



## SWITCHED-MODE POWER SUPPLY CONTROLLER

NE5568

DC ELECTRICAL CHARACTERISTICS  $V_{CC} = 12V$ ,  $T_A = 25^\circ C$  unless otherwise specified.

SYMBOL AND PARAMETER	TEST CONDITIONS	NE5568			UNIT
		Min	Typ	Max	
<b>Reference Section</b> $V_{REF}$ , Internal ref voltage	$T_A = 25^\circ C$	3.69	3.75	3.84	V
	Over temperature	3.66		3.87	V
$V_Z$ , Internal zener ref	$I_L = 7mA$	7.8	8.2	8.8	V
Temperature coefficient of $V_{REF}$			$\pm 100$		ppm/ $^\circ C$
Temperature coefficient of $V_Z$			$\pm 200$		ppm/ $^\circ C$
<b>Oscillator Section</b> Frequency range	Over temperature	50		100k	Hz
Initial accuracy			12		%
Duty cycle range	$f_O = 20kHz$	0		98	%
<b>Current Limiting</b> ( $I_{IN}$ )	Pin 6 = 250mV	$T_A = 25^\circ C$	- 2	- 10	$\mu A$
		Over temp.		- 20	$\mu A$
Single pulse inhibit delay	Inhibit delay time for 20% overdrive at	$I_{OUT} = 20mA$	0.88	1.10	$\mu s$
		$I_{OUT} = 40mA$	0.7	0.8	$\mu s$
Current limit trip level		0.400	0.500	0.600	V
<b>Error Amplifier</b> Open loop gain			60		dB
Feedback resistor		10k			$\Omega$
Small signal bandwidth			3		MHz
$V_{OH}$ , Output voltage swing		6.2			V
$V_{OL}$ , Output voltage swing				0.7	V
<b>Output Stage</b> Output current	Over temperature	20			mA
$V_{CE}$ , Saturation	$I_C = 20mA$ , over temperature			0.4	V
	$I_C = 40mA$ , over temperature			0.5	V
<b>Supply Voltage/Current</b> $I_{CC}$	$I_Z = 0$ , voltage fed	$T_A = 25^\circ C$		10.0	mA
		Over temp.		13.0	mA
$V_{CC}$	$I_S = 10mA$ , current fed	19.0	21.0	24.0	V
	$I_{CC} = 30mA$ , current fed	20.0		30.0	V
<b>Low Supply Protection</b> Pin 1 threshold		8.0	9.0	10.5	V

## NOTE

All curves and applications of NE5561 apply exactly.