7.3 Recommended Operating Conditions

over operating ambient temperature range (unless otherwise noted)

			MIN	NOM	MAX	UNIT
POWER SUPPLY						
	Analog power supply	AVDD to AVSS	4.75	5	5.25	V
	Digital power supply	DVDD to DGND	1.8	1.8	3.6	V
	Analog to Digital supply	AVDD – DVDD	–2.1		3.6	V
ANALOG INPUTS						
	Full-scale differential input voltage	$V_{INxP} – V_{INxN}$		$\pm V_{REF}$ / gain		V
V_{CM}	Input common-mode range	$(V_{INxP} + V_{INxN}) / 2$		See the *Input Common-Mode Range* subsection of the *PGA Settings and Input Range* section		
VOLTAGE REFERENCE INPUTS						
V_{REF}	Reference input voltage	$V_{REF} = (V_{VREFP} – V_{VREFN})$		4.5		V
VREFN	Negative input			AVSS		V
VREFP	Positive input			AVSS + 4.5		V
CLOCK INPUT						
f_{CLK}	External clock input frequency	CLKSEL pin = 0	1.5	2.048	2.25	MHz
DIGITAL INPUTS						
	Input voltage		DGND – 0.1		DVDD + 0.1	V
TEMPERATURE RANGE						
T_A	Operating temperature range		–40		85	°C

7.4 Thermal Information

THERMAL METRIC(1)		ADS1299-4, ADS1299-6, ADS1299 PAG (TQFP) 64 PINS	UNIT
$R_{\theta JA}$	Junction-to-ambient thermal resistance	46.2	°C/W
$R_{\theta JC(top)}$	Junction-to-case (top) thermal resistance	5.8	°C/W
$R_{\theta JB}$	Junction-to-board thermal resistance	19.6	°C/W
ψ_{JT}	Junction-to-top characterization parameter	0.2	°C/W
ψ_{JB}	Junction-to-board characterization parameter	19.2	°C/W
$R_{\theta JC(bot)}$	Junction-to-case (bottom) thermal resistance	n/a	°C/W

(1) For more information about traditional and new thermal metrics, see the *Semiconductor and IC Package Thermal Metrics* application report.