

Low EMI
Low Power New IC
STR-A6200 series

2007年4月

POWER MANAGEMENT APPLICATION ENGINEERING DEPARTMENT

IC SYSTEM ENGINEERING DIVISION

ENGINEERING DEVELOPMENT HEADQUARTERS

SANKEN ELECTRIC CO.,LTD.

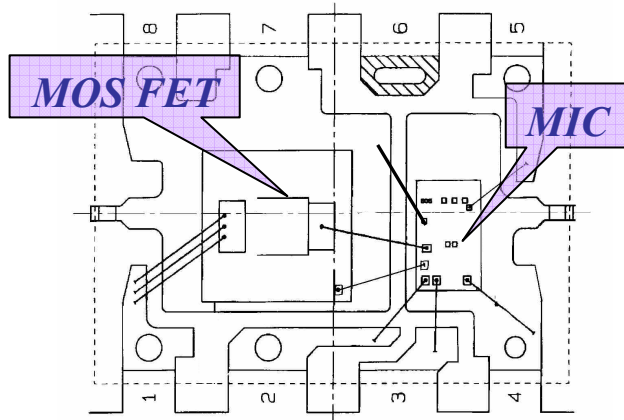
- (1) 内置频率Jittering功能 ⇒ (Noise低減。EMI Filter 简化)
- (2) Over Load Protection ⇒ (以前 OLP 用 Capacitor 删除
with Built-in Timer (Auto Restart) Low Cost化和少 Space 化)
- (3) Soft Start功能内置 ⇒ (对Power MOS FET的保护)
- (4) Auto Burst Standby功能内置 ⇒ (无负载时 $P_{in} \leq 0.1W$)
- (5) 基于2 Chip构造从而拥有很高的雪崩击穿耐量保证 ⇒ (高破坏耐量)
- (6) 其它保护功能
 - Over Current Protection (Pulse By Pulse)
 - Over Voltage Protection (Latch • $V_{OVP} = 33.5V$)
 - Thermal Protection
 - Constant Voltage / Constant Current Operation

