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## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



LTC1799, LTC6900, LTC6905,  
 LTC6905-XXX, LTC6906, LTC6907  
 LTC6908 SOT23 Silicon Oscillators

## DESCRIPTION

DC2073A demo board features Linear Technology's SOT23 packaged silicon oscillators. The DC2073A demo board is available in eleven different options; DC2073A-A through DC2073A-K. These eleven options provide for the evaluation of resistor-set oscillator ICs and fixed frequency ICs (Table1).

Design files for this circuit board are available at <http://www.linear.com/demo>

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**Table 1. Resistor-Set Oscillator ICs and Maximum Frequency Error at  $T_A = 25^\circ\text{C}$**

PART NUMBER, BOARD ASSEMBLY	FREQUENCY PROGRAM METHOD	DESCRIPTION
LTC <sup>®</sup> 6905, DC2073A-A	Resistor Programmable	$17.225\text{MHz} \leq f_{\text{OSC}} \leq 170\text{MHz}$ , $\pm 1.4\%$ at $V^+ = 2.7\text{V}$ and $\pm 2.2\%$ at $V^+ = 5\text{V}$
LTC1799, DC2073A-B	Resistor Programmable	$5\text{kHz} \leq f_{\text{OSC}} \leq 10\text{MHz}$ , $\pm 1.5\%$ at $V^+ = 3\text{V}$ and $\pm 1.5\%$ at $V^+ = 5\text{V}$ (Up to 20MHz)
LTC6900, DC2073A-C	Resistor Programmable	$5\text{kHz} \leq f_{\text{OSC}} \leq 10\text{MHz}$ , $\pm 1.5\%$ at $V^+ = 3\text{V}$ and $\pm 1.5\%$ at $V^+ = 5\text{V}$ (Up to 20MHz)
LTC6905-133, DC2073A-D	Three Fixed Frequencies Set by Three-State Input	$f_{\text{OSC}} = 133\text{MHz}$ , $66.7\text{MHz}$ and $33.5\text{MHz}$ , $\pm 1.0\%$ at $V^+ = 3\text{V}$ and $\pm 1.5\%$ Typical at $V^+ = 5\text{V}$
LTC6905-100, DC2073A-E	Three Fixed Frequencies Set by Three-State Input	$f_{\text{OSC}} = 100\text{MHz}$ , $50\text{MHz}$ and $25\text{MHz}$ , $\pm 1.0\%$ at $V^+ = 3\text{V}$ and $\pm 1.5\%$ Typical at $V^+ = 5\text{V}$
LTC6905-96, DC2073A-F	Three Fixed Frequencies Set by Three-State Input	$f_{\text{OSC}} = 96\text{MHz}$ , $48\text{MHz}$ and $24\text{MHz}$ , $\pm 1.0\%$ at $V^+ = 3\text{V}$ and $\pm 1.5\%$ Typical at $V^+ = 5\text{V}$
LTC6905-80, DC2073A-G	Three Fixed Frequencies Set by Three-State Input	$f_{\text{OSC}} = 80\text{MHz}$ , $40\text{MHz}$ and $20\text{MHz}$ , $\pm 1.0\%$ at $V^+ = 3\text{V}$ and $\pm 1.5\%$ typical at $V^+ = 5\text{V}$
LTC6906, DC2073A-H	Resistor Programmable	$10\text{kHz} \leq f_{\text{OSC}} \leq 1\text{MHz}$ , $\pm 0.5\%$ at $V^+ = 2.7\text{V}$ to $3.6\text{V}$ and $\pm 0.7\%$ at $V^+ = 2.25\text{V}$
LTC6907, DC2073A-I	Resistor Programmable	$400\text{kHz} \leq f_{\text{OSC}} \leq 4\text{MHz}$ , $\pm 0.65\%$ at $V^+ = 3\text{V}$ to $3.6\text{V}$
LTC6908-1, DC2073A-J	Spread Spectrum Modulation, Complementary Outputs ( $0^\circ/180^\circ$ ) Resistor Programmable	$250\text{kHz} \leq f_{\text{OSC}} \leq 5\text{MHz}$ , $\pm 1.5\%$ at $V^+ = 2.7\text{V}$ and $\pm 2.0\%$ at $V^+ = 5\text{V}$
LTC6908-2, DC2073A-K	Spread Spectrum Modulation, Quadrature Outputs ( $0^\circ/90^\circ$ ) Resistor Programmable	$250\text{kHz} \leq f_{\text{OSC}} \leq 5\text{MHz}$ , $\pm 1.5\%$ at $V^+ = 2.7\text{V}$ and $\pm 2.0\%$ at $V^+ = 5\text{V}$



