

350MHz Fixed Gain Amplifiers with Enable

The 5962-0625501QHC is a fully DSCC SMD compliant part and the SMD data sheet is available on the DSCC website (<http://www.dscclia.mil/programs/specfind/default.asp>).

The 5962-0625501QHC is electrically equivalent to the EL5106. Reference equivalent "EL" data sheet for additional information. The 5962-0625501QHC is a fixed gain amplifier with a bandwidth of 350MHz. This amplifier is ideal for today's high speed video and monitor applications. It features internal gain setting resistors and can be configured in a gain of +1, -1 or +2.

With a supply current of just 1.5mA and the ability to run from a single supply voltage from 5V to 12V, these amplifiers are also ideal for handheld, portable or battery powered equipment.

The 5962-0625501QHC has an enable and disable function to reduce the supply current to 25µA typical. Allowing the \overline{CE} pin to float or applying a low logic level will enable the amplifier.

Ordering Information

PART NUMBER	PART MARKING	PACKAGE	PKG. DWG. #
5962-0625501QHC	06255 01QHC	10 Ld Flat Pack	K10.A

Features

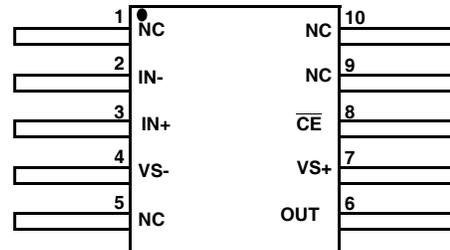
- Gain selectable (+1, -1, +2)
- 350MHz -3dB BW ($A_V = 2$)
- 1.5mA supply current per amplifier
- Fast enable/disable
- Single and dual supply operation, from 5V to 12V

Applications

- Battery powered equipment
- Handheld, portable devices
- Video amplifiers
- Cable drivers
- RGB amplifiers

Pinout

5962-0625501QHC
(10 LD FLAT PACK)
TOP VIEW



Absolute Maximum Ratings ($T_A = +25^\circ\text{C}$)

Supply Voltage between V_{S+} and V_{S-} 13.2V
 Pin Voltages $V_{S-} -0.5\text{V}$ to $V_{S+} +0.5\text{V}$
 Maximum Continuous Output Current 20mA

Thermal Information

Thermal Resistance (Typical) θ_{JA} ($^\circ\text{C}/\text{W}$) θ_{JC} ($^\circ\text{C}/\text{W}$)
 Flat Pack Package (Notes 1, 2) 165 60
 Storage Temperature -65°C to $+150^\circ\text{C}$
 Ambient Operating Temperature -55°C to $+125^\circ\text{C}$
 Operating Junction Temperature $+150^\circ\text{C}$
 Power Dissipation 21.8mW

CAUTION: Stresses above those listed in "Absolute Maximum Ratings" may cause permanent damage to the device. This is a stress only rating and operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied.

NOTES:

- θ_{JA} is measured with the component mounted on a low effective thermal conductivity test board in free air. See Tech Brief TB379 for details.
- For θ_{JC} , the "case temp" location is the center of the exposed metal pad on the package underside.

IMPORTANT NOTE: All parameters having Min/Max specifications are guaranteed. Typical values are for information purposes only. Unless otherwise noted, all tests are at the specified temperature and are pulsed tests, therefore: $T_J = T_C = T_A$

Electrical Specifications $V_{S+} = +5\text{V}$, $V_{S-} = -5\text{V}$, $R_L = 150\Omega$, $T_A = +25^\circ\text{C}$ unless otherwise specified.

PARAMETER	DESCRIPTION	CONDITIONS	MIN	TYP	MAX	UNIT
AC PERFORMANCE						
BW	-3dB Bandwidth	$A_V = +1$		250		MHz
		$A_V = -1$		380		MHz
		$A_V = +2$		350		MHz
BW1	0.1dB Bandwidth			20		MHz
SR	Slew Rate	$V_O = -2.5\text{V}$ to $+2.5\text{V}$, $A_V = +2$		4500		V/ μs
t_S	0.1% Settling Time	$V_{OUT} = -2.5\text{V}$ to $+2.5\text{V}$, $A_V = 2$		16		ns
e_N	Input Voltage Noise			2.8		nV/ $\sqrt{\text{Hz}}$
i_{N+}	IN+ Input Current Noise			6		pA/ $\sqrt{\text{Hz}}$
dG	Differential Gain Error (Note 3)	$A_V = +2$		0.02		%
dP	Differential Phase Error (Note 3)	$A_V = +2$		0.04		$^\circ$
DC PERFORMANCE						
R_F, R_G	Internal R_F and R_G			325		Ω
INPUT CHARACTERISTICS						
R_{IN}	Input Resistance	at I_{N+}		2		M Ω
C_{IN}	Input Capacitance			1		pF
ENABLE						
t_{EN}	Enable Time			280		ns
t_{DIS}	Disable Time			400		ns

