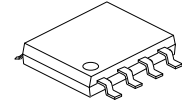


**US3463****CMOS IC****PRIMARY SIDE DC/DC
CONTROLLER****■ DESCRIPTION**

The UTC **US3463** is an Ethernet powered (Power over Ethernet, PoE) DC/DC controller. It integrates a 200V power MOSFET with PSR control. It is suitable for Flyback topology, providing accurate CV control loop, high system efficiency and good EMI characteristic.

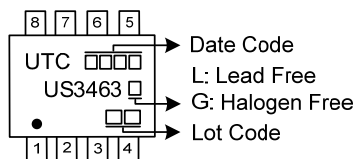
■ FEATURES

- * PSR Mode
- * Light Load Frequency Reduce
- * Low Startup Current
- * Leading-Edge Blanking
- * Peak Current Mode
- * Cycle by Cycle Current Limit
- * Under-voltage Lockout
- * Soft Start
- * VCC Over Voltage Protection
- * Output Short-Circuit Protection
- * Output Over Voltage Protection
- * Over Current Protection
- * Over Temperature Protection

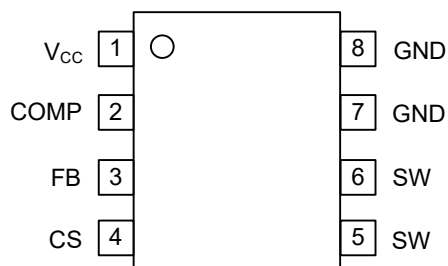
**SOP-8****■ ORDERING INFORMATION**

Ordering Number		Package	Packing
Lead Free	Halogen Free		
US3463L-S08-R	US3463G-S08-R	SOP-8	Tape Reel

US3463G-S08-R (1) Packing Type (2) Package Type (3) Green Package	(1) R: Tape Reel (2) S08: SOP-8 (3) G: Halogen Free and Lead Free, L: Lead Free
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■ MARKING

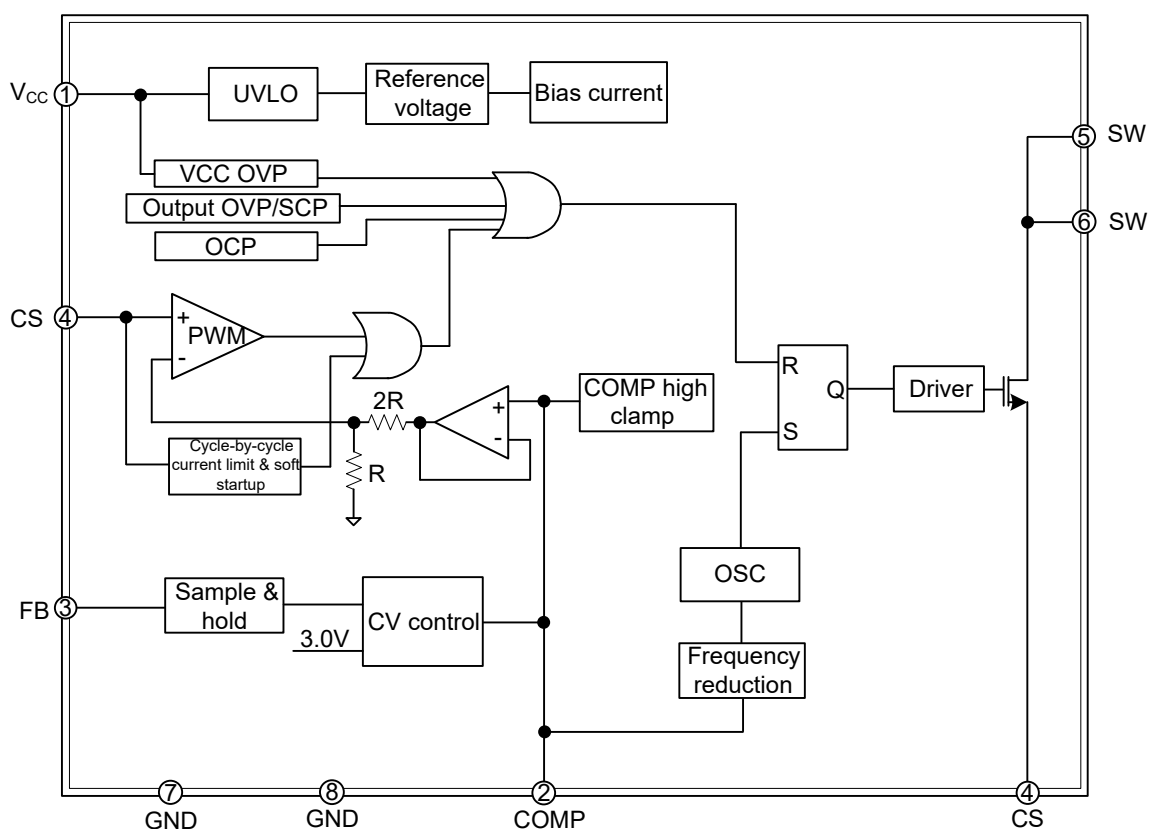
PIN CONFIGURATION



PIN DESCRIPTION

PIN NO.	PIN NAME	DESCRIPTION
1	V_{CC}	Power supply
2	COMP	Loop compensation pin
3	FB	Feedback input pin
4	CS	Current sense pin
5, 6	SW	200V POWER MOS drain
7, 8	GND	Ground

BLOCK DIAGRAM



■ **ABSOLUTE MAXIMUM RATING** ($T_A=25^{\circ}\text{C}$, unless otherwise specified.)