Package Information

Preliminary



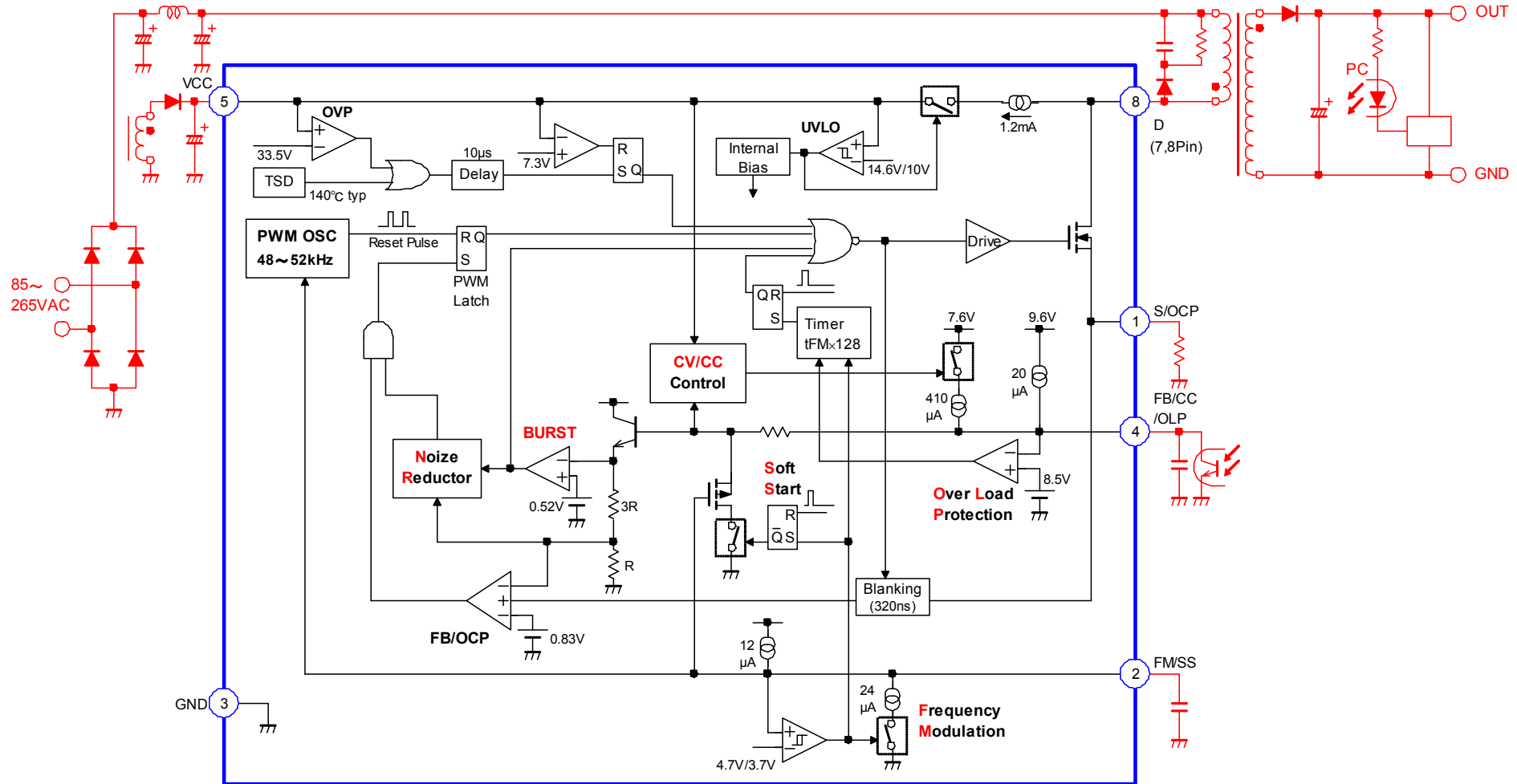
Package : DIP8



Pin.No	Symbol	Function
1	S/OCP	MOSFET Source/OCP
2	FM/SS	Capacitor connection terminal for frequency jitter and soft start.
3	GND	Ground
4	FB/CC /OLP	Feedback control / Constant Current operation / Over Load Protection
5	Vcc	Power supply input/ Over Voltage Protection
6	—	—
7	D	MOSFET Drain, Startup current input
8		