## QUICK START PROCEDURE

### Test Equipment:

1. A single 3V power supply.
2. An oscilloscope with a bandwidth of at least  $5 \times f_{OSC}$ . (For example, if  $f_{OSC} = 100\text{MHz}$  then use a 500MHz oscilloscope).
3. A screwdriver to adjust the potentiometer.

### Basic Test Procedure:

1. Connect power supply to  $V^+$  and GND, turrets E4 and E5.
2. Connect oscilloscope probe to OUT1 and GND.

Note: The ground lead of an oscilloscope probe has a series inductance that can generate a resonant circuit with the probe's capacitance. Probe resonance adds transient peaks and ringing on a high speed waveform. Reliable probing of the high frequency LTC6905 and LTC6905-XXX (with corresponding demo boards DC2073A-A, -D, -E, -F or -G), must use a very short connection of the oscilloscope probe ground to the board GND (see probe tip picture in Figure 1 Test Setup).

3. Set the JP1 jumper to the N divider position for the desired frequency shown on Table 2.
4. Turn on supply.
5. The oscilloscope display shows a 3V squarewave (0V to 3V).
6. For the resistor-set ICs (DC2073A-A, -B, -C, -H, -I, -J or -K) turn the RPOT potentiometer for the desired frequency. (The frequency adjustment is very coarse when the potentiometer is turned near the fully clockwise or counter-clockwise position).

### Verify Oscillator Accuracy

The  $f_{OSC}$  accuracy of the resistor-set ICs (DC2073A-A, -B, -C, -H, -I, -J or -K), can be verified by setting RSET to the exact value from the  $f_{OSC}$  equation shown in Table 2. For the DC2073A-A, -B, -C, -J, -K,  $RSET = RPOT + RSET2$ . RSET1 and RSET2 are never installed on the same board. Connecting an ohmmeter across RPOT and RSET1 or RSET2 forces current into the IC set pin (Pin 3 or 4) and causes an error in the ohmmeter reading. The RS resistor is in series with RPOT and equal to RSET1 or RSET2 and the equivalent  $RSET = RPOT + RS$ .

### Procedure to Verify Oscillator Accuracy

- a. Calculate RSET for the desired frequency (RSET in Table 2).
- b. Remove the power supply leads from DC2073A and connect an ohmmeter from POT (E6) to  $V^+$  (DC2073A-A, -B, -C, -J or -K) or GND (DC2073A-H or -I).
- c. Adjust RPOT for the exact value of RSET needed.

Note: If the potentiometer is turned near the fully clockwise or counter-clockwise position the RPOT adjustment may be too coarse for setting an exact RSET value. In addition, for a frequency adjustment near the upper or lower  $f_{OSC}$  range, RSET may be greater or less than the default DC2073A  $RPOT + RSET1$  or  $RSET2$  value, in this case the RSET1 or RSET2 resistor must be removed and replaced with a lower or higher value.

