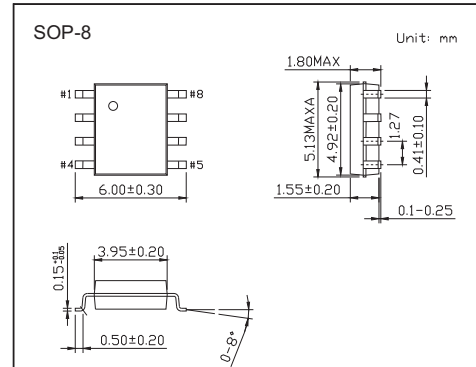
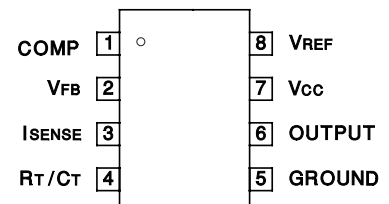
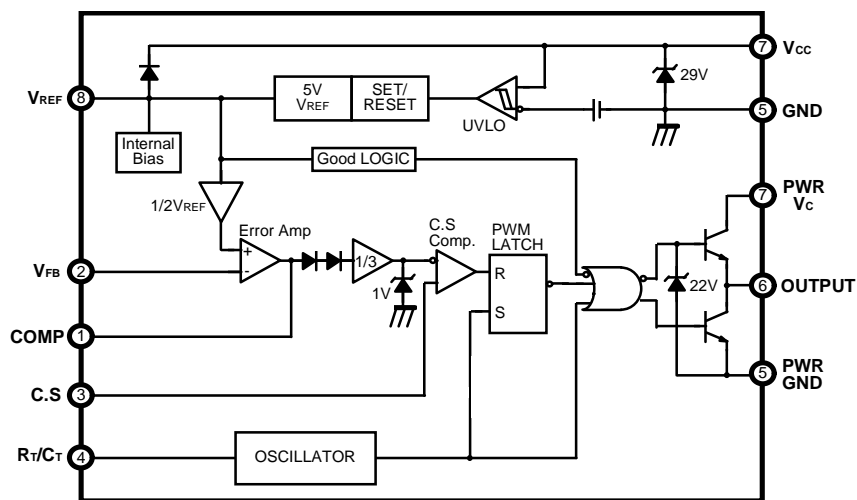


Features

- Low Start up Current
- Maximum Duty Clamp
- UVLO With Hysteresis
- Operating Frequency up to 500KHz



Functional Block Diagram



Absolute Maximum Ratings Ta = 25

Parameter	Symbol	Ratings	Units
Supply Voltage	V _{CC}	30	V
Output Current	I _O	± 1	A
Analog Inputs	V _(ANA)	-0.3 to 6.3	V
Error Amp Output Sink Current	I _{SINK (E.A)}	10	mA
Power Dissipation at TA 25	P _D (Note1,2)	460	mW
Storage Temperature Range	T _{STG}	-65 ~ +150	
Lead Temperature	T _{LEAD}	+300	
Thermal Resistance Junction-ambient	R _{thj-a}	125	/W

Electrical Characteristics (V_{CC}=15V, R_T=10k , C_T=3.3nF, T_A= 0 to+70 , unless otherwise specified)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reference Output Voltage	V _{REF}	T _J = 25 , I _{REF} = 1mA	4.9	5.0	5.1	V
Line Regulation	V _{REF}	12V V _{CC} 25V		6	20	mV
Load Regulation	V _{REF}	1mA I _{REF} 20mA		6	25	mV
Short Circuit Output Current	I _{SC}	T _A = 25		-100	-180	mA
Oscillation Frequency	f	T _J = 25	47	52	57	kHz
Frequency Change with Voltage	f/ V _{CC}	12V V _{CC} 25V		0.2	1	%
Oscillator Amplitude	V _{OSC}			1.7		VP-P
Input Bias Current	I _{BIAS}	CURRENT SENSE SECTION		-2	-10	μ A
Input Voltage	V _{I(E>A)}	V _{pin1} = 2.5V	2.42	2.5	2.58	V
Open Loop Voltage Gain	G _{VO}	2V V _o 4V (Note3)	65	90		dB
Power Supply Rejection Ratio	P _{SRR}	12V V _{CC} 25V (Note3)	60	70		dB
Output Sink Current	I _{SINK}	V _{pin2} = 2.7V, V _{pin1} = 1.1V	2	70		mA
Output Source Current	I _{SOURCE}	V _{pin2} = 2.3V, V _{pin1} = 5V	-0.6	-1.0		mA
High Output Voltage	V _{OH}	V _{pin2} = 2.3V, R _L = 15k to GND	5	6		V
Low Output Voltage	V _{OL}	V _{pin2} = 2.7V, R _L = 15k to Pin 8		0.7	1.1	V
Gain	G _V	(Note 1 & 2)	2.85	3	3.15	V/V
Maximum Input Signal	V _{I(MAX)}	V _{pin1} = 5V(Note 1)	0.9	1	1.1	V
Power Supply Rejection Ratio	P _{SRR}	12V V _{CC} 25V (Note 1,3)		70		dB
Input Bias Current	I _{BIAS}	ERROR AMPLIFIER SECTION		-0.3	-2	μ A
Low Output Voltage	V _{OL}	I _{SINK} = 20mA		0.1	0.4	V
		I _{SINK} = 200mA		1.5	2.2	V
High Output Voltage	V _{OH}	I _{SOURCE} = 20mA	13	13.5		V
		I _{SOURCE} = 200mA	12	13.5		V
Rise Time	t _R	T _J = 25 , C _L = 1nF (Note 3)		40	100	ns
Fall Time	t _F	T _J = 25 , C _L = 1nF (Note 3)		40	100	ns
Start Threshold	V _{TH(ST)}		15	16	17	V
Min. Operating Voltage (After Turn On)	V _{OPR(MIN)}		9	10	11	V
Max. Duty Cycle	D _(Max)		94	96	100	%
Min. Duty Cycle	D _(MIN)				0	%
Start-Up Current	I _{ST}			0.2	0.4	mA
Operating Supply Current	I _{CC(OPR)}	V _{pin3} =V _{pin2} =ON		11	17	mA
Zener Voltage	V _Z	I _{CC} = 25mA		29		V