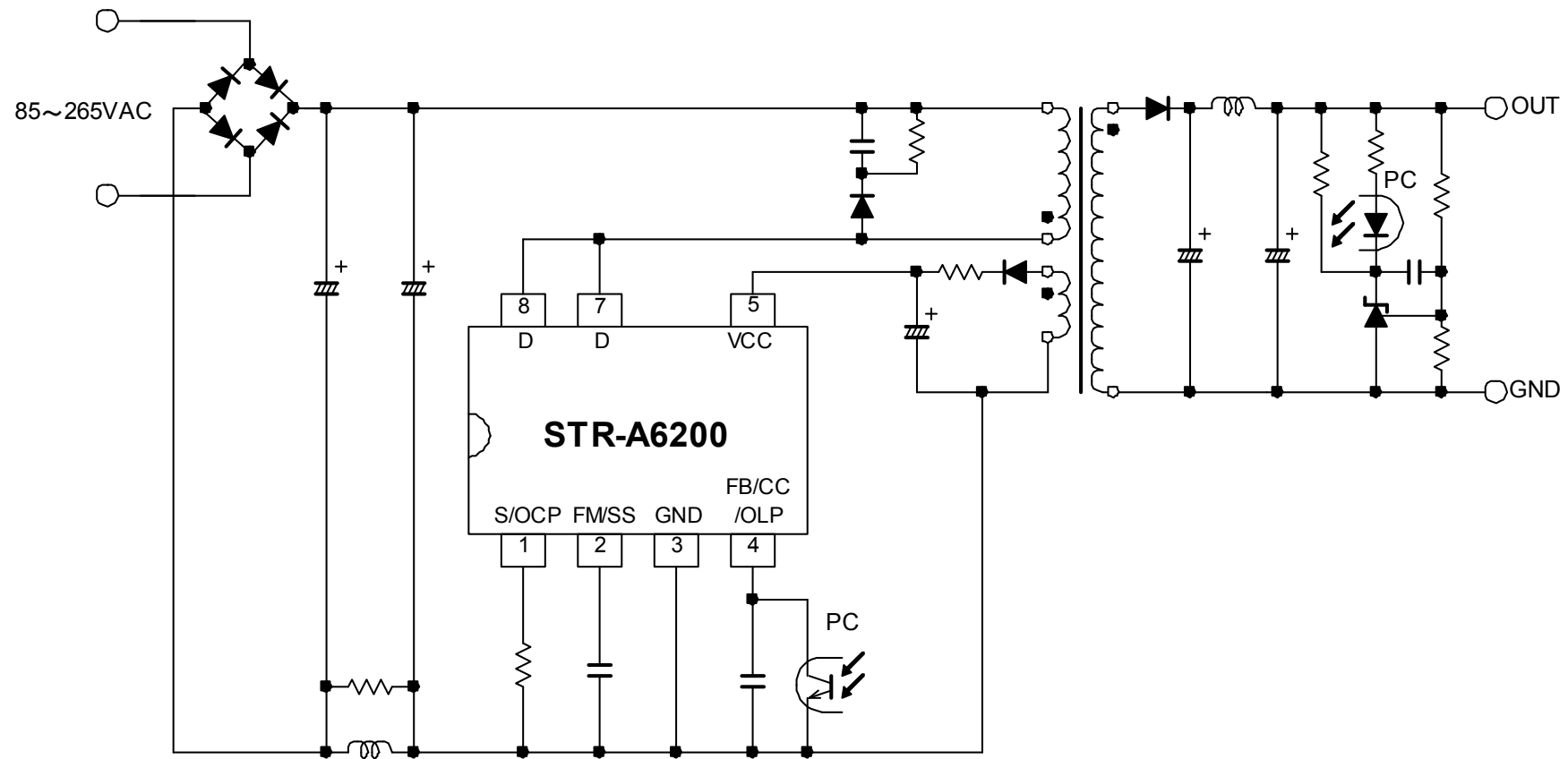
Block Diagram

Preliminary



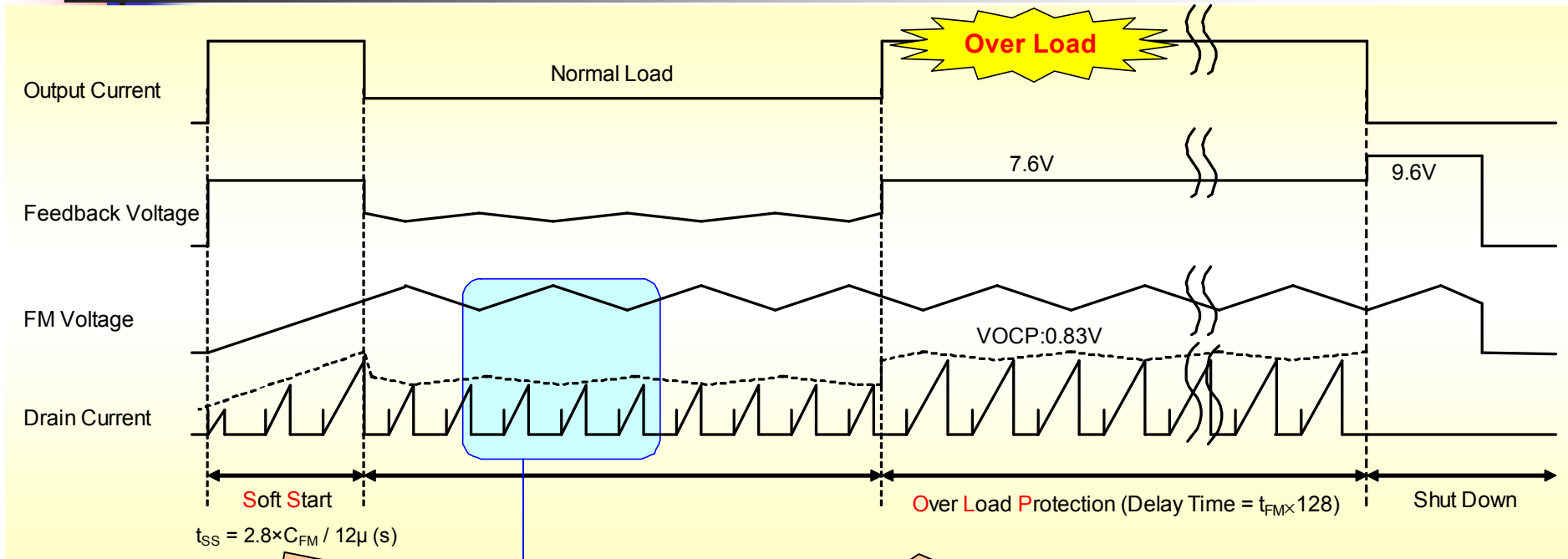
Typical Application

Preliminary

