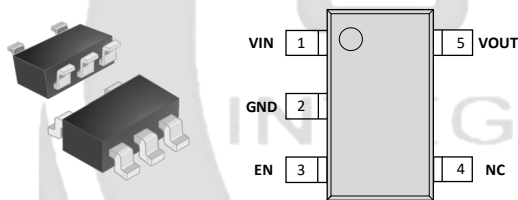


DESCRIPTION

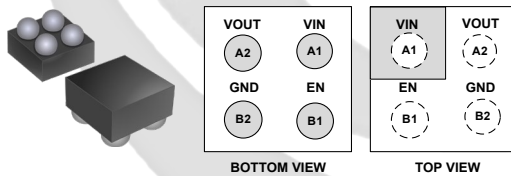
The GLF1800 and GLF1800T are ideal diode switches featuring a low forward voltage drop. They are characterized by low quiescent current (I_Q), ultra-low shutdown current (I_{SD}), and low forward voltage drop, making them suitable replacements for conventional Schottky diodes. These attributes help reduce power consumption and enhance overall system efficiency.

The ideal diodes GLF1800 and GLF1800T support an input voltage range of 1.8 V to 5.5 V. The GLF1800 provides a maximum continuous current of 1.0 A, while the GLF1800T provides up to 1.5 A. The GLF1800 comes in the standard SOT23-5L package, whereas the GLF1800T is available in a Thin WLCSP package, making it suitable for a variety of low-voltage electronic applications.

PACKAGE



SOT23-5L



0.77 mm x 0.77 mm x 0.35 mm Thin WLCSP

FEATURES

- Input Voltage Range: 1.8 V to 5.5 V, 6.0 V_{ABS}
- Maximum Continuous Current:
 - GLF1800: 1.0 A
 - GLF1800T: 1.5 A
- Low Forward Voltage Drop:
 - 14 mV (Typ.) at $I_{OUT} = 1\text{ mA}$
 - GLF1800: 19 mV (Typ.) at $I_{OUT} = 100\text{ mA}$
 - GLF1800T: 15 mV (Typ.) at $I_{OUT} = 100\text{ mA}$
 - GLF1800: 117 mV (Typ.) at $I_{OUT} = 1.0\text{ A}$
 - GLF1800T: 77 mV (Typ.) at $I_{OUT} = 1.0\text{ A}$
- Low Quiescent Current, I_Q :
 - 1.0 μA (Typ.) at $V_{IN} = 1.8\text{ V}$
 - 1.1 μA (Typ.) at $V_{IN} = 3.6\text{ V}$
 - 1.2 μA (Typ.) at $V_{IN} = 5.5\text{ V}$
- Low Shutdown Current, I_{SD} :
 - 1 nA (Typ.) at $V_{IN} = 1.8\text{ V}$
 - 2 nA (Typ.) at $V_{IN} = 3.6\text{ V}$
 - 16 nA (Typ.) at $V_{IN} = 5.5\text{ V}$
- Low Reverse Current Regardless of ON & OFF:
 - 2 nA (Typ.) at $V_{OUT} = 5.5\text{ V}$
- Reverse Bias Turn-off Response: 12 μs (Typ.)
- Short Circuit Protection
 - Auto-Retry by Thermal Shutdown Protection

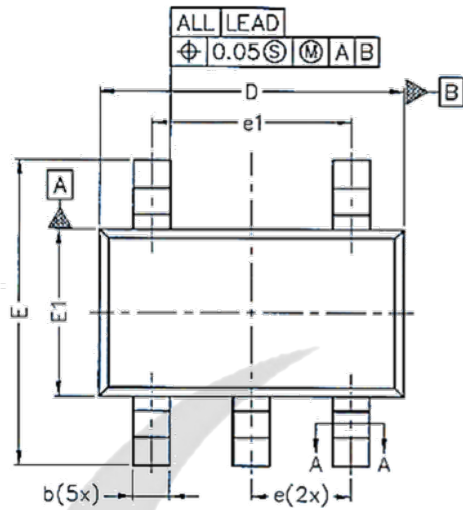
APPLICATIONS

- VR/AR Portable Applications
- Wearable Medical Devices
- Smart Meters
- AIoT Smart Devices
- Smart Glasses

