# GLF74520, GLF74521

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

**Product Specification**

## DESCRIPTION

The GLF74520 and GLF74521 are 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 and GLF74521 provide 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 and GLF74521 automatically select the higher input voltage source out of two input DC power supplies.

The GLF74520 and GLF74521 feature 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 and GLF74521 block any cross-conduction current between two input sources. When the switch is disabled, the GLF74520 and GLF74521 prevent the reverse current to the input source from the output at any higher Vout than Vin condition.

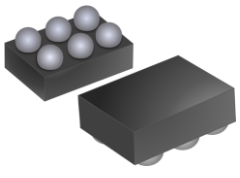
## APPLICATIONS

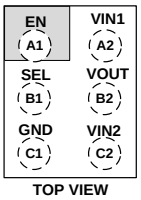
- Wearables / Hearables
- Smart IoT Devices
- Portable Devices
- Backup Power System

## FEATURES

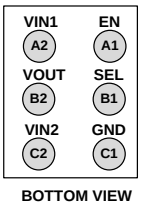
- Two-Input and Single-Output Power Multiplexer
- Automatic and Manual Input Selection Mode
- Supply Voltage Range: 1.5 V to 5.5 V
  6 $V_{abs}$ Max
- $R_{ON}$: 35 mΩ Typ. at 5.5 $V_{IN1}$ or $V_{IN2}$
  43 mΩ Typ. at 3.3 $V_{IN1}$ or $V_{IN2}$
- 2.5 A Continuous Output Current Capability Per Channel
- Ultra-Low Supply Current at Operation
  $I_Q$: 4 µA 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
- Integrated Output Discharge Switch: GLF74521
- No Cross Conduction Between Two Inputs
- Reverse Current Blocking when Disabled
- Operating Temperature Range: -40 °C to 85 °C
- HBM: ±6 kV, CDM: ±2 kV

## PACKAGE





TOP VIEW



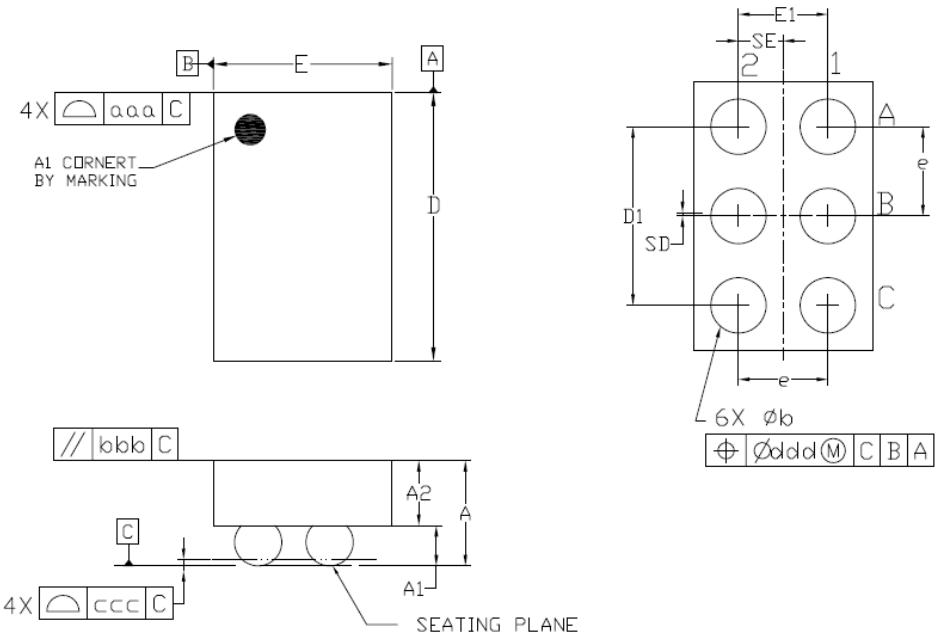
BOTTOM VIEW

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

## DEVICE ORDERING INFORMATION

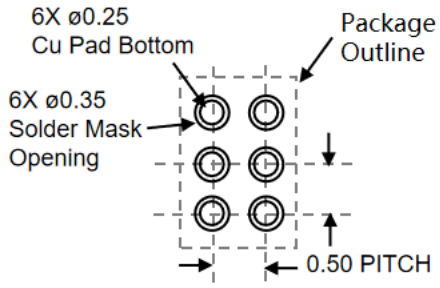
| Part Number | Top Mark | $R_{ON}$ at 5.5 $V_{IN}$ | Output Discharge | Output Current, $I_{OUT}$ | Ultra-low $I_Q$ at 5.5 $V_{IN}$ |
|---|---|---|---|---|---|
| GLF74520 | AR | 35 mΩ | NA | 2.5 A | 4 µA |
| GLF74521 | SV | | 70 Ω | | |