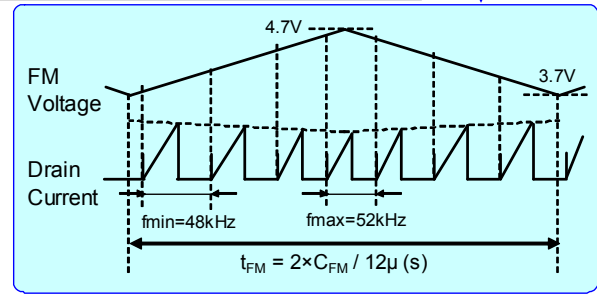


Soft Start / Frequency Jittering / OLP Operation

Preliminary



Soft Start
利用FM/SS端子Capacitor的充電

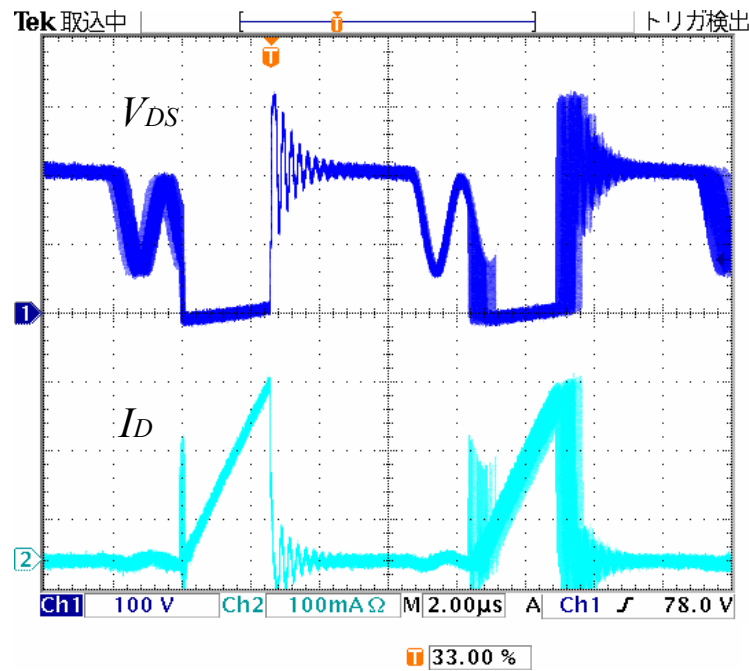