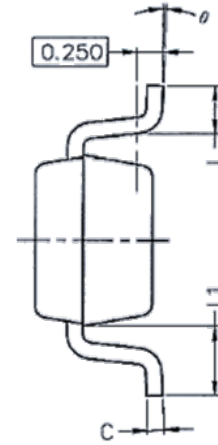
DEVICE INFORMATION

| Part Number | Top Mark | V_{drop} (Typ.) at 3.6 V _{IN} @ 1.0 A | EN Activity | Package |
|--------------|----------|---|-------------|------------|
| GLF1800-T17 | GR | 117 mV | High | SOT23-5L |
| GLF1800T-S17 | g | 77 mV | High | Thin WLCSP |

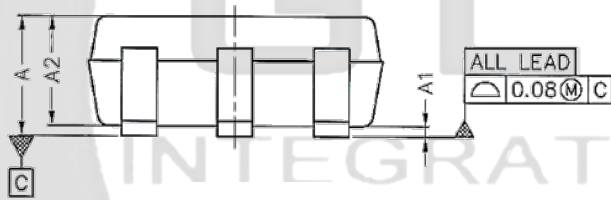
PACKAGE OUTLINE (SOT23-5L)



TOP VIEW

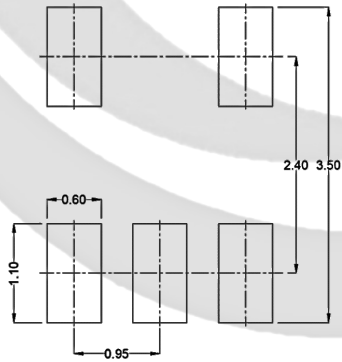


SIDE VIEW



FRONT VIEW

Recommended Footprint

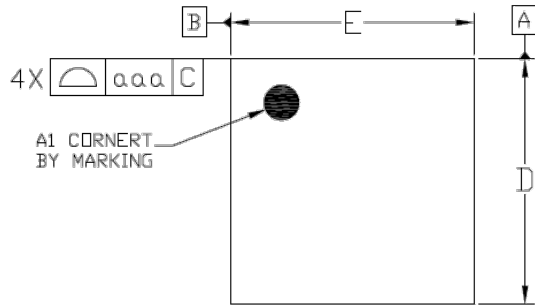


| REF. | Dimensions Ref. | | |
|------|-----------------|-------|-------|
| | Min. | Nom. | Max. |
| A | - | - | 1.25 |
| A1 | 0.03 | 0.08 | 0.15 |
| A2 | 1.05 | 1.10 | 1.15 |
| b | 0.27 | - | 0.35 |
| b1 | 0.26 | 0.285 | 0.31 |
| c | 0.135 | - | 0.23 |
| c1 | 0.127 | 0.152 | 0.178 |
| D | 2.82 | 2.92 | 3.02 |
| E | 2.60 | 2.90 | 3.00 |
| E1 | 1.50 | 1.62 | 1.70 |
| e | 0.95 BSC | | |
| e1 | 1.90 BSC | | |
| L | 0.35 | 0.45 | 0.55 |
| L1 | 0.49 | 0.64 | 0.79 |
| θ | 0° | - | 8° |

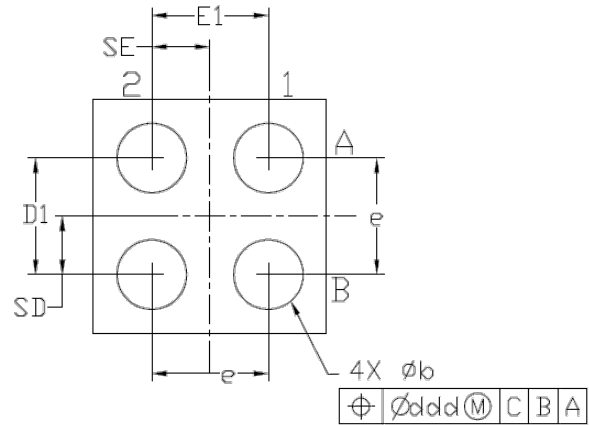
PACKAGING INFORMATION

| Part Number | Package | Pins | Top Mark | Moisture Sensitivity Level | Environmental Information |
|-------------|----------|------|----------|----------------------------|---------------------------|
| GLF1800-T17 | SOT23-5L | 5 | GR | MSL3 | ROHS+HF |

