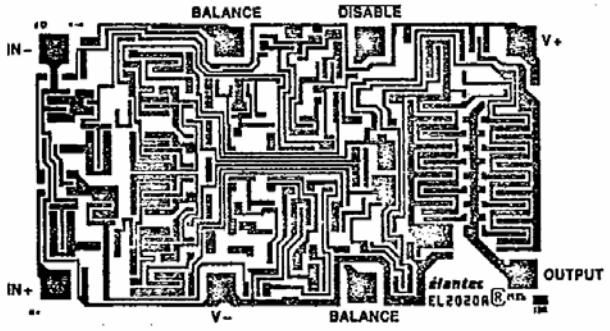
# EL2020D Die
## 50 MHz Current Feedback Amplifier

T-79-07-10

## Absolute Maximum Ratings ($T_A$ = 25°C)

| | | |
|---|---|---|
| $V_S$ | Supply Voltage | ±18V or 36V |
| $V_{IN}$ | Input Voltage | ±15V or $V_S$ |
| $\Delta V_{IN}$ | Differential Input Voltage | ±10V |
| $I_{IN}$ | Input Current (Pins 2 or 3) | ±10 mA |
| $I_{INS}$ | Input Current (Pins 1, 5, or 8) | ±5 MA |
| $I_{OP}$ | Peak Output Current | Short Circuit Protected |
| | Output Short Circuit Duration | Continuous |
| $T_J$ | Maximum Junction Temperature | 175°C |



DIE SIZE: 60 x 48

**Important Note:**
For AC electrical characteristics, refer to the typical electrical table and performance curves in the package data sheet. These characteristics are guaranteed but not tested in die form. Unless otherwise noted, all tests are pulsed tests, therefore $T_J = T_C = T_A$.

| Test Level | Test Procedure |
|---|---|
| I | 100% production tested in wafer form. See remarks under Electrical Testing in the General Die section. |

## Open Loop Characteristics $V_S$ = ±15V, $T_A$ = 25°C

| Parameter | Description | Min | Typ | Max | Test Level | Units |
|---|---|---|---|---|---|---|
| $V_{OS}$ (Note 1) | Input Offset Voltage | −10 | 3 | 10 | I | mV |
| CMRR (Note 3) | Common Mode Rejection Ratio | 50 | 60 | | I | dB |
| PSRR (Note 4) | Power Supply Rejection Ratio | 65 | 75 | | I | dB |
| $+I_N$ | Non-Inverting Input Current | −15 | 5 | 15 | I | µA |
| $+R_{IN}$ | Non-Inverting Input Resistance | 1 | 5 | | I | MΩ |
| +IPSR (Note 4) | Non-Inverting Input Current Power Supply Rejection | | 0.05 | 0.5 | I | µA/V |
| $-I_N$ (Note 1) | − Input Current | −40 | 10 | 40 | I | µA |
| −ICMR (Note 3) | −Input Current Common Mode Rejection | | 0.5 | 2.0 | I | µA/V |
| −IPSR (Note 4) | −Input Current Power Supply Rejection | | 0.05 | 0.5 | I | µA/V |
| $R_{OL}$ | Transimpedance ($\Delta V_{OUT}/\Delta(-I_{IN})$) $R_L$ = 4000Ω, $V_{OUT}$ = ±10V | 300 | 1000 | | I | V/mA |

## Open Loop Characteristics $V_S = \pm 15V, T_A = 25°C$ — Contd.

| Parameter | Description | Min | Typ | Max | Test Level | Units |
|---|---|---|---|---|---|---|
| $A_{VOL1}$ | Open Loop DC Voltage Gain<br>$R_L = 400\Omega, V_{OUT} = \pm 10V$ | 70 | 80 | | I | dB |
| $A_{VOL2}$ | Open Loop DC Voltage Gain<br>$R_L = 100\Omega, V_{OUT} = \pm 2.5V$ | 60 | 70 | | I | dB |
| $V_O$ | Output Voltage<br>$R_L = 400\Omega$ | ±12 | ±13 | | I | V |
| $I_{OUT}$ | Output Current<br>$R_L = 400\Omega$ | ±30 | ±32.5 | | I | mA |
| $I_S$ | Quiescent Supply Current | | 9 | 12 | I | mA |
| $I_{S\ OFF}$ | Supply Current, Disabled, $V_8 = 0V$ | | 5.5 | 7.5 | I | mA |
| $I_{LOGIC}$ | Pin 8 Current to Disable | | 1.1 | 1.5 | I | mA |
| $I_D$ | Min Pin 8 Current to Disable | | 120 | 250 | I | µA |
| $I_E$ | Max Pin 8 Current to Disable | | | 30 | I | µA |

Note 1: The offset voltage and inverting input current can be adjusted with an external 10 kΩ pot between the Balance pins with the wiper connected to $V_{CC}$ to make the output offset voltage zero.

Note 2: A heat sink is required to keep the junction temperature below the absolute maximum when the output is short circuited.

Note 3: $V_{CM} = \pm 10V$.

Note 4: $\pm 4.5V \leq V_S \leq \pm 18V$.