

**P1482****LINEAR INTEGRATED CIRCUIT****2A, 23V, 340KHZ
SYNCHRONOUS RECTIFIED
STEP-DOWN CONVERTER****■ DESCRIPTION**

The UTC **P1482** is a synchronous buck regulator. The device provides 2A of continuous load current over a wide input voltage of 6V~24V. Current mode control provides fast transient response and cycle-by-cycle current limit. An adjustable soft-start prevents inrush current at turn-on.

The UTC **P1482** can provide low-ripple power, high efficiency, and perfect transient characteristics. The duty ratio varies linearly from 0% to 92% in the PWM control. The error amplifier circuit and soft-start circuit included in this device can prevent overshoot at startup. An enable function, an over current protect (OCP) function and short circuit protect (SCP) are also build inside, and when OCP happens, the operation frequency will be reduced.

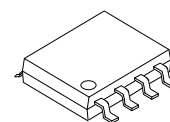
■ FEATURES

- * 2A Output Current
- * Wide 6V~23V Operating Input Range
- * Integrated Power MOSFET Switches
- * Programmable Soft-Start
- * Stable with Low ESR Ceramic Output Capacitors
- * Fixed 340KHz Frequency
- * Cycle-by-Cycle Over Current Protection

■ ORDERING INFORMATION

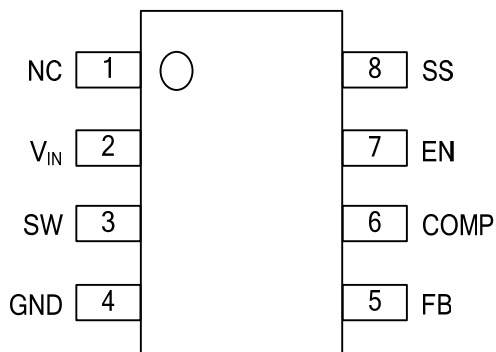
Ordering Number		Package	Packing
Lead Free	Halogen Free		
P1482L-S08-R	P1482G-S08-R	SOP-8	Tape Reel
P1482L-S08-T	P1482G-S08-T	SOP-8	Tube

P1482G-S08-R (1) Packing Type (2) Package Type (3) Halogen Free	(1) R: Tape Reel, T: Tube (2) S08: SOP-8 (3) G: Halogen Free, L: Lead Free
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SOP-8

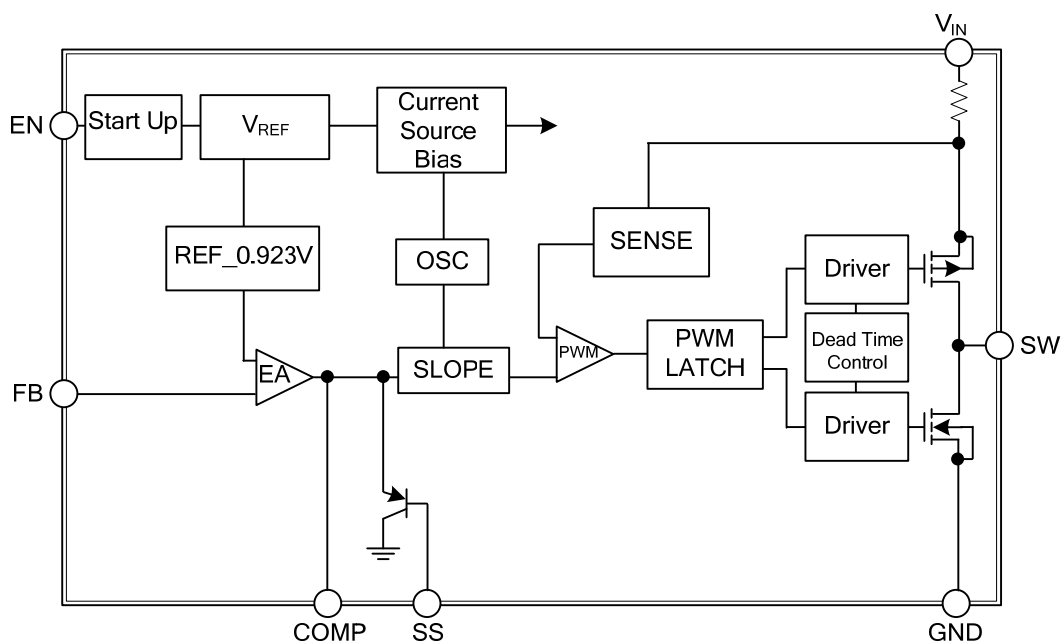
PIN CONFIGURATION



PIN DESCRIPTION

PIN NO.	PIN NAME	DESCRIPTION
1	NC	No Bonding
2	V _{IN}	IC power supply pin.
3	SW	Power Switching Output.
4	GND	Ground.
5	FB	Feedback Input.
6	COMP	Compensation Node.
7	EN	Enable Input.
8	SS	Soft-Start Control Input.

BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATING (T_A=25°C, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V _{IN}	-0.3~+23	V
Switch Node Voltage	V _{SW}	23	V
All Other Pins		-0.3~+6	V
Continuous Power Dissipation	P _D	1.4	W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{STG}	-65~+150	°C

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.
Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ THERMAL DATA

PARAMETER	SYMBOL	RATING	UNIT
Junction to Ambient	θ _{JA}	90	°C/W
Junction to Case	θ _{JC}	45	°C/W

■ RECOMMENDED OPERATING CONDITIONS

PARAMETER	SYMBOL	RATING	UNIT
Input Voltage	V _{IN}	6~23	V
Output Voltage	V _{OUT}	0.923~20	V
Ambient Operating Temperature	T _{OPR}	-40~+85	°C

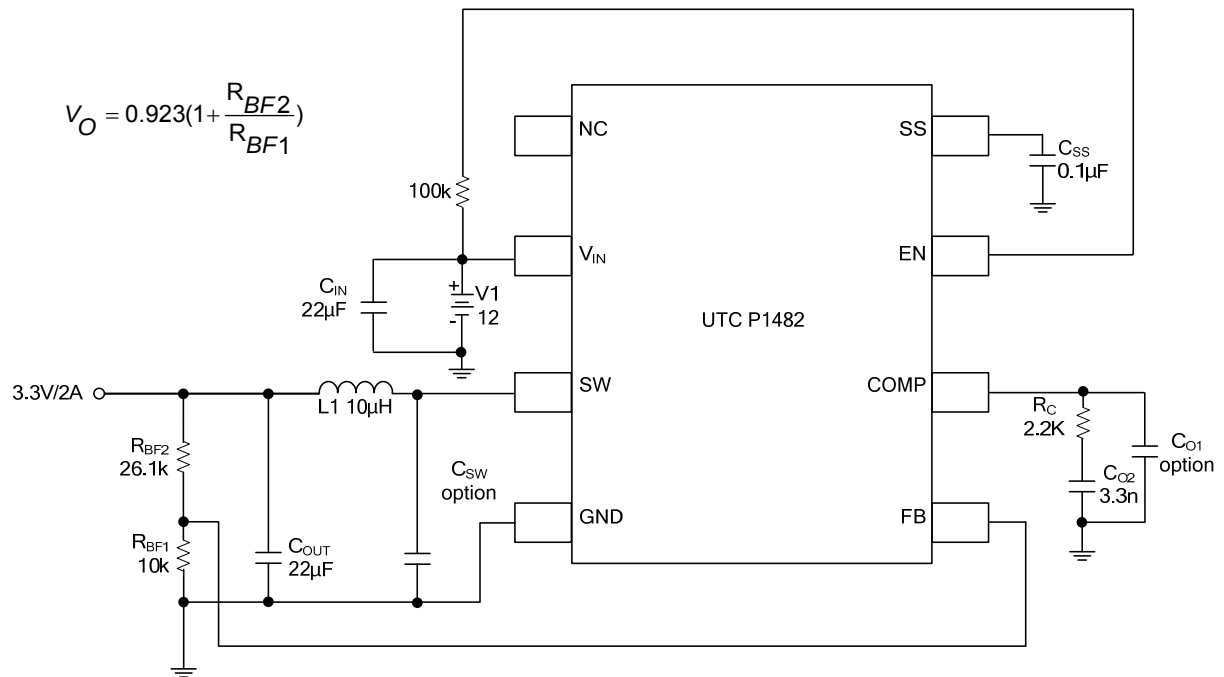
Note: The device is not guaranteed to function outside of its operating conditions.

■ ELECTRICAL CHARACTERISTICS (V_{IN}=12V, T_A=25°C, unless otherwise specified)