**QUICK START PROCEDURE**

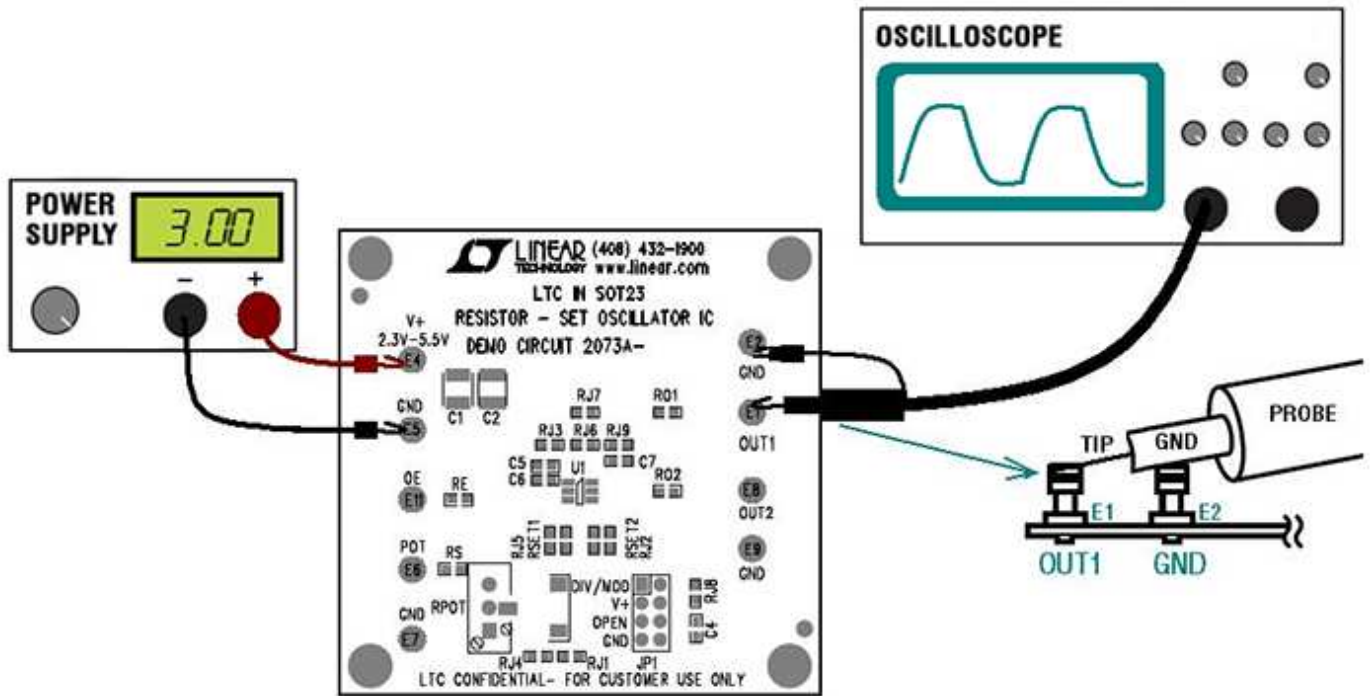


Figure 1. Test Setup

## QUICK START PROCEDURE

**Table 2.  $f_{OSC}$  Frequency and N Divider Setting**

<p><b>LTC6905, DC2073A-A</b></p> $f_{OSC} = \left( \frac{168.5\text{MHz} \cdot 10\text{k}\Omega}{R_{SET}} + 1.5\text{MHz} \right) \cdot \frac{1}{N}, R_{SET} = \frac{168.5\text{MHz} \cdot 10\text{k}\Omega}{N \cdot f_{OSC} - 1.5\text{MHz}}$ <p>N = 1 (JP1 to V<sup>+</sup>), 68.9MHz ≤ <math>f_{OSC}</math> ≤ 170MHz                      N = 2 (JP1 to OPEN), 34.45MHz ≤ <math>f_{OSC}</math> ≤ 85MHz                      N = 4 (JP1 to GND), 7.225MHz ≤ <math>f_{OSC}</math> ≤ 42.5MHz</p>	<p><b>LTC1799, DC2073A-B</b></p> $f_{OSC} = \frac{10\text{MHz} \cdot 10\text{k}\Omega}{N \cdot R_{SET}}, R_{SET} = \frac{10\text{MHz} \cdot 10\text{k}\Omega}{f_{OSC} \cdot N}$ <p>N = 1 (JP1 to GND), 500kHz ≤ <math>f_{OSC}</math> ≤ 20MHz                      N = 10 (JP1 to OPEN), 50kHz ≤ <math>f_{OSC}</math> ≤ 2MHz                      N = 100 (JP1 to V<sup>+</sup>), 5kHz ≤ <math>f_{OSC}</math> ≤ 200kHz</p>
<p><b>LTC6900, DC1073A-C</b></p> $f_{OSC} = \frac{10\text{MHz} \cdot 20\text{k}\Omega}{N \cdot R_{SET}}, R_{SET} = \frac{10\text{MHz} \cdot 20\text{k}\Omega}{f_{OSC} \cdot N}$ <p>N = 1 (JP1 to GND), 500kHz ≤ <math>f_{OSC}</math> ≤ 20MHz                      N = 10 (JP1 to OPEN), 50kHz ≤ <math>f_{OSC}</math> ≤ 2MHz                      N = 100 (JP1 to V<sup>+</sup>), 5kHz ≤ <math>f_{OSC}</math> ≤ 200kHz</p>	