# GLF74520

## Ultra-Low Current Consumption Power Multiplexer Switch with Auto & Manual Input Selection

**Product brief**

## DESCRIPTION

The GLF74520 is an integrated power multiplexer switch with dual independent power switches connected to a single output pin to enable seamless transition between two input sources.

The GLF74520 provides an automatic selection mode as well as a manual selection mode by the combination of the logic input pins of EN and SEL. The EN input pin is used along with the select (SEL) input pin to select the automatic switching function, select VIN1 only, select VIN2 only, or turn both switches off. In the automatic selection mode, the GLF74520 automatically selects the higher input voltage source out of two input DC power supplies.

The GLF74520 features an ultra-efficient $I_Q$Smart™ technology that supports the lowest $R_{ON}$, quiescent current ($I_Q$) and shutdown current ($I_{SD}$) in the industry. Low $R_{ON}$ reduces conduction losses, while low $I_Q$ and $I_{SD}$ solutions help designers to reduce parasitic leakage current, improve system efficiency, and increase battery lifetime.

The GLF74520 blocks any cross conduction current between two input sources. When the switch is disabled, the GLF74520 prevents the reverse current to the input source from the output at any higher Vout than Vin condition.

The GLF74520 utilizes chip scale package technology with 6 bumps in a 0.97 mm x 1.47 mm x 0.55 mm package size with a 0.5 mm bump pitch.

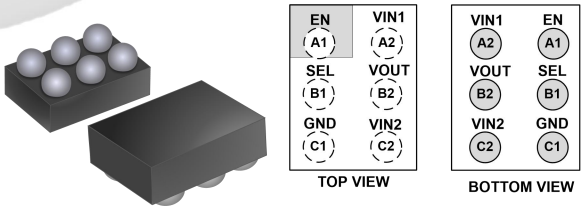
## FEATURES

- Two-Input and Single-Output Power Multiplexer Switch
- Automatic and Manual Input Selection Mode
- Supply Voltage Range: 1.5 V to 5.5 V
  6 Vabs Max
- $R_{ON}$ : 35 mΩ Typ. at 5.5 $V_{IN1}$ or $V_{IN2}$
  43 mΩ Typ. at 3.3 $V_{IN1}$ or $V_{IN2}$
- 2 A Continuous Output Current Capability Per Channel
- Ultra-Low Supply Current at Operation
  $I_Q$ : 4 uA Typ at 5.5 $V_{IN}$
- Ultra-Low Stand-by Current
  $I_{SD}$ : 20 nA Typ at 5.5 $V_{IN}$
- Smart Control Pins
  $I_{EN}$ and $I_{SEL}$ : 3 nA Typ at $V_{EN}$ or $V_{SEL}$ > $V_{IH}$
  $R_{EN}$ and $R_{SEL}$ : 500 kΩ Typ
- No Cross Conduction Between Two Inputs
- Reverse Current Blocking when Disabled
- Operating Temperature Range: -40 to 85 °C
- HBM: 6 kV, CDM: 2 kV

## APPLICATIONS

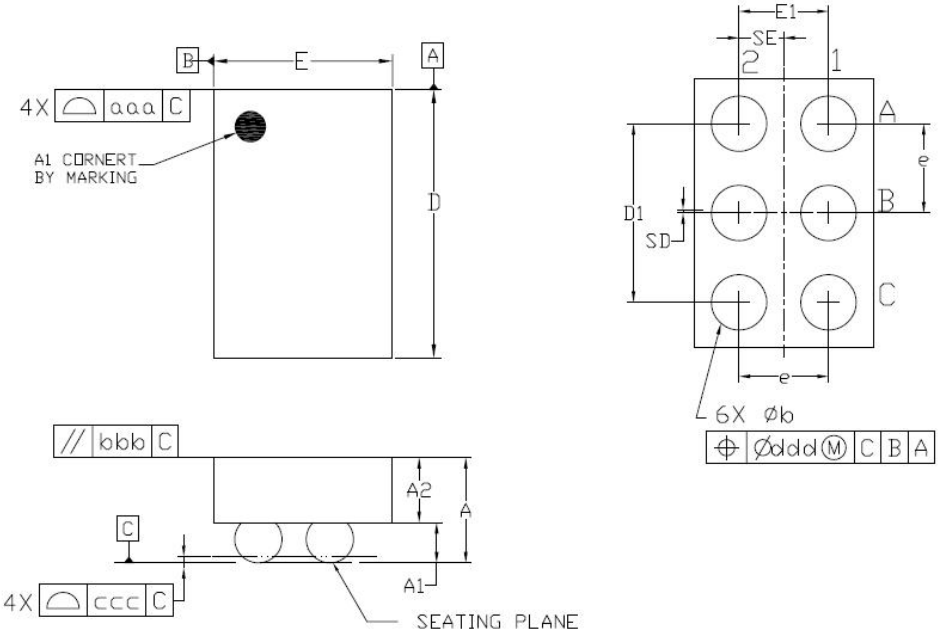
- Wearables / Hearables
- Smart IoT Devices
- Portable Devices