## 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 | | |

### Recommended Footprint

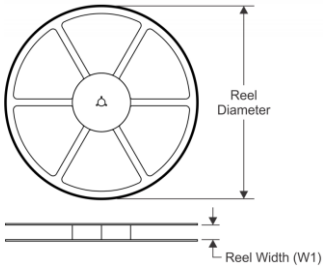



Notes

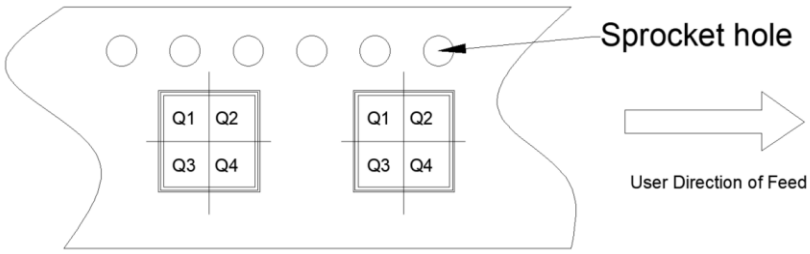
1. All DIMENSIONS ARE IN MILLIMETERS (ANGLES IN DEGREES).
2. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M-1994.

## TAPE AND REEL INFORMATION

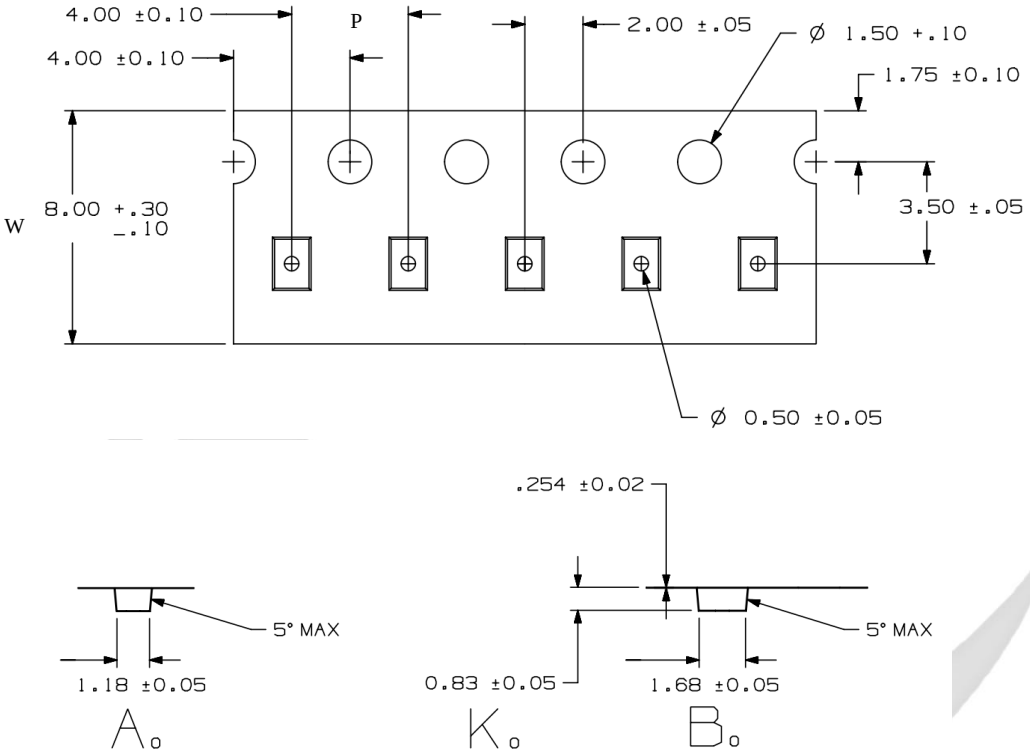
### REEL DIMENSIONS




### QUANRANT ASSIGNMENTS PIN 1 ORIENTATION TAPE




### TAPE DIMENSIONS







| Device | Package | Pins | SPQ | Reel Diameter (mm) | Reel Width W1 | A0 | B0 | K0 | P | W | Pin1 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GLF74520 | WLCSP | 6 | 3000 | 180 | 9 | 1.18 | 1.68 | 0.83 | 4 | 8 | Q1 |
| GLF74521 | 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