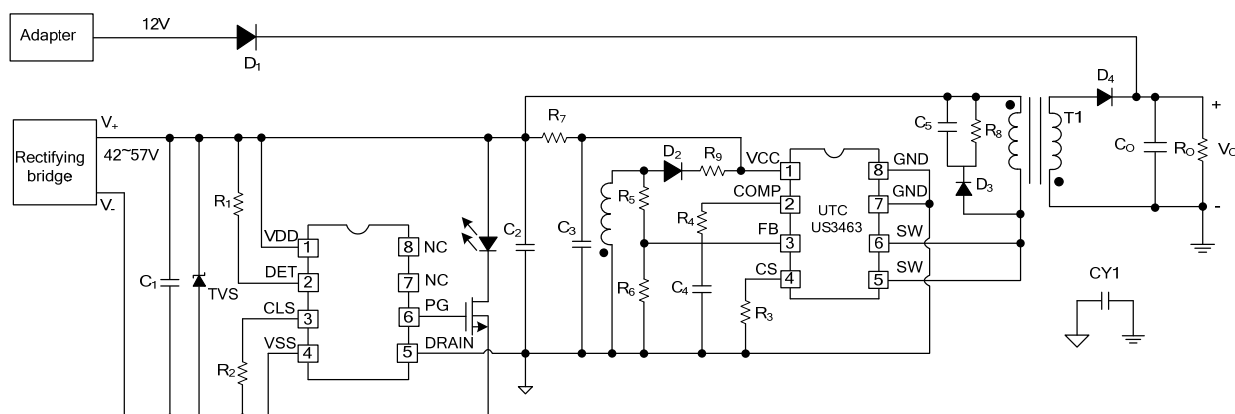
PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V_{CC}	-0.3 ~ 30	V
CS, COMP, FB Voltage Range		-0.3 ~ 7	V
SW Voltage Range		-0.3 ~ 200	V
V_{CC} Input Current		20	mA
Operating Temperature Range	T_A	-40 ~ +85	$^{\circ}\text{C}$
Operating Junction Temperature	T_J	+150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-40 ~ +125	$^{\circ}\text{C}$

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.

■ **ELECTRICAL CHARACTERISTICS** ($V_{IN}=12\text{V}$, $T_A=25^{\circ}\text{C}$, unless otherwise specified.)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
POWER SECTION						
Operating Voltage Range	V_{VCC}		9.5		20	V
Startup Voltage	V_{VCC_ON}		14.7	16.2	17.7	V
Shutdown Voltage	V_{VCC_OFF}		7.4	8.4	9.4	V
Startup Current	I_{ST}	$V_{CC}=12\text{V}$, The chip is not active		5	13	μA
Operating Current	I_{VCC}	$V_{CC}=18\text{V}$, $V_{FB}=V_{CS}=0\text{V}$, $V_{COMP}=2\text{V}$	3	3.5	4	mA
V_{CC} Over Voltage Protection	V_{VCC_OVP}		21	22.5	24	V
V_{CC} OVP Current	I_{VCC_OVP}		1.1	1.7	2.3	mA
OSCILLATOR SECTION						
Oscillator Frequency	F_{OSC}	$V_{FB}=V_{CS}=0\text{V}$, $V_{COMP}=2\text{V}$	165	180	195	KHz
Minimum Frequency	F_{OSC_MIN}	$V_{FB}=V_{CS}=0\text{V}$, $V_{COMP}=0.15\text{V}$	7.5	9	10.5	KHz
Maximum Duty Cycle	D_{MAX}	$V_{FB}=V_{CS}=0\text{V}$, $V_{COMP}=2\text{V}$	70	80	90	%
FEEDBACK SECTION						
Constant Voltage Threshold	V_{REF}		2.97	3	3.03	V
COMP High Clamp Value	V_{COMP_H}		2.3	2.4	2.5	V
Output Over Voltage Protection Threshold	V_{FB_OVP}		3.4	3.5	3.6	V
Output Short Circuit Threshold	V_{FB_SHORT}		1.35	1.45	1.55	V
Output Short Circuit Protection Delay	T_{FB_SHORT}	When the soft-start is over	7.5	8.5	9.5	mS
CS SECTION						
CS Maximum Value	V_{CS_MAX}		0.7	0.8	0.9	V
CS Limit Value	V_{CS_LIM}		0.9	1	1.1	V
Leading Edge Blanking Time	T_{LEB}		300	400	500	nS
Soft Start Time	T_{SS}		4.6	5.6	6.6	mS
Overheat PROTECTION SECTION						
Over-Temperature Protection	T_{OTP}		135	150	165	$^{\circ}\text{C}$
Over Temperature Protection Hysteresis	T_{OTP_HYS}			20		$^{\circ}\text{C}$

■ TYPICAL APPLICATION CIRCUIT



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