EE 322 Advanced Analog Electronics, Spring 2013
Handout 3: Amplifier stability - op-amp frequency response

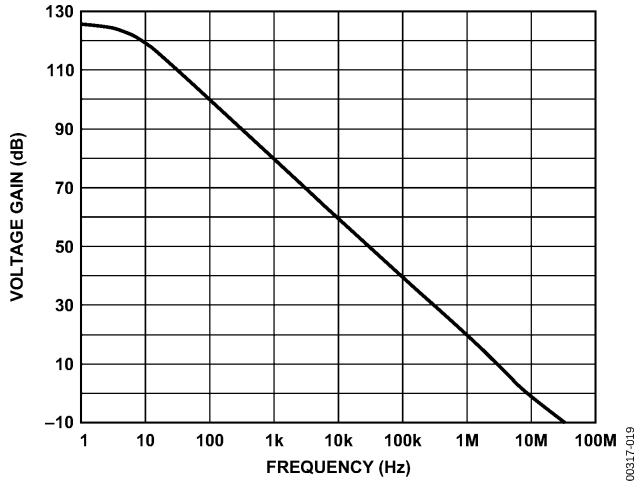

Figure 19. Open-Loop Gain vs. Frequency

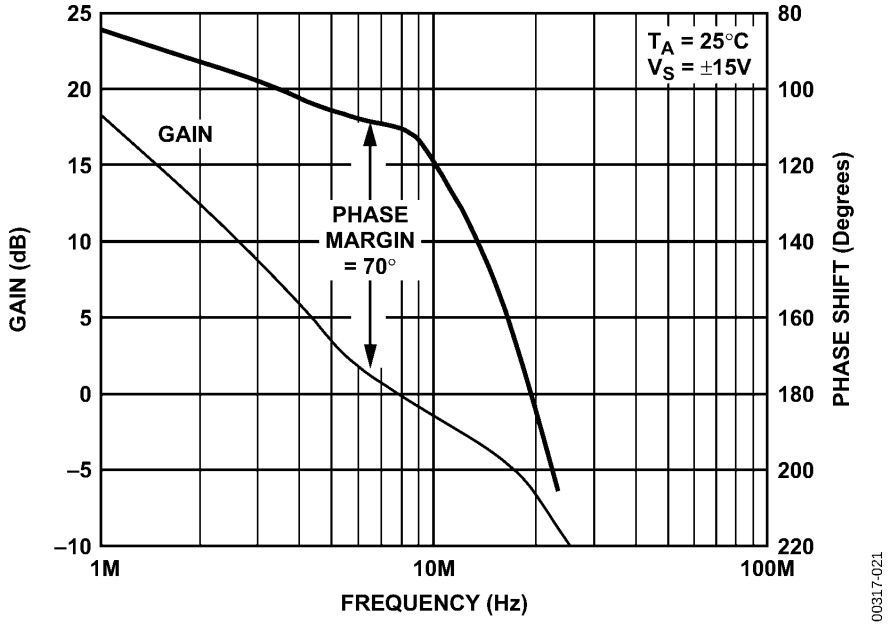

Figure 21. Gain, Phase Shift vs. Frequency

Table 4.

Parameter	Symbol	Conditions	OP27N Typical	Unit
AVERAGE INPUT OFFSET VOLTAGE DRIFT[1]	TCV_{OS} or TCV_{OSn}	Nulled or unnulled R_P = 8 kΩ to 20 kΩ	0.2	µV/°C
AVERAGE INPUT OFFSET CURRENT DRIFT	TCI_{OS}		80	pA/°C
AVERAGE INPUT BIAS CURRENT DRIFT	TCI_B		100	pA/°C
INPUT NOISE VOLTAGE DENSITY	e_n e_n e_n	f_O = 10 Hz f_O = 30 Hz f_O = 1000 Hz	3.5 3.1 3.0	nV/√Hz nV/√Hz nV/√Hz
INPUT NOISE CURRENT DENSITY	i_n i_n i_n	f_O = 10 Hz f_O = 30 Hz f_O = 1000 Hz	1.7 1.0 0.4	pA/√Hz pA/√Hz pA/√Hz
INPUT NOISE VOLTAGE SLEW RATE	e_{np-p} SR	0.1 Hz to 10 Hz R_L ≥ 2 kΩ	0.08 2.8	µV p-p V/µs
GAIN BANDWIDTH PRODUCT	GBW		8	MHz

[1] Input offset voltage measurements are performed by automated test equipment approximately 0.5 seconds after application of power.