<p><b>LTC6905-133, DC2073A-D</b></p> $f_{OSC} = \frac{133\text{MHz}}{N}$ <p>N = 1 (JP1 to V<sup>+</sup>), <math>f_{OSC}</math> = 133MHz                      N = 2 (JP1 to OPEN), <math>f_{OSC}</math> = 66.7MHz                      N = 4 (JP1 to GND), <math>f_{OSC}</math> = 33.5MHz</p>
<p><b>LTC6905-10, DC2073A-E</b></p> $f_{OSC} = \frac{100\text{MHz}}{N}$ <p>N = 1 (JP1 to V<sup>+</sup>), <math>f_{OSC}</math> = 100MHz                      N = 2 (JP1 to OPEN), <math>f_{OSC}</math> = 50MHz                      N = 4 (JP1 to GND), <math>f_{OSC}</math> = 25MHz</p>	<p><b>LTC6905-96, DC2073A-F</b></p> $f_{OSC} = \frac{96\text{MHz}}{N}$ <p>N = 1 (JP1 to V<sup>+</sup>), <math>f_{OSC}</math> = 96MHz                      N = 2 (JP1 to OPEN), <math>f_{OSC}</math> = 48MHz                      N = 4 (JP1 to GND), <math>f_{OSC}</math> = 24MHz</p>
<p><b>LTC6905-80, DC2073A-G</b></p> $f_{OSC} = \frac{80\text{MHz}}{N}$ <p>N = 1 (JP1 to V<sup>+</sup>), <math>f_{OSC}</math> = 80MHz                      N = 2 (JP1 to OPEN), <math>f_{OSC}</math> = 40MHz                      N = 4 (JP1 to GND), <math>f_{OSC}</math> = 20MHz</p>	<p><b>LTC6906, DC2073A-H</b></p> $f_{OSC} = \frac{1\text{MHz} \cdot 100\text{k}\Omega}{N \cdot R_{SET}}, R_{SET} = \frac{1\text{MHz} \cdot 100\text{k}\Omega}{f_{OSC} \cdot N}$ <p>N = 1 (JP1 to GND), 0.1MHz ≤ <math>f_{OSC}</math> ≤ 1MHz                      N = 3 (JP1 to OPEN), 33kHz ≤ <math>f_{OSC}</math> ≤ 333kHz                      N = 10 (JP1 to V<sup>+</sup>), 10kHz ≤ <math>f_{OSC}</math> ≤ 100kHz</p>