Frequency Jitter Modulation

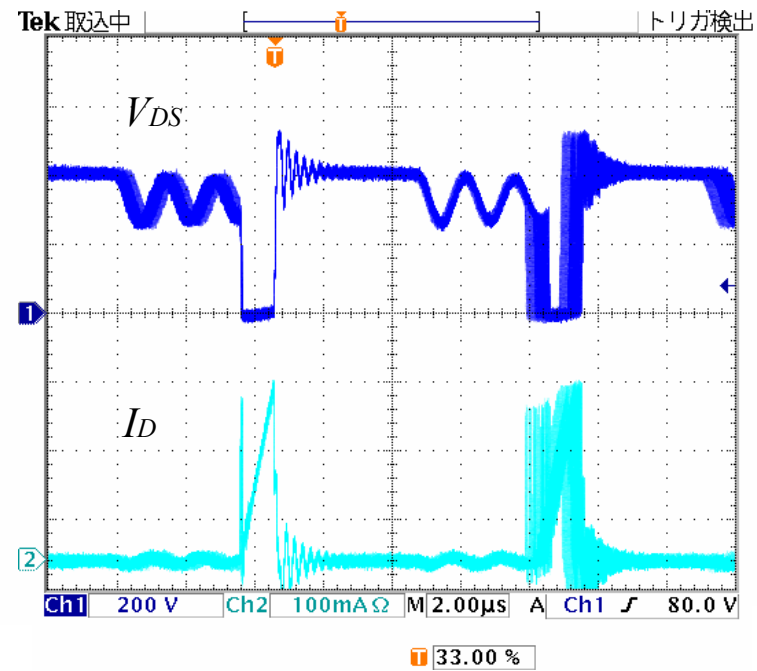
Timer内蔵OLP→外付Timer不要
过负载状态时内置Counter和FM周期共同决定;一定期間($t_{FM} \times 128$)以上连续处于过负载状态则发振停止。注:不可和CC状态并用