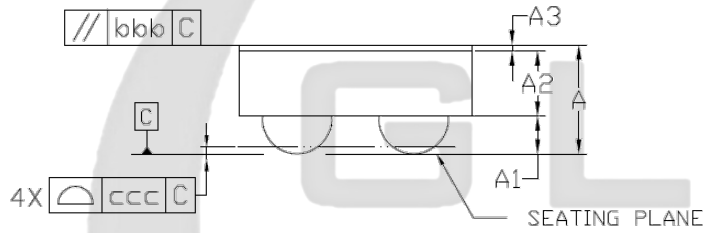
PACKAGE OUTLINE (Thin WLCSP)



TOP VIEW

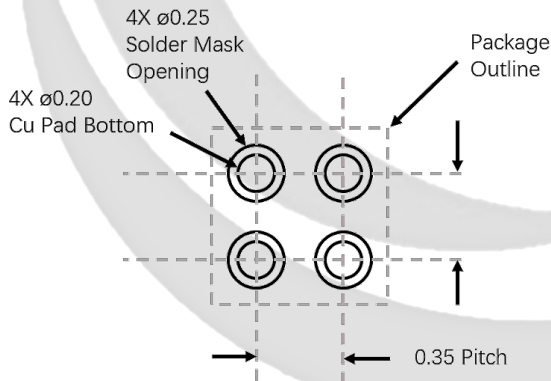


BOTTOM VIEW



SIDE VIEW

Recommended Footprint



| REF. | Dimensions Ref. | | |
|-------------------------|-----------------|-------|-------|
| | Min. | Nom. | Max. |
| A | 0.310 | 0.350 | 0.390 |
| A1 | 0.050 | 0.060 | 0.070 |
| A2 | 0.240 | 0.265 | 0.290 |
| A3 | 0.020 | 0.025 | 0.030 |
| D | 0.755 | 0.770 | 0.785 |
| E | 0.755 | 0.770 | 0.785 |
| D1 | 0.300 | 0.350 | 0.400 |
| E1 | 0.300 | 0.350 | 0.400 |
| b | 0.165 | 0.200 | 0.235 |
| e | 0.350 BSC | | |
| SD | 0.175 BSC | | |
| SE | 0.175 BSC | | |
| Tol. of Form & Position | | | |
| aaa | 0.10 | | |
| bbb | 0.10 | | |
| ccc | 0.05 | | |
| ddd | 0.05 | | |

Notes

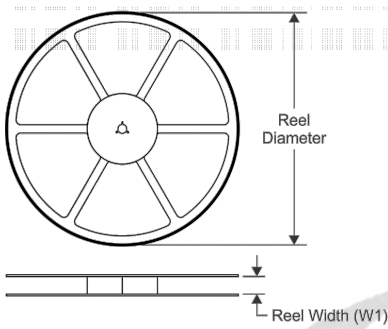
1. ALL DIMENSIONS ARE IN MILLIMETERS (ANGLES IN DEGREES)
2. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M-1994.