<p><b>LTC6907, DC2073A-I</b></p> $f_{OSC} = \frac{4\text{MHz} \cdot 50\text{k}\Omega}{N \cdot R_{SET}}, R_{SET} = \frac{4\text{MHz} \cdot 50\text{k}\Omega}{f_{OSC} \cdot N}$ <p>N = 1 (JP1 to GND), 0.4MHz ≤ <math>f_{OSC}</math> ≤ 4MHz                      N = 3 (JP1 to OPEN), 133kHz ≤ <math>f_{OSC}</math> ≤ 1.33MHz                      N = 10 (JP1 to V<sup>+</sup>), 40kHz ≤ <math>f_{OSC}</math> ≤ 400kHz</p>	<p><b>LTC6908-1, DC2073A-J</b></p> <p>Complementary Outputs (0°/180°) without Modulation:                      250kHz ≤ <math>f_{OSC}</math> ≤ 5MHz, (JP1 to DIV/MOD)</p> $f_{OSC} = \frac{10\text{MHz} \cdot 10\text{k}\Omega}{N \cdot R_{SET}}, R_{SET} = \frac{10\text{MHz} \cdot 10\text{k}\Omega}{f_{OSC} \cdot N}$ <p>Spread Spectrum Modulation Rate:                      (JP1 to GND), <math>f_{OSC}/16</math>                      (JP1 to OPEN), <math>f_{OSC}/32</math>                      (JP1 to V<sup>+</sup>), <math>f_{OSC}/64</math></p>
<p><b>LTC6908-1, DC2073A-K</b></p> <p>Quadrature Outputs (0°/90°) without Modulation:                      250kHz ≤ <math>f_{OSC}</math> ≤ 5MHz, (JP1 to DIV/MOD)</p> $f_{OSC} = \frac{10\text{MHz} \cdot 10\text{k}\Omega}{N \cdot R_{SET}}, R_{SET} = \frac{10\text{MHz} \cdot 10\text{k}\Omega}{f_{OSC} \cdot N}$ <p>Spread Spectrum Modulation Rate:                      (JP1 to GND), <math>f_{OSC}/16</math>                      (JP1 to OPEN), <math>f_{OSC}/32</math>                      (JP1 to V<sup>+</sup>), <math>f_{OSC}/64</math></p>	

