

DATA SHEET



AN OVERVIEW OF PRODUCT FEATURES AND ELECTRICAL CHARACTERISTICS

FLH0041G/883



0.2 Amp Linear Power
Operational Amplifier in a
Hermetic 12-Lead Package



Features

- Low Input Offset Voltage – 1mV Typical
- Input and Output Overload Protection
- High Slew Rate – 3V/μs Typical
- Wide Power Bandwidth – 15 kHz
- Available as DSCC SMD
8508701ZA
- Additional Screening Available



Description

SatCon Electronics has developed this Power Operational Amplifier for use in power supply and motor driver applications. Small size and high reliability make these devices suitable for use in industrial, aerospace, and military applications.



Absolute Maximum Ratings

@T_C = 25°C (Unless Otherwise Specified)

Symbol	Parameter	Value	Units
V _S	Supply Voltage	±18	V
V _{CM}	Input Voltage ^{1/}	±15	V
V _{IN}	Differential Input Voltage	±30	V
I _{O(PK)}	Peak Output Current ^{2/}	0.5	A
θ _{JC}	Thermal Resistance, Junction to Case	70	°C/W
P _D	Power Dissipation ^{3/}	1.5	W
T _J	Operating Junction Temperature	-55 to +150	°C
T _{STG}	Storage Temperature	-65 to +150	°C
	Lead Temperature (10 sec)	300	°C

^{1/} Rating applies for supply voltages above ±15V. For supplies < ±15V, rating is equal to supply voltage.

^{2/} Rating applies for R_{SC} = 0Ω

^{3/} Rating applies for T_A = +25°C, without heat sink.



Recommended Operating Conditions

Symbol	Parameter	Value	Units
T_A	Ambient Operating Temperature Range	-55 to +125	°C



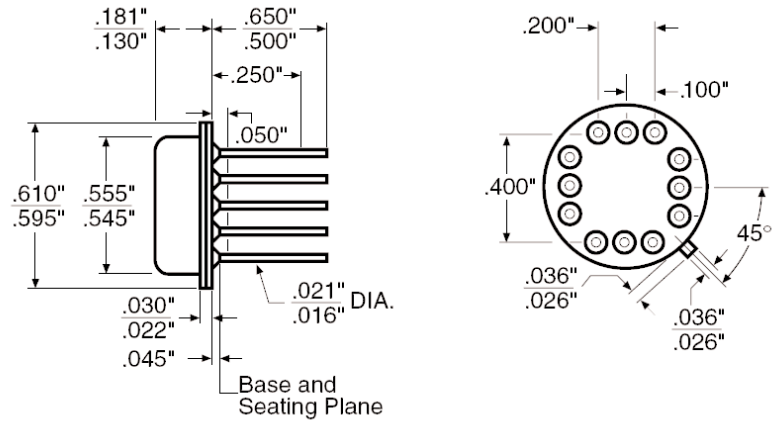
Electrical Characteristics

@ $T_A = 25^\circ\text{C}$, $\pm V_S = \pm 15\text{V}$, $C_C = 3000\text{pF}$
(Unless Otherwise Specified)

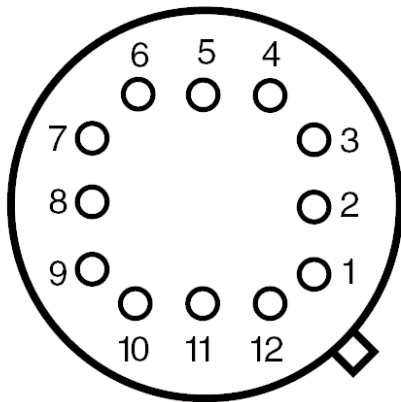
Symbol	Parameter	Min.	Max.	Units	Test Conditions
V_{IO}	Input Offset Voltage	-	3 5	mV	$R_S \leq 100\Omega$ $R_S \leq 100\Omega$, $T_A = -55^\circ\text{C}$ to $+125^\circ\text{C}$
I_{IB}	Input Bias Current	-	300 1	nA μA	$\pm 5\text{V} \leq V_S \leq \pm 18\text{V}$ $T_A = -55^\circ\text{C}$ to $+125^\circ\text{C}$, $\pm 5\text{V} \leq V_S \leq \pm 18\text{V}$
I_{IO}	Input Offset Current	-	100 300	nA	$\pm 5\text{V} \leq V_S \leq \pm 18\text{V}$ $T_A = -55^\circ\text{C}$ to $+125^\circ\text{C}$, $\pm 5\text{V} \leq V_S \leq \pm 18\text{V}$
R_{IN}	Input Resistance	0.3	-	$\text{M}\Omega$	
A_V	Voltage Gain	100 25	-	V/mV	$V_O = \pm 10\text{V}$, $R_L = 1\text{k}\Omega$ $V_O = \pm 10\text{V}$, $R_L = 100\Omega$, $T_A = -55^\circ\text{C}$ to $+125^\circ\text{C}$
V_O	Output Voltage Swing	± 13	-	V	$R_L = 100\Omega$, $T_A = -55^\circ\text{C}$ to $+125^\circ\text{C}$
V_{CM}	Input Voltage Range	± 12	-	V	$T_A = -55^\circ\text{C}$ to $+125^\circ\text{C}$
CMRR	Common Mode Rejection Ratio	70	-	dB	$V_{CM} = \pm 10\text{V}$, $R_S \leq 100\Omega$, $T_A = -55^\circ\text{C}$ to $+125^\circ\text{C}$
PSRR	Power Supply Rejection Ratio	80	-	dB	$R_S \leq 100\Omega$, $\pm 5\text{V} \leq V_S \leq \pm 15\text{V}$
I_{CC}	Supply Current	-	3.5	mA	$V_{OUT} = 0\text{V}$, $T_A = -55^\circ\text{C}$ to $+125^\circ\text{C}$
SR	Slew Rate	1.5	-	V/ μs	$R_L = 100\Omega$, $A_V = 1$
P_C	Power Consumption	-	105	mW	$V_{OUT} = 0\text{V}$, $T_A = -55^\circ\text{C}$ to $+125^\circ\text{C}$
I_{SC}	Output Short Circuit Current	-300	+300	mA	$R_{SC} = 3.3\Omega$



Mechanical Outline



Pin Description



Pin No	Pin Name
1	I_{SC+}
2	Compensation
3	Ground
4	NC
5	$-V_{IN}$
6	$+V_{IN}$
7	Offset Null
8	Offset Null
9	I_{SC-}
10	$-V_S$
11	Output
12	$+V_S$



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