PACKAGING INFORMATION

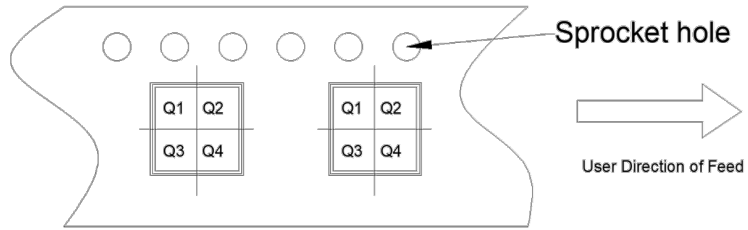
| Part Number | Package | Pins | Top Mark | Moisture Sensitivity Level | Environmental Information |
|--------------|------------|------|----------|----------------------------|---------------------------|
| GLF1800T-S17 | Thin WLCSP | 4 | g | MSL1 | ROHS+HF |

TAPE AND REEL DIMENSIONS (SOT23-5L)

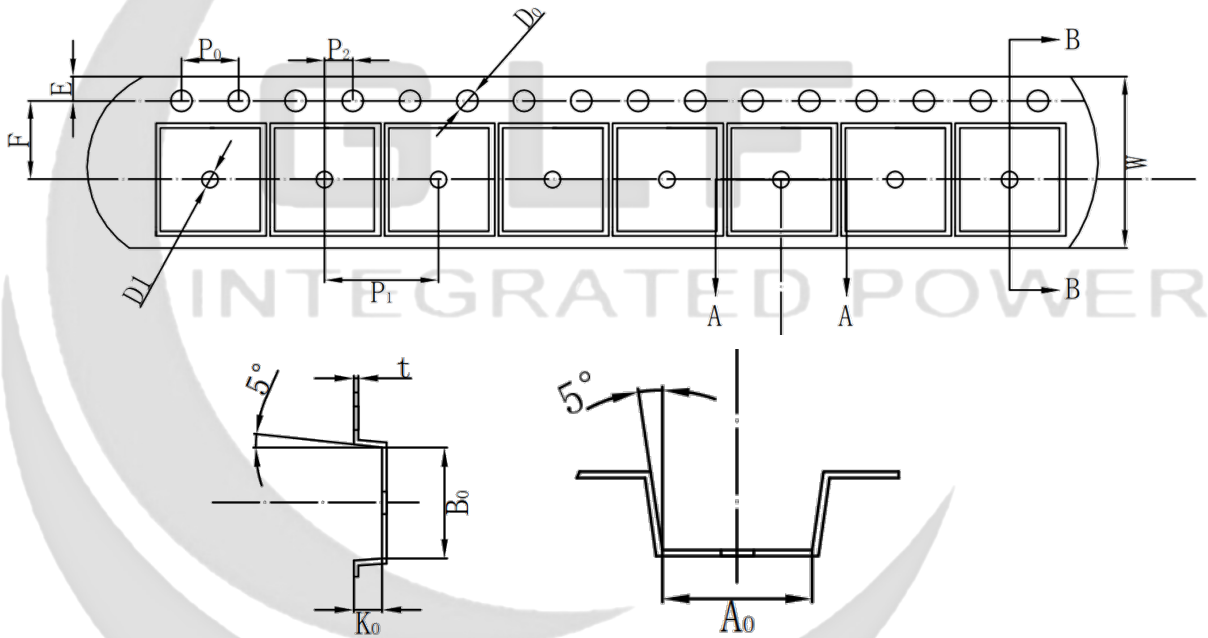
REEL DIMENSIONS



QUADRANT ASSIGNMENTS PIN 1 ORIENTATION TAPE



TAPE DIMENSIONS



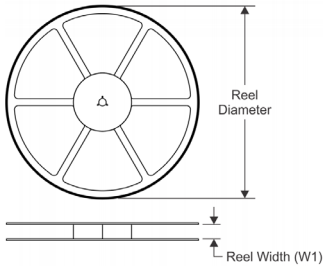
| Device | Package | Pins | SPQ | Reel Diameter (mm) | Reel Width W1 | A0 | B0 | K0 | P1 | W | Pin1 |
|-------------|---------|------|------|--------------------|---------------|------|------|------|----|---|------|
| GLF1800-T17 | SOT23-5 | 5 | 3000 | 178 | 9 | 3.25 | 3.30 | 1.38 | 4 | 8 | Q3 |

Remark:

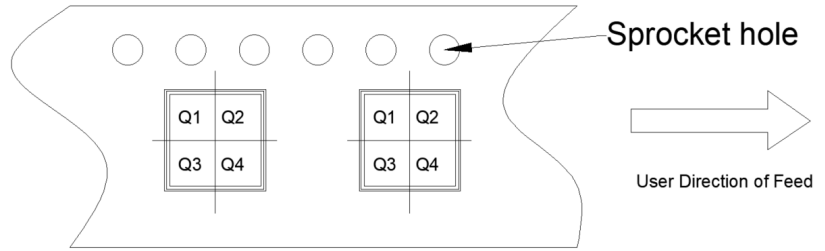
- A0: Dimension designed to accommodate the component width
- B0: Dimension designed to accommodate the component length
- K0: Dimension designed to accommodate the component thickness
- W: Overall width of the carrier tape
- P1: Pitch between successive cavity centers

TAPE AND REEL INFORMATION (WLCSP)

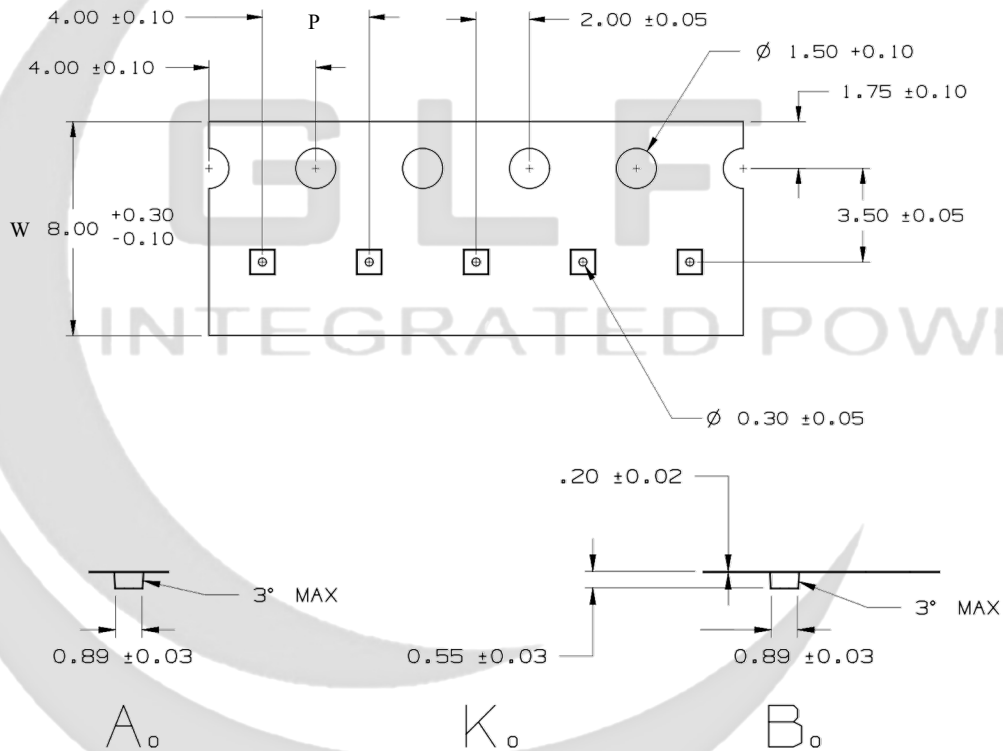
REEL DIMENSIONS



QUADRANT ASSIGNMENTS PIN 1 ORIENTATION TAPE



TAPE DIMENSIONS



| Device | Package | Pins | SPQ | Reel Diameter (mm) | Reel Width W1 | A0 | B0 | K0 | P | W | Pin1 |
|--------------|------------|------|------|--------------------|---------------|------|------|------|---|---|------|
| GLF1800T-S17 | Thin WLCSP | 4 | 4000 | 180 | 9 | 0.89 | 0.89 | 0.55 | 4 | 8 | Q1 |

Remark:

- A0: Dimension designed to accommodate the component width
- B0: Dimension designed to accommodate the component length
- K0: Dimension designed to accommodate the component thickness
- W: Overall width of the carrier tape
- P: Pitch between successive cavity centers