

**RH1078M**  
 Micropower, Dual, Single-Supply  
 Precision Op Amp

**DIE CROSS REFERENCE**

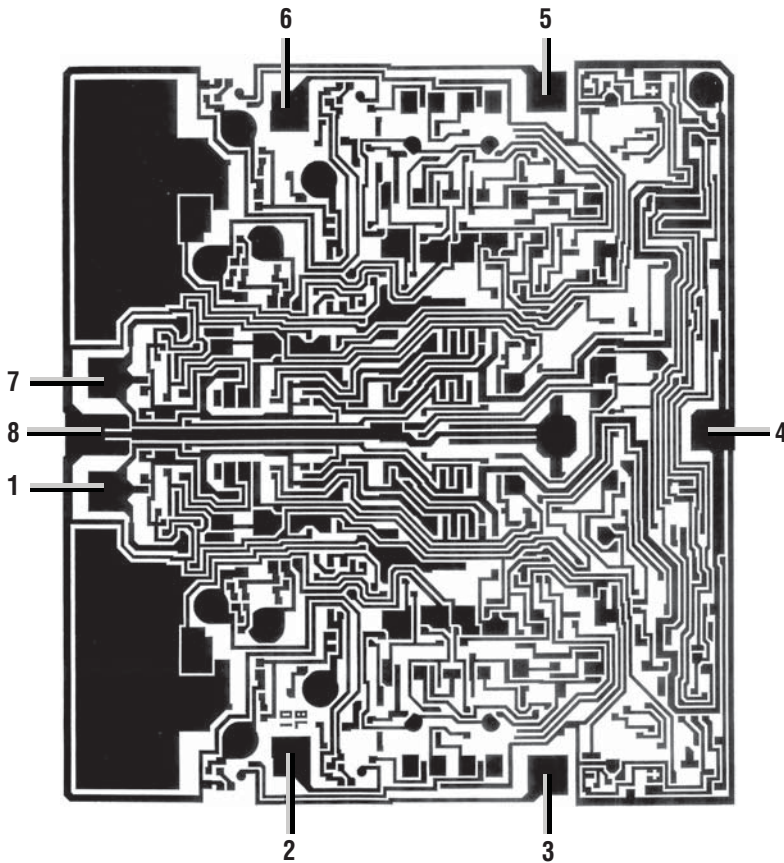
LTC Finished Part Number	Order DICE CANDIDATE Part Number
RH1078M	RH1078M DICE

Please refer to LTC standard product data sheet for other applicable product information.

**PAD FUNCTION**

1. OUTA
2. -INA
3. +INA
4. -V
5. +INB
6. -INB
7. OUTB
8. +V

12mils thick,  
 backside (substrate) is an alloyed  
 gold layer. Connect backside to V-.



90 × 97 mils

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**DICE ELECTRICAL TEST LIMITS**

$T_A = 25^\circ\text{C}$ ,  $V_S = 5\text{V}$ ,  $V_{CM} = 0.1\text{V}$ ,  $V_{OUT} = 1.4\text{V}$ , unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNITS
$V_{OS}$	Input Offset Voltage			120	$\mu\text{V}$
$I_{OS}$	Input Offset Current			0.8	nA
$I_B$	Input Bias Current			15	nA
CMRR	Common Mode Rejection Ratio	$V_{CM} = 0\text{V to } 3.5\text{V}$ $V_{CM} = 0.05\text{V to } 3.2\text{V}$	94		dB dB
PSRR	Power Supply Rejection Ratio	$V_S = 2.3\text{V to } 12\text{V}$ $V_S = 3.1\text{V to } 12\text{V}$	100		dB dB

# DICE SPECIFICATION

## RH1078M

### DICE ELECTRICAL TEST LIMITS $T_A = 25^\circ\text{C}$ , $V_S = 5\text{V}$ , $V_{CM} = 0.1\text{V}$ , $V_{OUT} = 1.4\text{V}$ , unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNITS
$A_{VOL}$	Large-Signal Voltage Gain	$V_O = 0.03\text{V}$ to 4V, No Load	150		V/mV
		$V_O = 0.03\text{V}$ to 3.5V, $R_L = 50\text{k}$	120		V/mV
		$V_O = 0.05\text{V}$ to 4V, No Load			V/mV
		$V_O = 0.05\text{V}$ to 3.5V, $R_L = 50\text{k}$			V/mV
$V_{OUT}$	Output Voltage Swing	Output Low, No Load		6	mV
		Output Low, 2k to GND		2	mV
		Output Low, $I_{SINK} = 100\mu\text{A}$		130	mV
		Output High, No Load	4.2		V
		Output High, 2k to GND	3.5		V
SR	Slew Rate	$A_V = 1$ , $V_S = \pm 2.5\text{V}$	0.04		V/ $\mu\text{s}$
$I_S$	Supply Current	Per Amplifier		75	$\mu\text{A}$
	Minimum Supply Voltage	Note 2		2.3	V

$T_A = 25^\circ\text{C}$ ,  $V_S = \pm 15\text{V}$ , unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNITS
$V_{OS}$	Input Offset Voltage			350	$\mu\text{V}$
$I_{OS}$	Input Offset Current			0.8	nA
$I_B$	Input Bias Current			15	nA
	Input Voltage Range		13.5 -15.0		V V
CMRR	Common Mode Rejection Ratio	$V_{CM} = 13.5\text{V}$ , -15V	97		dB
		$V_{CM} = 13\text{V}$ , -14.9V			dB
PSRR	Power Supply Rejection Ratio	$V_S = 5\text{V}$ , 0V to $\pm 18\text{V}$	100		dB
$A_{VOL}$	Large-Signal Voltage Gain	$V_O = \pm 10\text{V}$ , $R_L = 50\text{k}$	1000		V/mV
		$V_O = \pm 10\text{V}$ , $R_L = 2\text{k}$	300		V/mV
		$V_O = \pm 10\text{V}$ , $R_L = 5\text{k}$			V/mV
$V_{OUT}$	Output Voltage Swing	$R_L = 50\text{k}$	$\pm 13$		V
		$R_L = 2\text{k}$	$\pm 11$		V
		$R_L = 5\text{k}$			V
SR	Slew Rate		0.06		V/ $\mu\text{s}$
$I_S$	Supply Current	Per Amplifier		100	$\mu\text{A}$

**Note 1:** Stresses beyond those listed under Absolute Maximum Ratings may cause permanent damage to the device. Exposure to any Absolute Maximum Rating condition for extended periods may affect device reliability and lifetime.

**Note 2:** Power supply rejection ratio is measured at the minimum supply voltage.

Wafer level testing is performed per the indicated specifications for dice. Considerable differences in performance can often be observed for dice versus packaged units due to the influences of packaging and assembly on certain devices and/or parameters. Please consult factory for more information on dice performance and lot qualifications via lot sampling test procedures.

Dice data sheet subject to change. Please consult factory for current revision in production.

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