMER=0V	30.5	35.0	40.0	μs

4 ブロック図および端子機能
Block Diagram & Pin Function



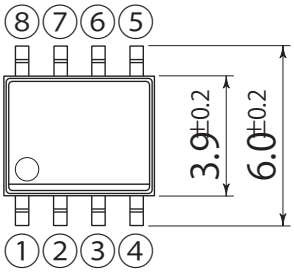
端子番号 Terminal No.	記号 Symbol	端子名称 Terminal Name
1	IL_IN	インターリーブ動作用信号入力端子 The signal input terminal for interleave operation
2	IL_OUT	インターリーブ動作用信号出力端子 The signal output terminal for interleave operation
3	LATCH	ラッチ用出力端子 The output terminal for a latch
4	OCL	過電流検出用入力端子 The input terminal for over current detection
5	TIMER	タイマーコンデンサ接続端子 The input terminal for Timer capacitor connection.
6	GND	グランド端子 Ground Terminal
7	OUT	MOSFET駆動用出力端子 The output terminal for a MOSFET drive
8	VCC	電源電圧入力端子 The input terminal for Power supply voltage

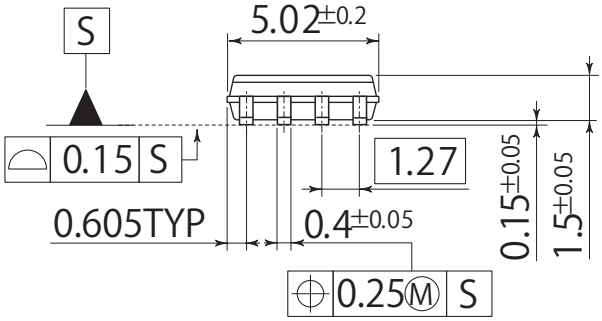
Package Outline-Dimensions

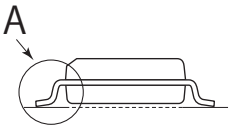
unit : mm
scale: 4/1

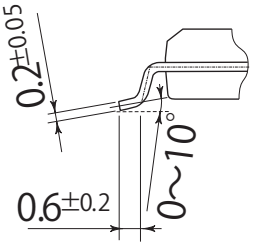
L2

JEDEC Code	–
JEITA Code	–
House Name	SOP8J

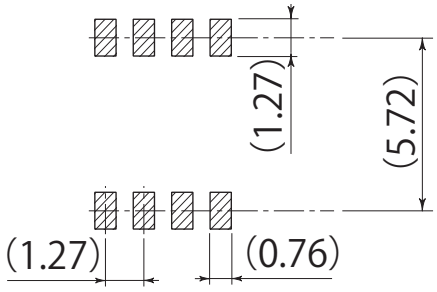








Detail A



Referential Soldering Pad

・量産時には、適正化を図って下さい
・Optimize soldering pad to the board design and soldering condition.

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Notes

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