

EE 322 Advanced Analog Electronics, Spring 2011
Handout 3: Amplifier stability - op-amp frequency response

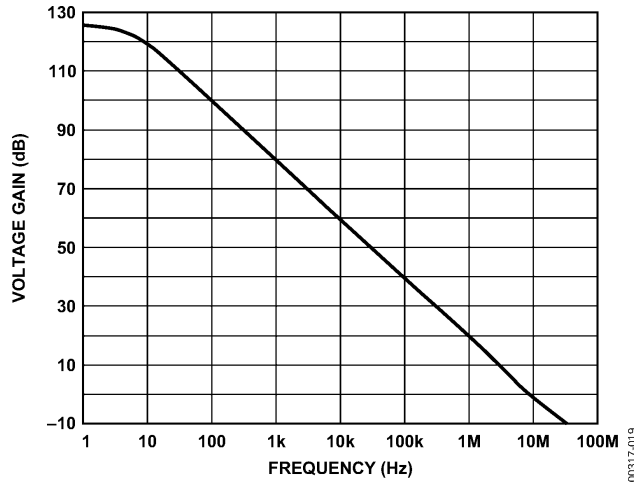


Figure 19. Open-Loop Gain vs. Frequency

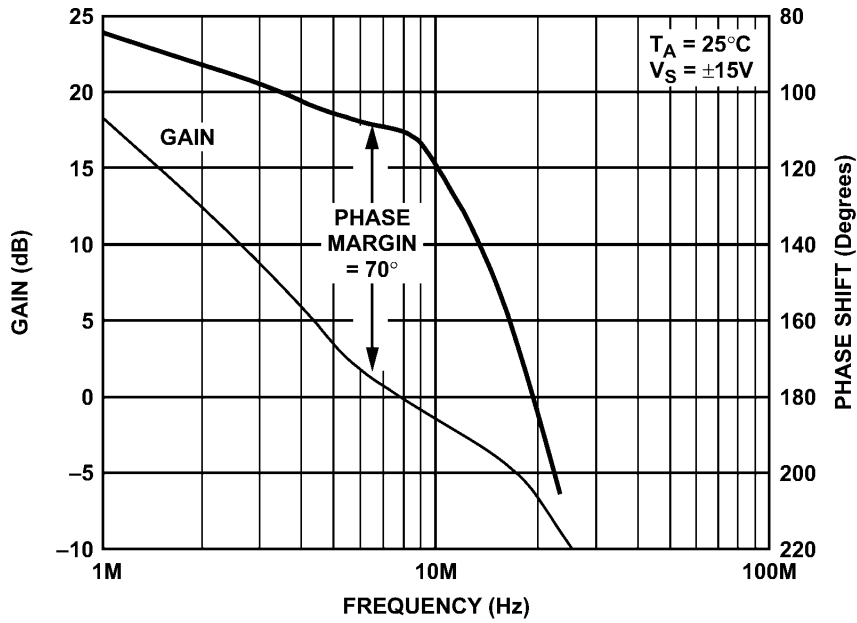


Figure 21. Gain, Phase Shift vs. Frequency

Table 4.

Parameter	Symbol	Conditions	OP27N Typical	Unit
AVERAGE INPUT OFFSET VOLTAGE DRIFT ¹	TCV _{OS} or TCV _{OSn}	Nullled or unnullled R _F = 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	f ₀ = 10 Hz	3.5	nV/√Hz
	e _n	f ₀ = 30 Hz	3.1	nV/√Hz
	e _n	f ₀ = 1000 Hz	3.0	nV/√Hz
INPUT NOISE CURRENT DENSITY	i _n	f ₀ = 10 Hz	1.7	pA/√Hz
	i _n	f ₀ = 30 Hz	1.0	pA/√Hz
	i _n	f ₀ = 1000 Hz	0.4	pA/√Hz
INPUT NOISE VOLTAGE SLEW RATE	e _{np-p}	0.1 Hz to 10 Hz	0.08	μV p-p
	SR	R _L ≥ 2 kΩ	2.8	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.