NOTE:

- Standard NTSC test, AC signal amplitude = 286mV_{p-p}, f = 3.58MHz

Pin Descriptions

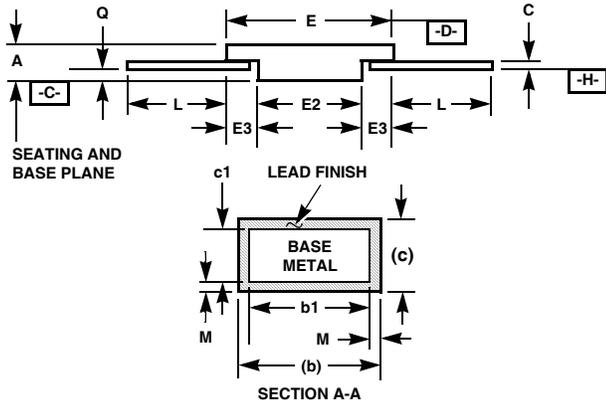
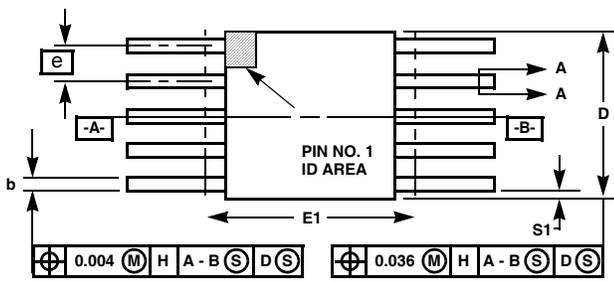
5962-0625501QHCIS (10 LD FLAT PACK)	PIN NAME	FUNCTION	EQUIVALENT CIRCUIT
1, 5, 9, 10	NC	Not connected	
2	IN-	Inverting input	<p>CIRCUIT 1</p>
3	IN+	Non-inverting input	(Reference Circuit 1)
4	VS-	Negative supply	
6	OUT	Output	<p>CIRCUIT 2</p>
7	VS+	Positive supply	
8	$\overline{\text{CE}}$	Chip enable	<p>CIRCUIT 3</p>

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Ceramic Metal Seal Flatpack Packages (Flatpack)



**K10.A MIL-STD-1835 CDFP3-F10 (F-4A, CONFIGURATION B)
10 LEAD CERAMIC METAL SEAL FLATPACK PACKAGE**

SYMBOL	INCHES		MILLIMETERS		NOTES
	MIN	MAX	MIN	MAX	
A	0.045	0.115	1.14	2.92	-
b	0.015	0.022	0.38	0.56	-
b1	0.015	0.019	0.38	0.48	-
c	0.004	0.009	0.10	0.23	-
c1	0.004	0.006	0.10	0.15	-
D	-	0.290	-	7.37	3
E	0.240	0.260	6.10	6.60	-
E1	-	0.280	-	7.11	3
E2	0.125	-	3.18	-	-
E3	0.030	-	0.76	-	7
e	0.050 BSC		1.27 BSC		-
k	0.008	0.015	0.20	0.38	2
L	0.250	0.370	6.35	9.40	-
Q	0.026	0.045	0.66	1.14	8
S1	0.005	-	0.13	-	6
M	-	0.0015	-	0.04	-
N	10		10		-

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NOTES:

1. Index area: A notch or a pin one identification mark shall be located adjacent to pin one and shall be located within the shaded area shown. The manufacturer's identification shall not be used as a pin one identification mark. Alternately, a tab (dimension k) may be used to identify pin one.
2. If a pin one identification mark is used in addition to a tab, the limits of dimension k do not apply.
3. This dimension allows for off-center lid, meniscus, and glass overrun.
4. Dimensions b1 and c1 apply to lead base metal only. Dimension M applies to lead plating and finish thickness. The maximum limits of lead dimensions b and c or M shall be measured at the centroid of the finished lead surfaces, when solder dip or tin plate lead finish is applied.
5. N is the maximum number of terminal positions.
6. Measure dimension S1 at all four corners.
7. For bottom-brazed lead packages, no organic or polymeric materials shall be molded to the bottom of the package to cover the leads.
8. Dimension Q shall be measured at the point of exit (beyond the meniscus) of the lead from the body. Dimension Q minimum shall be reduced by 0.0015 inch (0.038mm) maximum when solder dip lead finish is applied.
9. Dimensioning and tolerancing per ANSI Y14.5M - 1982.
10. Controlling dimension: INCH.