频率Jittering功能→EMI Filter的简化
利用Capacitor的充放電、以Main振荡频率67kHz±10%的範圍變化。

Jittering動作波形 67kHz ±10% Jitter

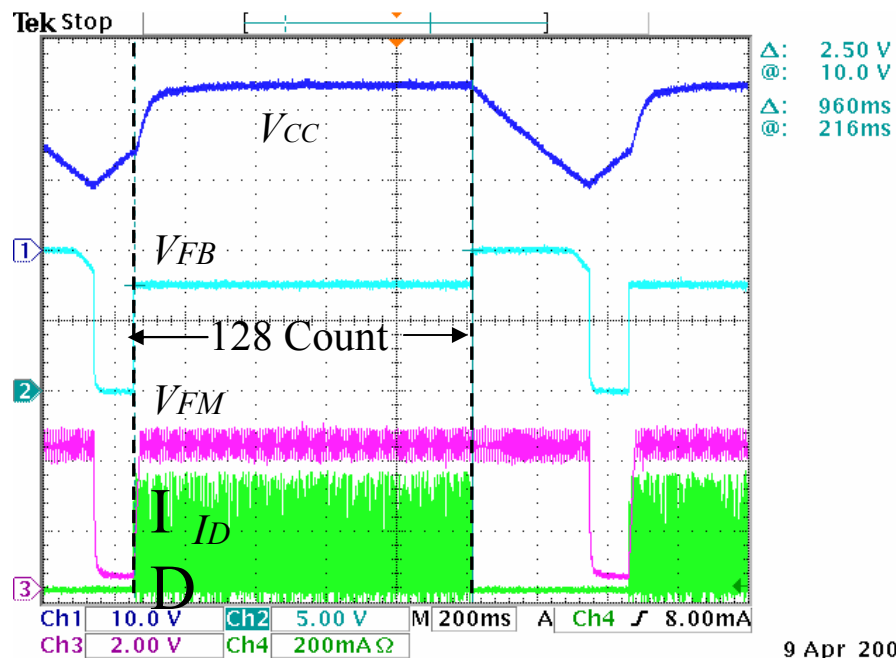


AC 100V時波形



AC 240V時波形

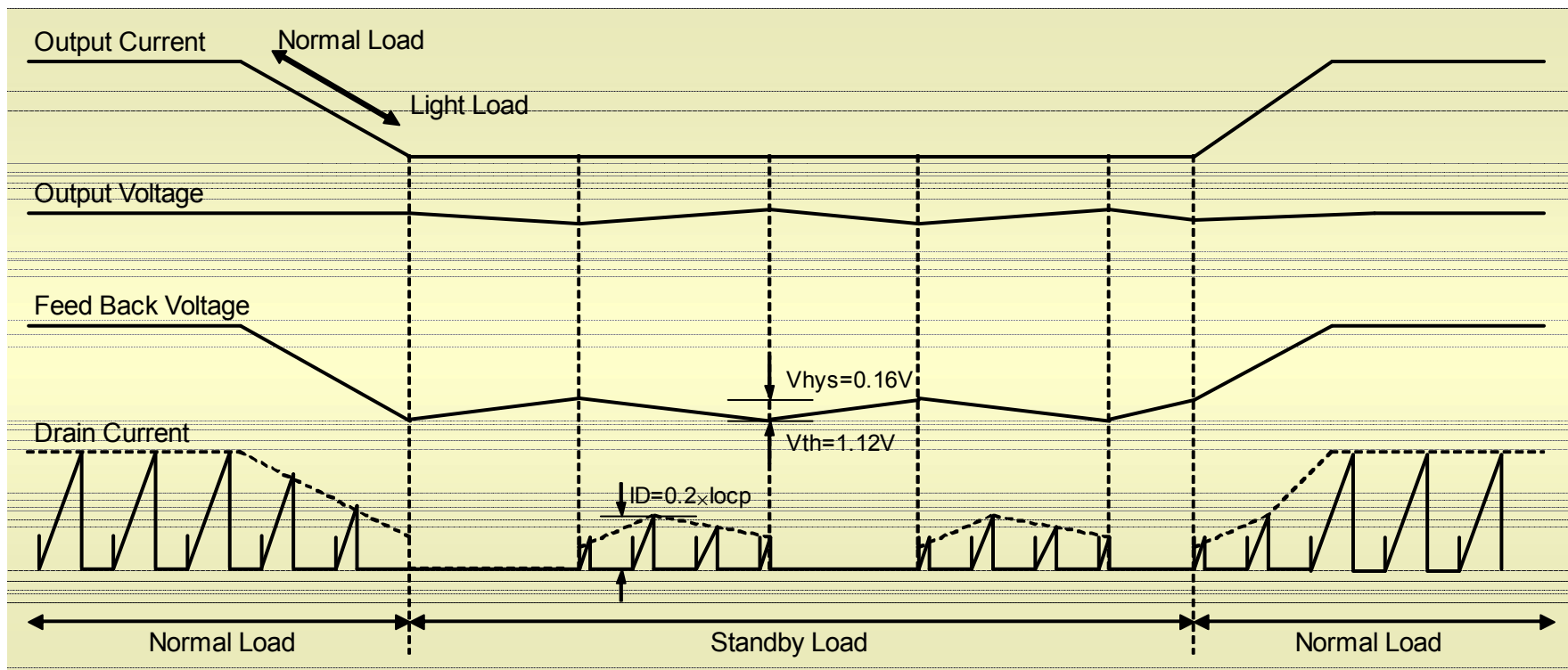
