DATA SHEET

AN OVERVIEW OF PRODUCT FEATURES AND ELECTRICAL CHARACTERISTICS

SatCon Electronics

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

NO BERYLLIUM OXIDE USED BeO FREE TO MANUFACTURE THIS PRODUCT

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= 25ºC (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	ºC/W
P_D	Power Dissipation 3/	1.5	W
T_J	Operating Junction Temperature	-55 to +150	ºC
T_{STG}	Storage Temperature	-65 to +150	ºC
	Lead Temperature (10 sec)	300	ºC

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=+25ºC, without heat sink.

Recommended Operating Conditions

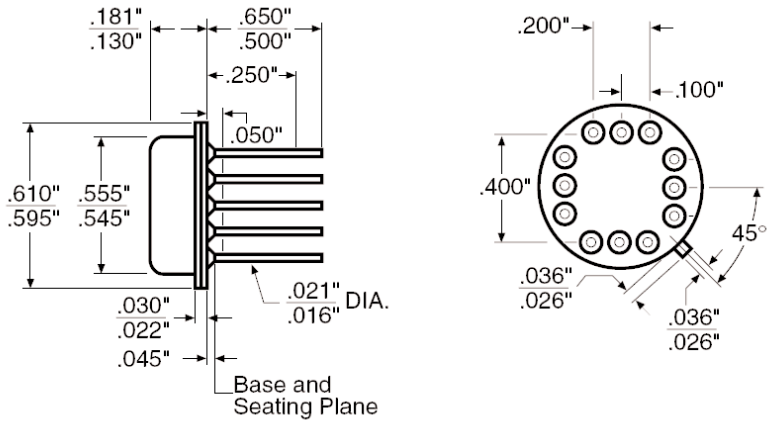
Symbol	Parameter	Value	Units
T_A	Ambient Operating Temperature Range	-55 to +125	ºC

Electrical Characteristics

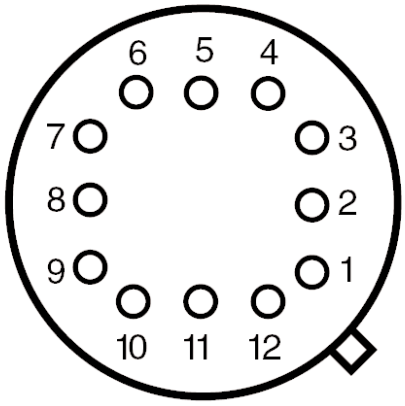
@T_A = 25ºC, ±V_S = ±15V, C_C = 3000pF
(Unless Otherwise Specified)

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

Mechanical Outline



Pin Description



TOP VIEW

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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