Adjust V_{CC} above the start threshold before setting at 15V

Note:

1. Parameter measured at trip point of latch

2. Gain defined as:

$$A = \frac{\Delta V_{pin1}}{\Delta V_{pin3}}, 0 \leq V_{pin3} \leq 0.8V$$

3. These parameters, although guaranteed, are not 100 tested in production.

■ TypIacl Characteristics

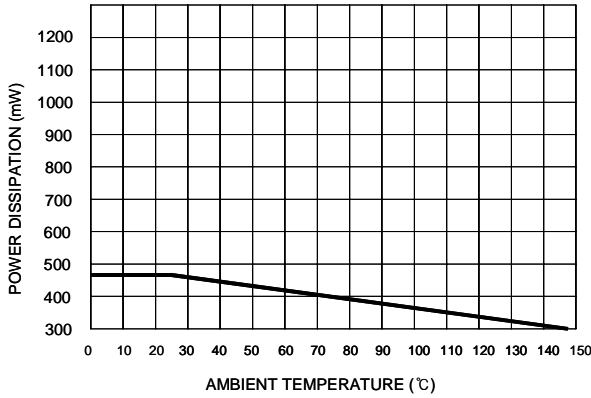


Figure 1. Power Dissipation Curve

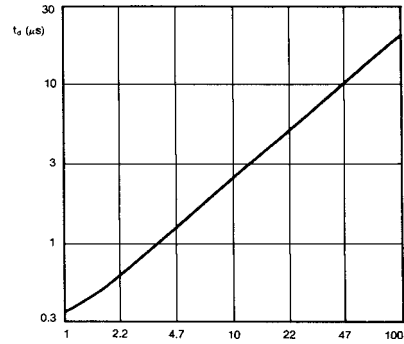


Figure 2. Oscillator Dead Time & Frequency

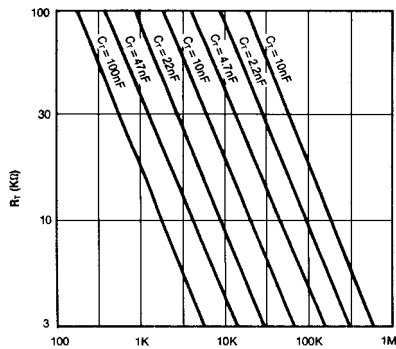


Figure 3. Timing Resistance vs Frequency

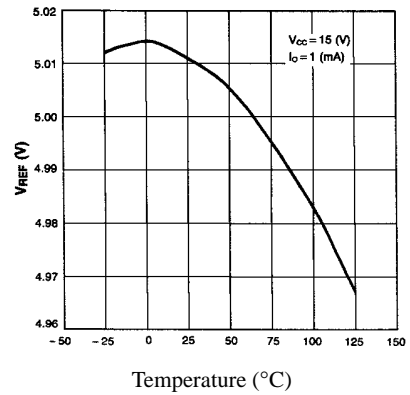


Figure 4. Temperature Drift (Vref)

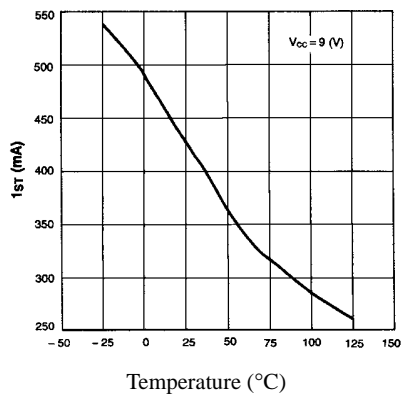


Figure 5. Temperature Drift (Ist)

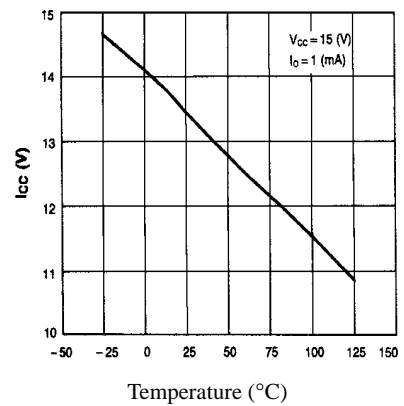


Figure 6. Temperature Drift (Icc)