## PARTS LIST

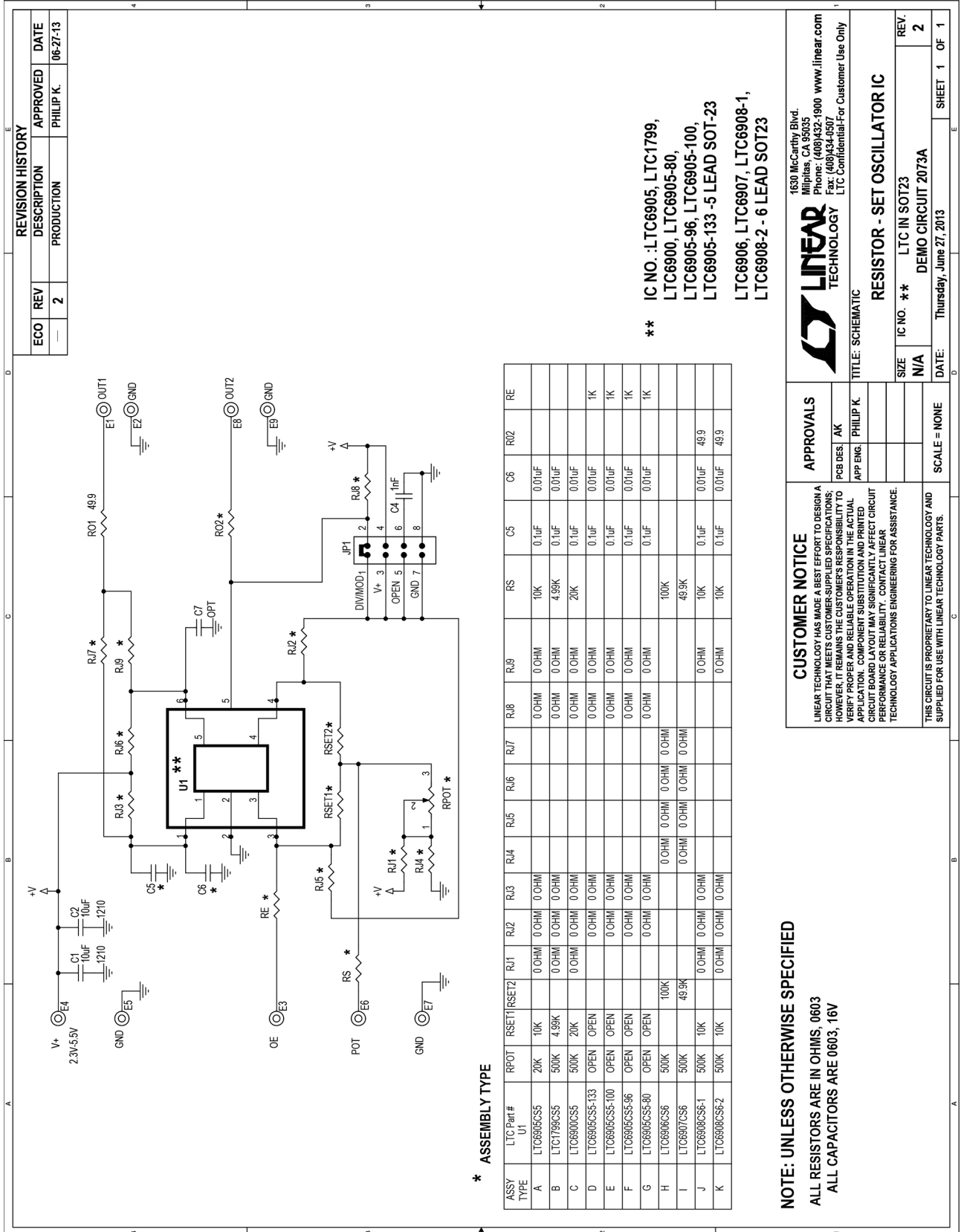
ITEM	QTY	REFERENCE	PART DESCRIPTION	MANUFACTURER/PART NUMBER
<b>General</b>				
1	2	C1,C2	Cap., Chip, X7R, 10µF, 10%, 16V, 1210	Murata, GRM32DR71C106KA01
2	1	C4	Cap., Chip, X7R, 1000pF, 10%, 16V, 0603	AVX, 0603YC102KAT
3	0	C7 OPT	Cap., 0603, OPT	
4	9	E1-E9	Testpoint, Turret, 0.064"	Mill-Max, 2308-2-00-80-00-00-07-0
5	1	R01	Res., Chip, 49.9Ω, 1%, 0603	Vishay, CRCW060349R9FKEA
6	1	JP1	Headers, Dbl. Row 2 x 4 2mm Ctrs	Samtec TMM-104-02-L-D
7	1	XJP1	Shunt	
8	4	(STAND-OFF)	Stand-Off, Nylon 0.5"	Keystone, 8833 (Snap On)
<b>DC2073A-A</b>				
1	1	RPOT	3/8" Square Multiturn Cermet Trimmer, 20k	Vishay, T93YA203KT20
2	2	RSET1, RS	Res., Chip, 10k, 1% 0603	Vishay, CRCW060310K0FKEA
3	5	RJ1, RJ2, RJ3, RJ8, RJ9	Res., Chip, 0Ω, 0603	Vishay, CRCW06030000Z0EA
4	1	C5	Cap., Chip, X7R, 0.1µF, 10%, 16V, 0603	AVX, 0603YC104KAT2A
5	1	C6	Cap., Chip, X7R, 0.01µF, 10%, 16V, 0603	AVX, 0603YC103KAT2A
6	1	U1	Resistor Set SOT-23 Oscillator, SOT23, 5-Lead	Linear Tech., LTC6905CS5
<b>DC2073A-B</b>				
1	1	RPOT	3/8" Square Multiturn Cermet Trimmer, 500k	Vishay, T93YA504KT20
2	2	RSET1, RS	Res., Chip, 4.99k, 1% 0603	Vishay, CRCW06034K99FKEA
3	5	RJ1, RJ2, RJ3, RJ8, RJ9	Res., Chip, 0Ω, 0603	Vishay, CRCW06030000Z0EA
4	1	C5	Cap., Chip, X7R, 0.1µF, 10%, 16V, 0603	AVX, 0603YC104KAT2A