## PACKAGE




0.97mm x 1.47mm x 0.55mm, 0.5mm pitch

## PACKAGE OUTLINE



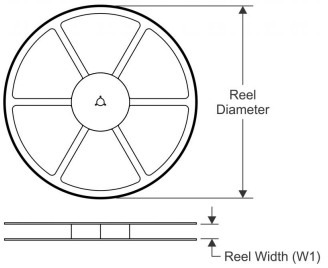

| Dimensional Ref. | | | |
|---|---|---|---|
| REF. | Min. | Nom. | Max. |
| A | 0.500 | 0.550 | 0.600 |
| A1 | 0.225 | 0.250 | 0.275 |
| A2 | 0.275 | 0.300 | 0.325 |
| D | 1.460 | 1.470 | 1.485 |
| E | 0.960 | 0.970 | 0.985 |
| D1 | 0.950 | 1.000 | 1.050 |
| E1 | 0.450 | 0.500 | 0.550 |
| b | 0.260 | 0.310 | 0.360 |
| e | 0.500 BSC | | |
| SD | 0.000 BSC | | |
| SE | 0.250 BSC | | |
| Tol. of Form&Position | | | |
| aaa | 0.10 | | |
| bbb | 0.10 | | |
| ccc | 0.05 | | |
| ddd | 0.05 | | |

Notes

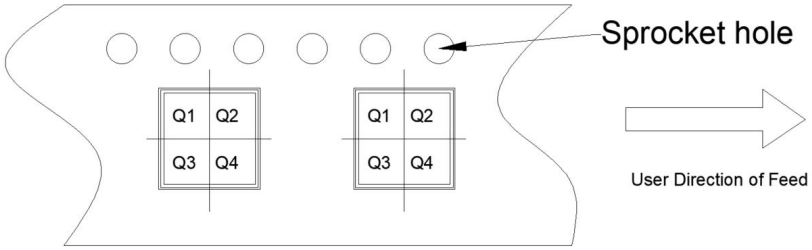
1. All DIMENSIONS ARE IN MILLIMETERS (ANGLES IN DEGREES).
2. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M-1994.

## TAPE AND REEL INFORMATION

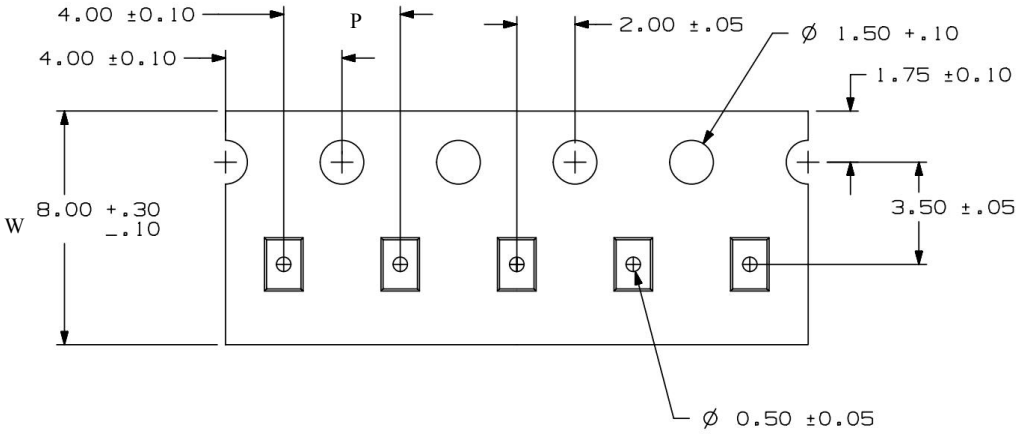
**REEL DIMENSIONS**

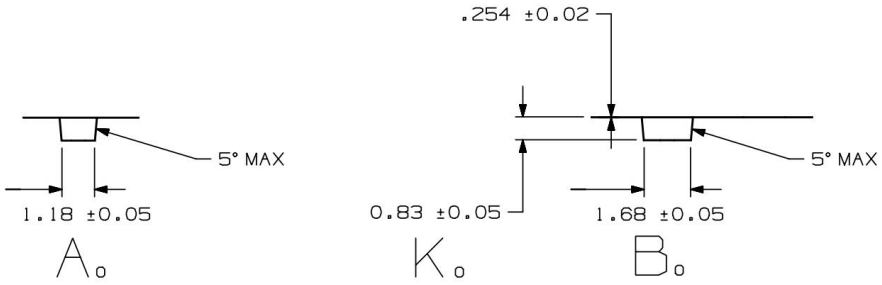



**QUADRANT ASSIGNMENTS PIN 1 ORIENTATION TAPE**




**TAPE DIMENSIONS**




| Device | Package | Pins | SPQ | Reel Diameter(mm) | Reel Width W1 | A0 | B0 | K0 | P | W | Pin1 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GLF72120 | WLCSP | 6 | 3000 | 180 | 9 | 1.18 | 1.68 | 0.83 | 4 | 8 | Q1 |

Remark:

A0: Dimension designed to accommodate the component width

B0: Dimension designed to accommodate the component length

C0: Dimension designed to accommodate the component thickness

W: Overall width of the carrier tape

P: Pitch between successive cavity centers