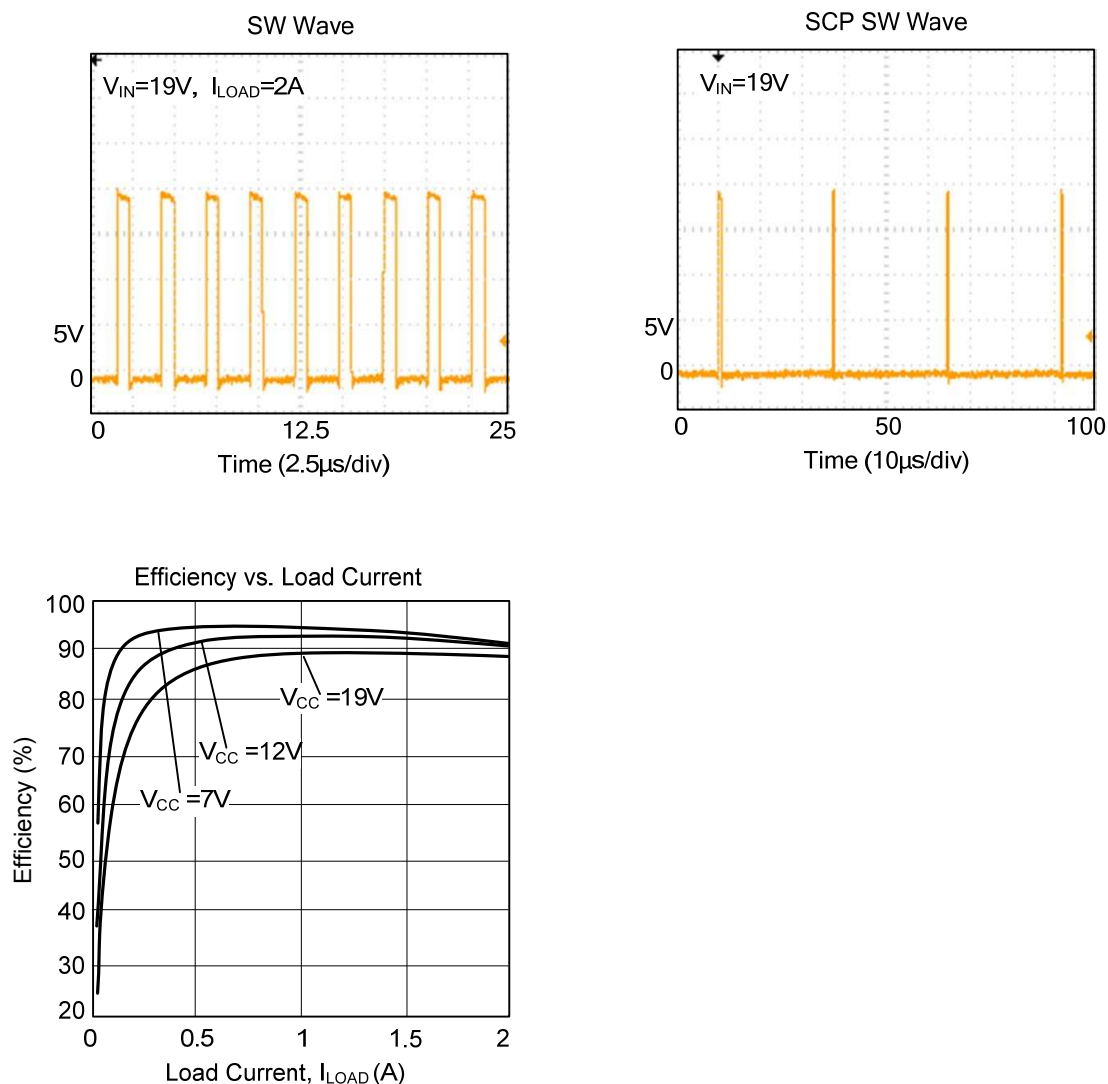
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Supply Current		V _{EN} =2.0V, V _{FB} =1.0V		3.5	5	mA
Feedback Voltage	V _{FB}	6V ≤ V _{IN} ≤ 23V	0.900	0.923	0.946	V
High-Side Switch On Resistance (Note 1)	R _{DS(ON)1}			110		mΩ
Low-Side Switch On Resistance (Note 1)	R _{DS(ON)2}			100		mΩ
High-Side Switch Leakage Current		V _{EN} =0V, V _{SW} =0V			10	μA
Upper Switch Current Limit		Minimum Duty Cycle	2.4	3.4		A
Lower Switch Current Limit		From Drain to Source		1.1		A
COMP to Current Sense Transconductance	G _{CS}			5		A/V
Oscillation Frequency	F _{OSC1}		305	340	375	KHz
Short Circuit Oscillation Frequency	F _{OSC2}	V _{FB} =0V		40		KHz
Maximum Duty Cycle	D _{MAX}	V _{FB} =1.0V		92		%
EN Shutdown Threshold Voltage		V _{EN} Rising	0.7	0.9	2.0	V
Input Under Voltage Lockout Threshold		V _{IN} Rising		4		V
Soft-Start Current		V _{SS} =0V		15		μA
Thermal Shutdown (Note)				160		°C

Note: Guaranteed by design, not tested.

■ TYPICAL APPLICATION CIRCUIT



■ TYPICAL CHARACTERISTICS



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