



FLH0021K/883

Product Data Sheet

1 Amp Linear Power Operational Amplifier
In A Hermetic 8-Lead TO-3 Package



1 AMP LINEAR POWER OPERATIONAL AMPLIFIER IN A HERMETIC 8-LEAD TO-3 PACKAGE

DESCRIPTION:

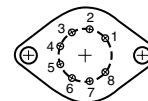
Film Microelectronics has developed this Power Operational Amplifier for use in power supply and motor driver applications. Small size and high reliability make these devices suitable for use in industrial, aerospace, and military applications.

FEATURES:

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

PIN CONNECTION

Top View



Pin Connection

Top View

- Pin 1: I_{SC+}
 Pin 2: $V+$
 Pin 3: Ground
 Pin 4: Compensation
 Pin 5: Inverting Input
 Pin 6: Non-Inverting Input
 Pin 7: $V-$
 Pin 8: I_{SC-}
 Case: Output

ABSOLUTE MAXIMUM RATINGS @ $T_C = 25^\circ\text{C}$, unless otherwise stated

Parameter	Rating	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	$^\circ\text{C/W}$
P_D Power Dissipation 3 /	6	W
T_J Operating Junction Temperature	-55 to +150	$^\circ\text{C}$
T_{STG} Storage Temperature	-65 to +150	$^\circ\text{C}$
Lead Temperature (10 sec)	300	$^\circ\text{C}$

1 / Rating applies for supply voltages above $\pm 15\text{V}$. For supplies less than $\pm 15\text{V}$, rating is equal to supply voltage.

2 / Rating applies for $R_{SC} = 0\Omega$.

3 / Rating applies for $T_A = +25^\circ\text{C}$, without heat sink.



RECOMMENDED OPERATING CONDITIONS

Parameter	Range	Units
T_A Ambient Operating Temperature Range	-55 to +125	$^\circ\text{C}$

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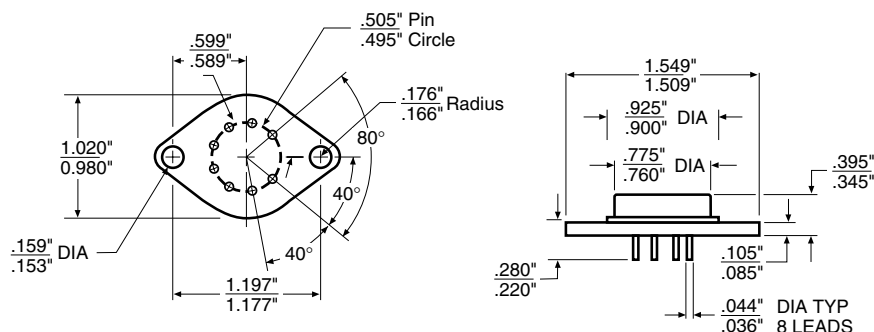
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Electrical Characteristics @ $T_A = 25^\circ\text{C}$, $\pm V_S = \pm 15\text{V}$, $C_C = 3000\text{pF}$, unless otherwise stated

Parameter	Min.	Max.	Units	Test Conditions
V_{IO} Input Offset Voltage	-	3 5	mV	$R_S \leq 100\Omega$, $\pm 5\text{V} \leq V_S \leq \pm 18\text{V}$ $R_S \leq 100\Omega$, $\pm 5\text{V} \leq V_S \leq \pm 18\text{V}$, $T_A = -55^\circ\text{C}$ 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	-	$M\Omega$	
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	± 13.5 ± 11	-	V	$R_L = 100\Omega$, $T_A = -55^\circ\text{C}$ to $+125^\circ\text{C}$ $R_L = 10\Omega$
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	0.8	1.6	A	$R_{SC} = 0.5\Omega$

MECHANICAL OUTLINE



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