FLH0021K/883

1 Amp Linear Power Operational Amplifier in a Hermetic 8-Lead TO-3 Package

Features

- High Output Current – 1 A
- Low Input Offset Voltage – 1 mV Typical
- Input and Output Overload Protection
- High Slew Rate – 3 V/µs Typical
- Wide Power Bandwidth – 15 kHz
- Available as DSCC SMD 8508801YA
- Additional Screening Available

Description

Spectrum Microwave 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/	2	A
θ_{JC}	Thermal Resistance, Junction to Case	2	ºC/W
P_D	Power Dissipation 3/	6	W
T_J	Operating Junction Temperature	-55 to +125	ºC
T_{STG}	Storage Temperature	-65 to +150	ºC
	Lead Temperature	300	ºC

1/ Rating applies for supply voltages above ±15 V. For supplies < ±15 V, rating is equal to supply voltage.
2/ Rating applies for R_{SC} = 0Ω
3/ Rating applies for T_A = +25ºC, without heat sink.

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Recommended Operating Conditions

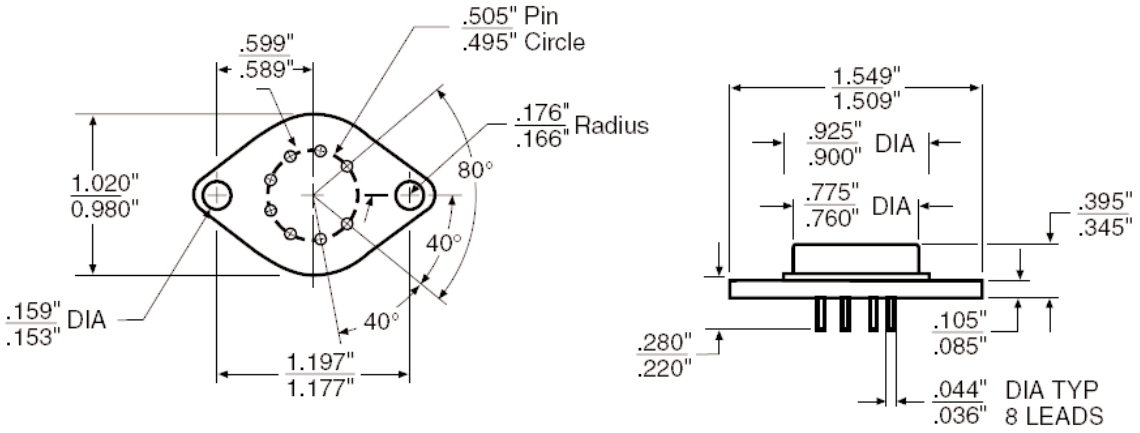
Symbol	Parameter	Value	Units
T_A	Ambient Operating Temperature Range	-55 to +125	°C

Electrical Characteristics

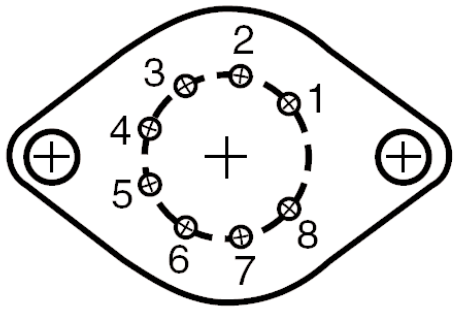
@T_A = 25°C, ±V_S = ±15V, C_C = 3000pF
(Unless Otherwise Specified)

Symbol	Parameter	Min.	Max.	Units	Test Conditions
V_{IO}	Input Offset Voltage	–	3	mV	$R_S \le 100\Omega$, $\pm5V \le V_S \le 18V$
			5		$R_S \le 100\Omega$, $\pm5V \le V_S \le 18V$, T_A = -55°C to +125°C
I_{IB}	Input Bias Current	–	300	nA	$\pm5V \le V_S \le \pm18V$
			1	µA	T_A = -55°C to +125°C, $\pm5V \le V_S \le \pm18V$
I_{IO}	Input Offset Current	–	100	nA	$\pm5V \le V_S \le \pm18V$
			300		T_A = -55°C to +125°C, $\pm5V \le V_S \le \pm18V$
R_{IN}	Input Resistance	0.3	–	MΩ	
A_V	Voltage Gain	100	–	V/mV	V_O = ±10V, R_L = 1kΩ
					V_O = ±10V, R_L = 100Ω, T_A = -55°C to +125°C
V_O	Output Voltage Swing	±13.5	–	V	R_L = 100Ω, T_A = -55°C to +125°C
		±11		V	R_L = 10Ω
V_{CM}	Input Voltage Range	±12	–	V	T_A = -55°C to +125°C
CMRR	Common Mode Rejection Ratio	70	–	dB	V_{CM} = ±10V, R_S <100Ω, T_A = -55°C to +125°C
PSRR	Power Supply Rejection Ratio	80	–	dB	$R_S \le 100\Omega$, $\pm5V \le V_S \le \pm15V$
I_{CC}	Supply Current	–	3.5	mA	V_{OUT} = OV, T_A = -55°C to +125°C
SR	Slew Rate	1.5	–	V/µs	R_L = 100Ω, A_V = 1
P_C	Power Consumption	–	105	mW	V_{OUT} = 0V, T_A = -55°C to +125°C
I_{SC}	Output Short Circuit Current	0.8	1.6	A	R_{SC} = 0.5Ω

Mechanical Outline



Pin Description



TOP VIEW

Pin No	Pin Name
1	I_{SC+}
2	V+
3	Ground
4	Compensation
5	Inverting Input
6	Non-Inverting Input
7	V-
8	I_{SC-}
Case	Output

Contact Us

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