5	1	C6	Cap., Chip, X7R, 0.01µF, 10%, 16V, 0603	AVX, 0603YC103KAT2A
6	1	U1	Resistor Set SOT-23 Oscillator, SOT23, 5-Lead	Linear Tech., LTC1799CS5
<b>DC2073A-C</b>				
1	1	RPOT	3/8" Square Multiturn Cermet Trimmer, 500k	Vishay, T93YA504KT20
2	2	RSET1, RS	Res., Chip, 20K, 1% 0603	Vishay, CRCW060320K0FKEA
3	5	RJ1, RJ2, RJ3, RJ8, RJ9	Res., Chip, 0Ω, 0603	Vishay, CRCW06030000Z0EA
4	1	C5	Cap., Chip, X7R, 0.1µF, 10%, 16V, 0603	AVX, 0603YC104KAT2A
5	1	C6	Cap., Chip, X7R, 0.01µF, 10%, 16V, 0603	AVX, 0603YC103KAT2A
6	1	U1	Resistor set SOT-23 Oscillator, SOT23, 5-Lead	Linear Tech., LTC6900CS5
<b>DC2073A-D</b>				
1	4	RJ2, RJ3, RJ8, RJ9	Res., Chip, 0Ω, 0603	VISHAY, CRCW06030000Z0EA
2	1	RE	Res., Chip, 1k, 1% 0603	VISHAY, CRCW06031K0FKEA
3	1	C5	Cap., Chip, X7R, 0.1µF, 10%, 16V, 0603	AVX, 0603YC104KAT2A
4	1	C6	Cap., Chip, X7R, 0.01µF, 10%, 16V, 0603	AVX, 0603YC103KAT2A
5	1	U1	Resistor set SOT-23 Oscillator, SOT23, 5-Lead	Linear Tech., LTC6905CS5-133
<b>DC2073A-E</b>				
1	4	RJ2, RJ3, RJ8, RJ9	Res., Chip, 0Ω, 0603	Vishay, CRCW06030000Z0EA
2	1	RE	Res., Chip, 1k, 1% 0603	Vishay, CRCW06031K0FKEA
3	1	C5	Cap., Chip, X7R, 0.1µF, 10%, 16V, 0603	AVX, 0603YC104KAT2A
4	1	C6	Cap., Chip, X7R, 0.01µF, 10%, 16V, 0603	AVX, 0603YC103KAT2A
5	1	U1	Resistor Set SOT-23 Oscillator, SOT23, 5-Lead	Linear Tech., LTC6905CS5-100

