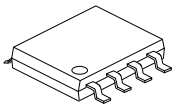
PRIMARY SIDE DC/DC CONTROLLER



SOP-8

■ 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

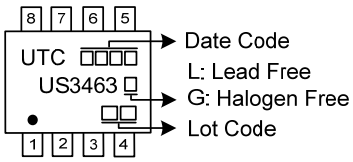
* PSR Mode
* Light Load Frequency Reduce
* Low Startup Current
* Leading-Edge Blanking
* Peak Current Mode
* Cycle by Cycle Current Limit
* Under-voltage Lockout
* Soft Start
* VCC Over Voltage Protection
* Output Short-Circuit Protection
* Output Over Voltage Protection
* Over Current Protection
* Over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

■ ORDERING INFORMATION

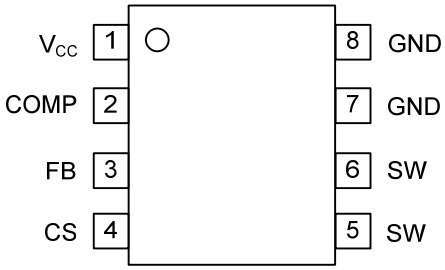
Ordering Number		Package	Packing
Lead Free	Halogen Free		
US3463L-S08-R	US3463G-S08-R	SOP-8	Tape Reel

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

■ MARKING



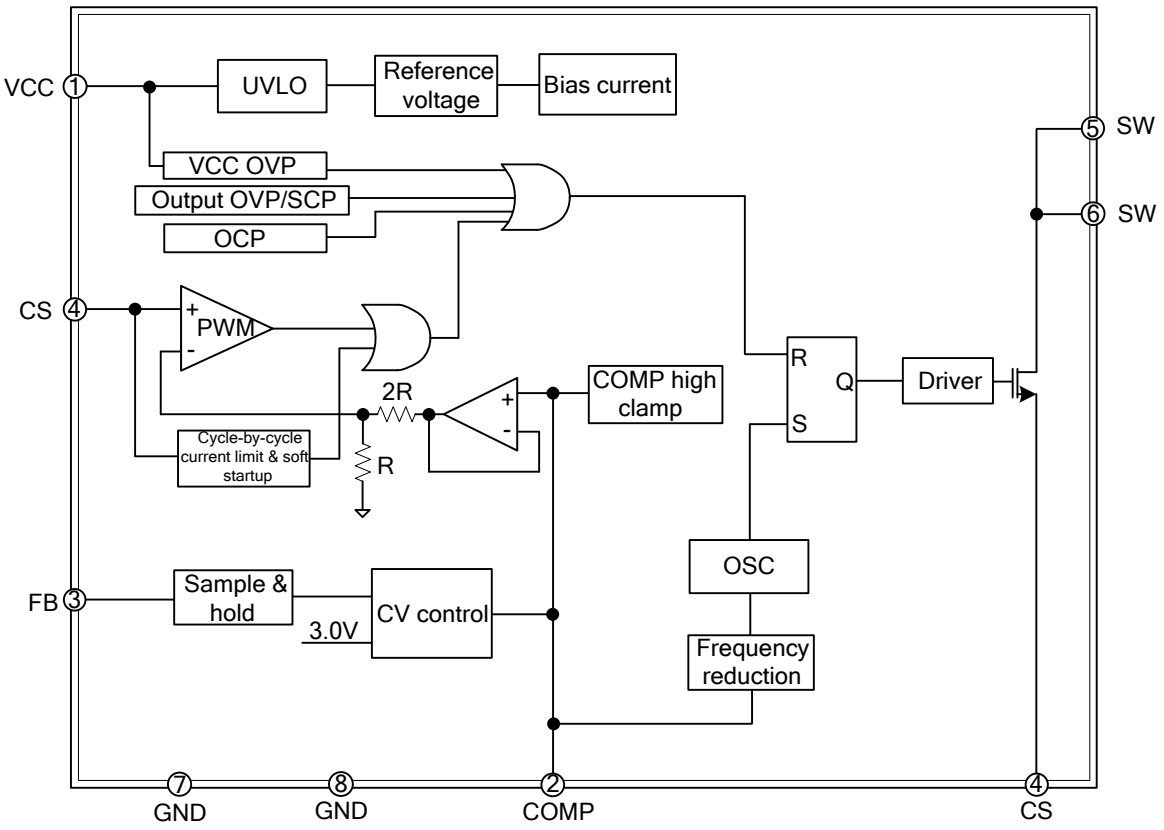
■ PIN CONFIGURATION



■ 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°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	°C
Operating Junction Temperature	T_J	+150	°C
Storage Temperature	T_{STG}	-40 ~+125	°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}=12V, T_A=25°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}	VCC=12V, The chip is not active		5	13	μA
Operating Current	I_{VCC}	VCC=18V, V_{FB}=V_{CS} =0V, V_{COMP}=2V	3	3.5	4	mA
VCC Over Voltage Protection	V_{VCC_OVP}		21	22.5	24	V
VCC OVP Current	I_{VCC_OVP}		1.1	1.7	2.3	mA
Oscillator section						
Oscillator Frequency	F_{OSC}	V_{FB}=V_{CS} =0V, V_{COMP}=2V	165	180	195	KHz
Minimum Frequency	F_{OSC_MIN}	V_{FB}=V_{CS} =0V, V_{COMP}=0.15V	7.5	9	10.5	KHz
Maximum Duty Cycle	D_{MAX}	V_{FB}=V_{CS} =0V, V_{COMP}=2V	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	°C
Over Temperature Protection Hysteresis	T_{OTP_HYS}			20		°C

■ TYPICAL APPLICATION CIRCUIT