OLP動作波形



9 Apr 2004
14:22:31

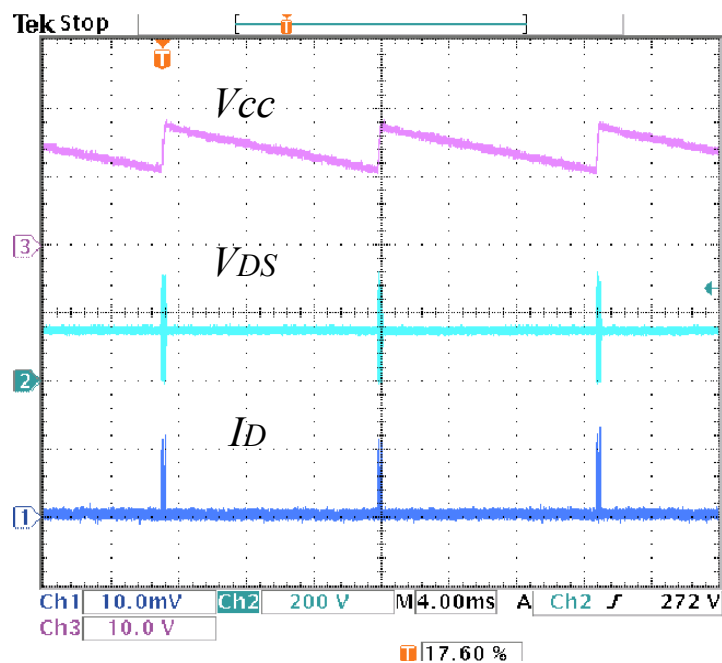
Standby Operation

Auto Burst・・・轻负载条件下FB端子电压低于1.12V电压时、进入Burst動作状态発振停止、之后FB端子电压上升0.16V后再次开始发振。这样反复来回操作从而实现低功耗(**Pin** ≤ **0.1W**)的要求

