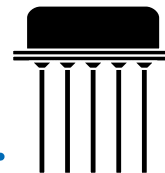




0.2 Amp Linear Power Operational Amplifier In A Hermetic 12-Lead Package



# 0.2 AMP LINEAR POWER OPERATIONAL AMPLIFIER IN A HERMETIC 12-LEAD PACKAGE

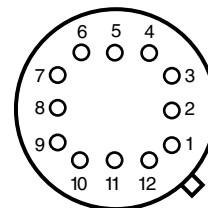
## DESCRIPTION:

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:

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

PIN CONNECTION  
Top View



## Pin Connection

- Pin 1: I<sub>SC+</sub>
- Pin 2: Compensation
- Pin 3: Ground
- Pin 4: NC
- Pin 5: -V<sub>IN</sub>
- Pin 6: +V<sub>IN</sub>
- Pin 7: Offset Null
- Pin 8: Offset Null
- Pin 9: I<sub>SC-</sub>
- Pin 10: -V<sub>S</sub>
- Pin 11: Output
- Pin 12: +V<sub>S</sub>

## ABSOLUTE MAXIMUM RATINGS @ T<sub>C</sub> = 25°C, unless otherwise stated

Parameter		Rating	Units
V <sub>S</sub>	Supply Voltage	±18	V
V <sub>CM</sub>	Input Voltage <b>1/</b>	±15	V
V <sub>IN</sub>	Differential Input Voltage	±30	V
I <sub>O(PK)</sub>	Peak Output Current <b>2/</b>	0.5	A
θ <sub>JC</sub>	Thermal Resistance Junction To Case	70	°C/W
P <sub>D</sub>	Power Dissipation <b>3/</b>	1.5	W
T <sub>J</sub>	Operating Junction Temperature	-55 to +150	°C
T <sub>STG</sub>	Storage Temperature	-65 to +150	°C
	Lead Temperature (10 sec)	300	°C

**1/** Rating applies for supply voltages above ±15V. For supplies less than ±15V, rating is equal to supply voltage.

**2/** Rating applies for R<sub>SC</sub> = 0Ω.

**3/** Rating applies for T<sub>A</sub> = +25°C, without heat sink.



## RECOMMENDED OPERATING CONDITIONS

Parameter		Range	Units
T <sub>A</sub>	Ambient Operating Temperature Range	-55 to +125	°C

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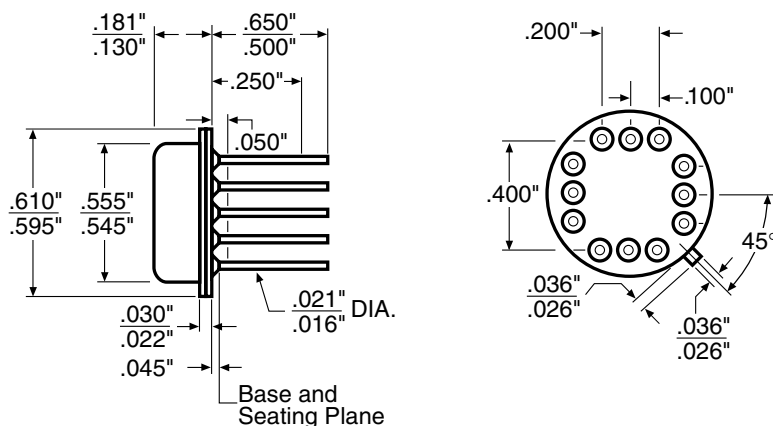
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**Electrical Characteristics** @  $T_A = 25^\circ\text{C}$ ,  $\pm V_S = \pm 15\text{V}$ ,  $C_C = 3000\text{pF}$ , unless otherwise stated

Parameter	Min.	Max.	Units	Test Conditions
$V_{IO}$ Input Offset Voltage	-	3 5	mV	$R_S \leq 100\Omega$ $R_S \leq 100\Omega$ , $T_A = -55^\circ\text{C}$ to $+125^\circ\text{C}$
$I_{IB}$ Input Bias Current	-	300 1	nA $\mu\text{A}$	$\pm 5\text{V} \leq V_S \leq \pm 18\text{V}$ $T_A = -55^\circ\text{C}$ 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	$\pm 13$	-	V	$R_L = 100\Omega$ , $T_A = -55^\circ\text{C}$ to $+125^\circ\text{C}$
$V_{CM}$ Input Voltage Range	$\pm 12$	-	V	$T_A = -55^\circ\text{C}$ to $+125^\circ\text{C}$
<b>CMRR</b> Common Mode Rejection Ratio	70	-	dB	$V_{CM} = \pm 10\text{V}$ , $R_S \leq 100\Omega$ , $T_A = -55^\circ\text{C}$ to $+125^\circ\text{C}$
<b>PSRR</b> 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/ $\mu\text{s}$	$R_L = 100\Omega$ , $A_V = 1$
$P_C$ 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**



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