SPECIFICATIONS

ELECTRICAL

All specifications at 25°C, and $+V_{CC}$ = +5V unless otherwise noted.

PARAMETER	CONDITIONS	PCM61P/P-J/P-K MIN	TYP	MAX	UNITS
RESOLUTION				18	Bits
DYNAMIC RANGE			108		dB
DIGITAL INPUT					
Logic Family			TTL/CMOS Compatible		
Logic Level: V_{IH}		+2		$+V_{CC}$	V
V_{IL}		0		+0.8	V
I_{IH}	V_{IH} = +2.7V			+1	µA
I_{IL}	V_{IL} = +0.4V			–50	µA
Data Format			Serial BTC[1]		
Input Clock Frequency				16.9	MHz
DYNAMIC CHARACTERISTICS					
Total Harmonic Distortion + N[2]	Without MSB Adjustments				
PCM61P					
f = 991Hz (0dB)[3]	f_S = 176.4kHz[4]		–88	–82	dB
f = 991Hz (–20dB)	f_S = 176.4kHz		–74	–68	dB
f = 991Hz (–60dB)	f_S = 176.4kHz		–34	–28	dB
PCM61P-J					
f = 991Hz (0dB)	f_S = 176.4kHz		–94	–88	dB
f = 991Hz (–20dB)	f_S = 176.4kHz		–76	–74	dB
f = 991Hz (–60dB)	f_S = 176.4kHz		–36	–34	dB
PCM61P-K					
f = 991Hz (0dB)	f_S = 176.4kHz		–98	–92	dB
f = 991Hz (–20dB)	f_S = 176.4kHz		–80	–74	dB
f = 991Hz (–60dB)	f_S = 176.4kHz		–40	–34	dB
IDLE CHANNEL SNR	20Hz to 20kHz at BPZ[5]		112		dB
TRANSFER CHARACTERISTICS					
ACCURACY					
Gain Error			±2		%
Bipolar Zero Error			±30		mV
Differential Linearity Error			±0.001		%
Total Drift[6]	0°C to 70°C		±25		ppm of FSR/°C
Bipolar Zero Drift	0°C to 70°C		±4		ppm of FSR/°C
Warm-up Time		1			Minute
MONOTONICITY			16		Bits
ANALOG OUTPUT					
Voltage: Output Range			±3		V
Output Current		±8			mA
Output Impedance			0.1		Ω
Current: Output Range	±30%		±1		mA
Output Impedance	±30%		1.2		kΩ
SETTLING TIME	To ±0.006% of FSR				
Voltage: 6V Step			1.5		µs
1 LSB			1.0		µs
Slew Rate			12		V/µs
Current: 1mA Step	10Ω to 100Ω Load		250		ns
1mA Step	1kΩ Load		350		ns
Glitch Energy	Meets all THD + N specs without external deglitching				
POWER SUPPLY REQUIREMENTS[7]					
$\pm V_{CC}$ Supply Voltage		±4.75	±5	±13.2	V
Supply Current: $+I_{CC}$	$+V_{CC}$ = +5V		+10	+17	mA
$+I_{CC}$	$+V_{CC}$ = +12V		+12		mA
$-I_{CC}$	$-V_{CC}$ = –5V		–25	–35	mA
$-I_{CC}$	$-V_{CC}$ = –12V		–27		mA
Power Dissipation	$\pm V_{CC}$ = ±5V		175	260	mW
	$\pm V_{CC}$ = ±12V		475		mW
TEMPERATURE RANGE					
Specification		0		+70	°C
Operating		–30		+70	°C
Storage		–60		+100	°C

NOTES: (1) Binary Two's Complement coding. (2) Ratio of ($Distortion_{RMS}$ + $Noise_{RMS}$)/$Signal_{RMS}$. (3) D/A converter output frequency/signal level. (4) D/A converter sample frequency (4 x 44.1kHz; 4 times oversampling). (5) Bipolar zero, using A-weighted filter. (6) This is the combined drift error due to gain, offset, and linearity over temperature. (7) All positive and all negative supply pins must be tied together respectively.