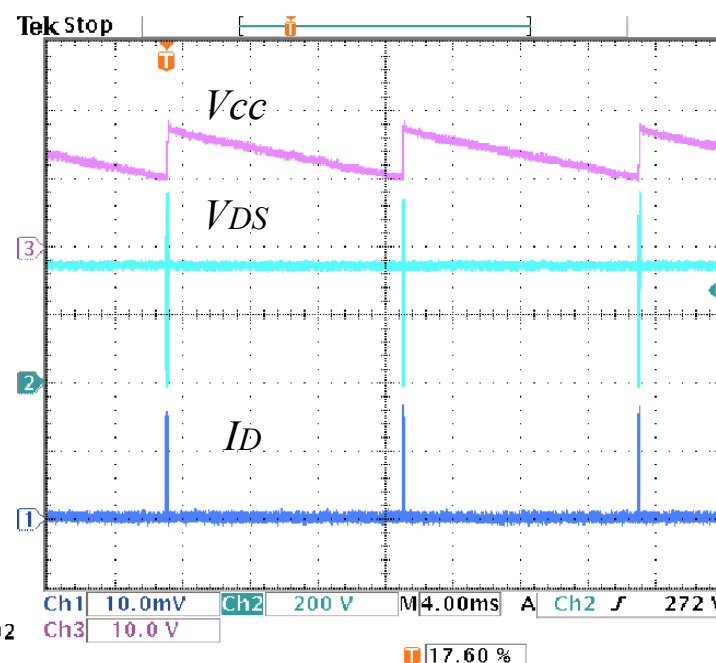


Burst動作时Timing Chart

Burst動作波形



AC100V時波形



AC240V時波形

21 Jun 2002
21:46:00

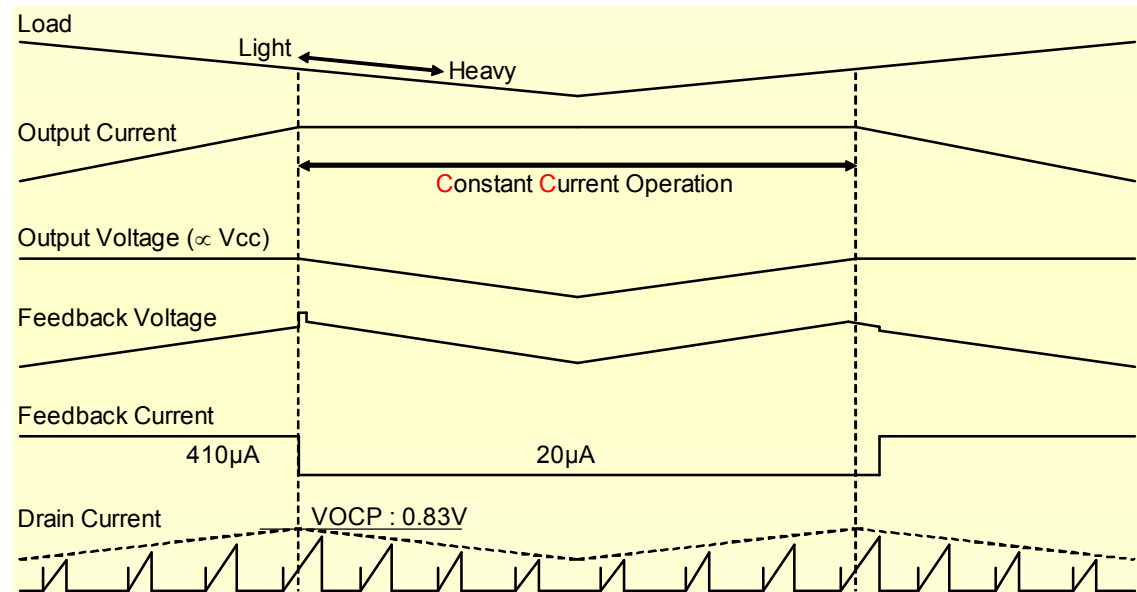
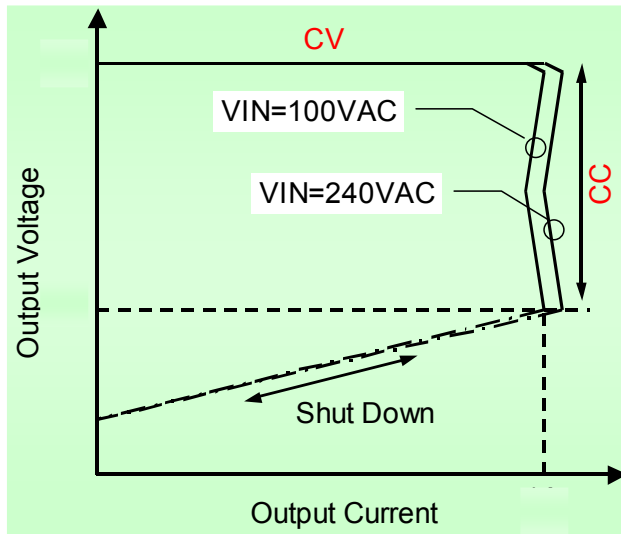
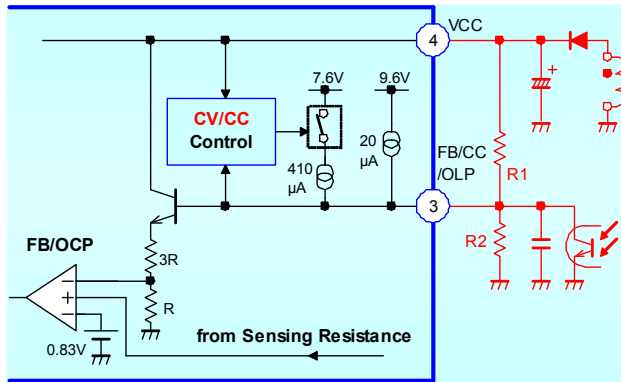
21 Jun 2002
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Constant Current Operation

Preliminary



定电流垂下控制・・・過負荷時副边电压下垂同时Vcc端子电压也跟着下降，利用该特性实现对原边定电流控制。注：此时和OLP功能不可并用、同时需要追加电阻R1/R2



恒電流垂下時Timing Chart

副边输出电压下垂特性

製品名	V _{DSS}	R _{DS(ON)}	V _{IN(AC)}	P _{out}	MP
STR-A6251x	650V	3.95 Ω	230V/85V~ 264V	24W/20W	MP
STR-A6252x		2.8 Ω		21W/15W	MP
STR-A6259x		6.0 Ω		17W/13W	MP