# DEMO MANUAL DC2073A

## PARTS LIST

ITEM	QTY	REFERENCE	PART DESCRIPTION	MANUFACTURER/PART NUMBER
<b>DC2073A-F</b>				
1	4	RJ2, RJ3, RJ8, RJ9	Res., Chip, 0 $\Omega$ , 0603	Vishay, CRCW06030000Z0EA
2	1	RE	Res., Chip, 1k, 1% 0603	Vishay, CRCW06031K0FKEA
3	1	C5	Cap., Chip, X7R, 0.1 $\mu$ F, 10%, 16V, 0603	AVX, 0603YC104KAT2A
4	1	C6	Cap., Chip, X7R, 0.01 $\mu$ F, 10%, 16V, 0603	AVX, 0603YC103KAT2A
5	1	U1	Resistor Set SOT-23 Oscillator, SOT23, 5-Lead	Linear Tech., LTC6905CS5-96
<b>DC2073A-G</b>				
1	4	RJ2, RJ3, RJ8, RJ9	Res., Chip, 0 $\Omega$ , 0603	Vishay, CRCW06030000Z0EA
2	1	RE	Res., Chip, 1k, 1% 0603	Vishay, CRCW06031K0FKEA
3	1	C5	Cap., Chip, X7R, 0.1 $\mu$ F, 10%, 16V, 0603	AVX, 0603YC104KAT2A
4	1	C6	Cap., Chip, X7R, 0.01 $\mu$ F, 10%, 16V, 0603	AVX, 0603YC103KAT2A
5	1	U1	Resistor Set SOT-23 Oscillator, SOT23, 5-Lead	Linear Tech., LTC6905CS5-80
<b>DC2073A-H</b>				
1	1	RPOT	3/8" Square Multiturn Cermet Trimmer, 500k	Vishay, T93YA504KT20
2	2	RSET2, RS	Res., Chip, 100k, 1% 0603	Vishay, CRCW0603100KFKEA
3	4	RJ4, RJ5, RJ6, RJ7	Res., Chip, 0 $\Omega$ , 0603	Vishay, CRCW06030000Z0EA
4	1	U1	Resistor Set SOT-23 Oscillator, SOT23, 6-Lead	Linear Tech., LTC6906CS6
<b>DC2073A-I</b>				
2	1	RPOT	3/8" Square Multiturn Cermet Trimmer, 500k	Vishay, T93YA504KT20
3	2	RSET2, RS	Res., Chip, 49.9k, 1% 0603	Vishay, CRCW060349K9FKEA
4	4	RJ4, RJ5, RJ6, RJ7	Res., Chip, 0 $\Omega$ , 0603	Vishay, CRCW06030000Z0EA
5	1	U1	Resistor Set SOT-23 Oscillator, SOT23, 6-Lead	Linear Tech., LTC6907CS6
<b>DC2073A-J</b>				
1	1	RPOT	3/8" Square Multiturn Cermet Trimmer, 500k	Vishay, T93YA504KT20
2	2	RSET1, RS	Res., Chip, 10k, 1% 0603	Vishay, CRCW060310K0FKEA
3	4	RJ1, RJ2, RJ3, RJ9	Res., Chip, 0 $\Omega$ , 0603	Vishay, CRCW06030000Z0EA
4	1	R02	Res., Chip, 49.9k, 1%, 0603	Vishay, CRCW060349R9FKEA
5	1	C5	Cap., Chip, X7R, 0.1 $\mu$ F, 10%, 16V, 0603	AVX, 0603YC104JAT2A
6	1	C6	Cap., Chip, X7R, 0.01 $\mu$ F, 10%, 16V, 0603	AVX, 0603YC103KAT2A
7	1	U1	Resistor Set SOT-23 Oscillator, SOT23, 6-Lead	Linear Tech., LTC6908CS6-1
<b>DC2073A-K</b>				
1	1	RPOT	3/8" Square Multiturn Cermet Trimmer, 500k	Vishay, T93YA504KT20
2	2	RSET1, RS	Res., Chip, 10K, 1% 0603	Vishay, CRCW060310K00FKEA
3	4	RJ1, RJ2, RJ3, RJ9	Res., Chip, 0 $\Omega$ , 0603	Vishay, CRCW06030000Z0EA
4	1	R02	Res., Chip, 49.9k, 1%, 0603	Vishay, CRCW060349R9FKEA
5	1	C5	Cap., Chip, X7R, 0.1 $\mu$ F, 10%, 16V, 0603	AVX, 0603YC104KAT2A
6	1	C6	Cap., Chip, X7R, 0.01 $\mu$ F, 10%, 16V, 0603	AVX, 0603YC103KAT2A
7	1	U1	Resistor Set SOT-23 Oscillator, SOT23, 6-Lead	Linear Tech., LTC6908CS6-2

SCHEMATIC DIAGRAM



Information furnished by Linear Technology Corporation is believed to be accurate and reliable. However, no responsibility is assumed for its use. Linear Technology Corporation makes no representation that the interconnection of its circuits as described herein will not infringe on existing patent rights.



# DEMO MANUAL DC2073A

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If this evaluation kit does not meet the specifications recited in the DEMO BOARD manual the kit may be returned within 30 days from the date of delivery for a full refund. **THE FOREGOING WARRANTY IS THE EXCLUSIVE WARRANTY MADE BY THE SELLER TO BUYER AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED, IMPLIED, OR STATUTORY, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. EXCEPT TO THE EXTENT OF THIS INDEMNITY, NEITHER PARTY SHALL BE LIABLE TO THE OTHER FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES.**

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**Please read the DEMO BOARD manual prior to handling the product.** Persons handling this product must have electronics training and observe good laboratory practice standards. **Common sense is encouraged.**

This notice contains important safety information about temperatures and voltages. For further safety concerns, please contact a LTC application engineer.

Mailing Address:

Linear Technology  
1630 McCarthy Blvd.  
Milpitas, CA 95035

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