

## DESCRIPTION

The GLF3006 is a highly integrated solution for single cell rechargeable battery protection. It incorporates a low on-resistance power NFET along with high precision over voltage, over current, over discharge, and short circuit protection.

When the battery voltage exceeds the over-voltage detection threshold, the GLF3006 turns off the charging switch after a preset delay. Similarly, if the load current surpasses the over discharge current threshold, the discharge switch is turned off after a preset delay. If the discharge current reaches the short circuit protection level ( $I_{sc}$ ), the GLF3006 immediately shuts down and remains off to prevent serious system damage. A short circuit delay is included to avoid false triggering.

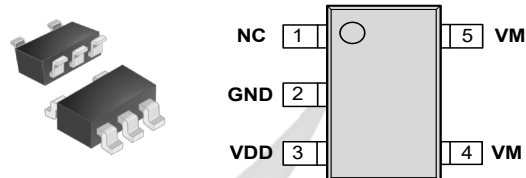
## FEATURES

- Over Charge Voltage Detection,  $V_{oc}$  : 4.22 V
  - 4.22 V Typ. GLF3006A/B
  - 4.27 V Typ. GLF3006C
  - Accuracy :  $\pm 1\%$
- Over Discharge Detection,  $V_{OD}$ 
  - GLF3006A/C: Not Available for Applications with High Pulsating Currents
  - GLF3006B: 1.85  $V_{DD}$
- Over Charge Current Detection,  $I_{oc}$  : 4.4 A Typ.
  - $I_{oc}$  with 10 ms Delay Time to avoid false trigger
- Over Discharge Current Detection,  $I_{OD}$  : 3.8 A Typ.
  - $I_{OD}$  with 340 ms Delay Time to avoid false trigger
- Load Short Circuit Protection,  $I_{sc}$  : 8.4 A Typ.
- Thermal Shutdown Protection: GLF3006B Only
- Battery and Charger Reverse Polarity Connection Protection
- Low  $R_{ON}$  : 25 m $\Omega$  Typ. at 3.6  $V_{DD}$
- Low Quiescent Current,  $I_Q$ 
  - GLF3006A/C: 2.1  $\mu A$  Typ. @ 3.6  $V_{DD}$
  - GLF3006B: 2.6  $\mu A$  Typ. @ 3.6  $V_{DD}$

## APPLICATIONS

- Portable BLDC Motor Applications
- Electric Toothbrush
- Smart IoT Device

## PACKAGE

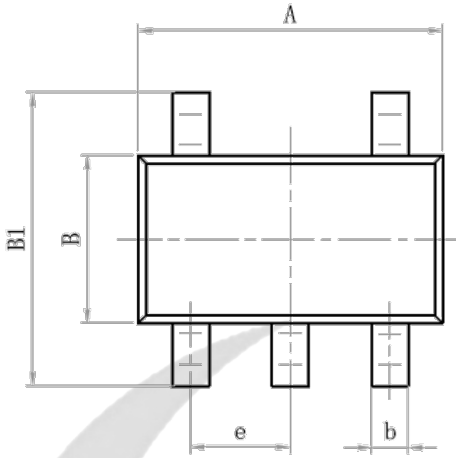


SOT23 - 5L

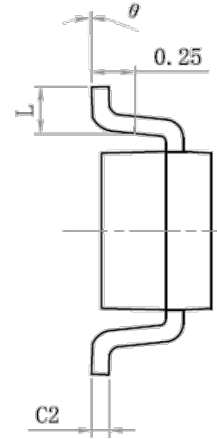
## DEVICE INFORMATION

Part Number	Top Mark	$R_{ON}$ (Typ.) $V_{DD} = 3.6 V$	Over Charge Detection, $V_{oc}$ (Typ.)	Over Discharge Voltage (Typ.)	Over Charge Current, $I_{oc}$ (Typ.)	Over Discharge Current, $I_{OD}$ (Typ.)	Short Circuit Current, $I_{sc}$ (Typ.)
GLF3006A-T17	HN	25 m $\Omega$	4.220 V	NA	4.4 A	3.8 A	8.4 A
GLF3006B-T17	HR			1.85 V			
GLF3006C-T17	HS		4.27 V	NA			

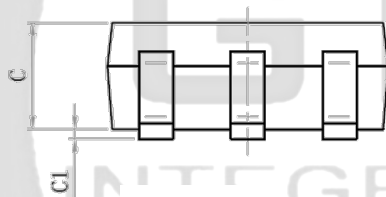
**PACKAGE OUTLINE**



**TOP VIEW**

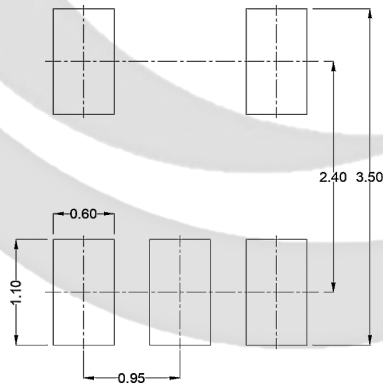


**SIDE VIEW**



**FRONT VIEW**

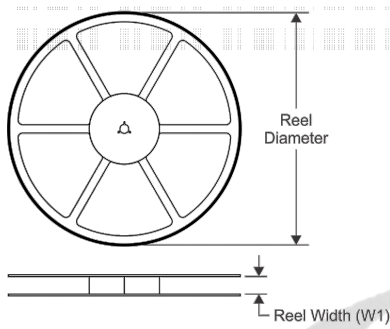
**Recommended Footprint**



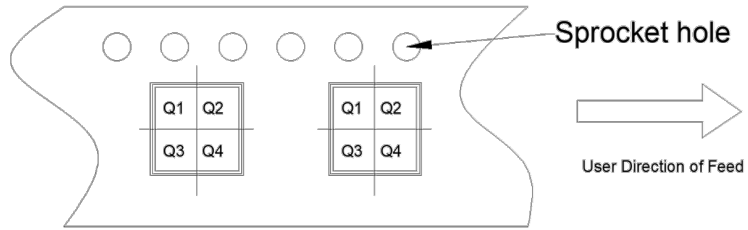
REF.	Dimensions Ref.		
	Min.	Nom.	Max.
C1	0.03	0.08	0.15
C	1.05	1.10	1.15
b	0.27	-	0.35
C2	0.135	-	0.23
A	2.82	2.92	3.02
B1	2.60	2.90	3.00
B	1.50	1.62	1.70
e	0.95 BSC		
L	0.35	0.45	0.55
$\theta$	0°	-	8°

**TAPE AND REEL DIMENSIONS**

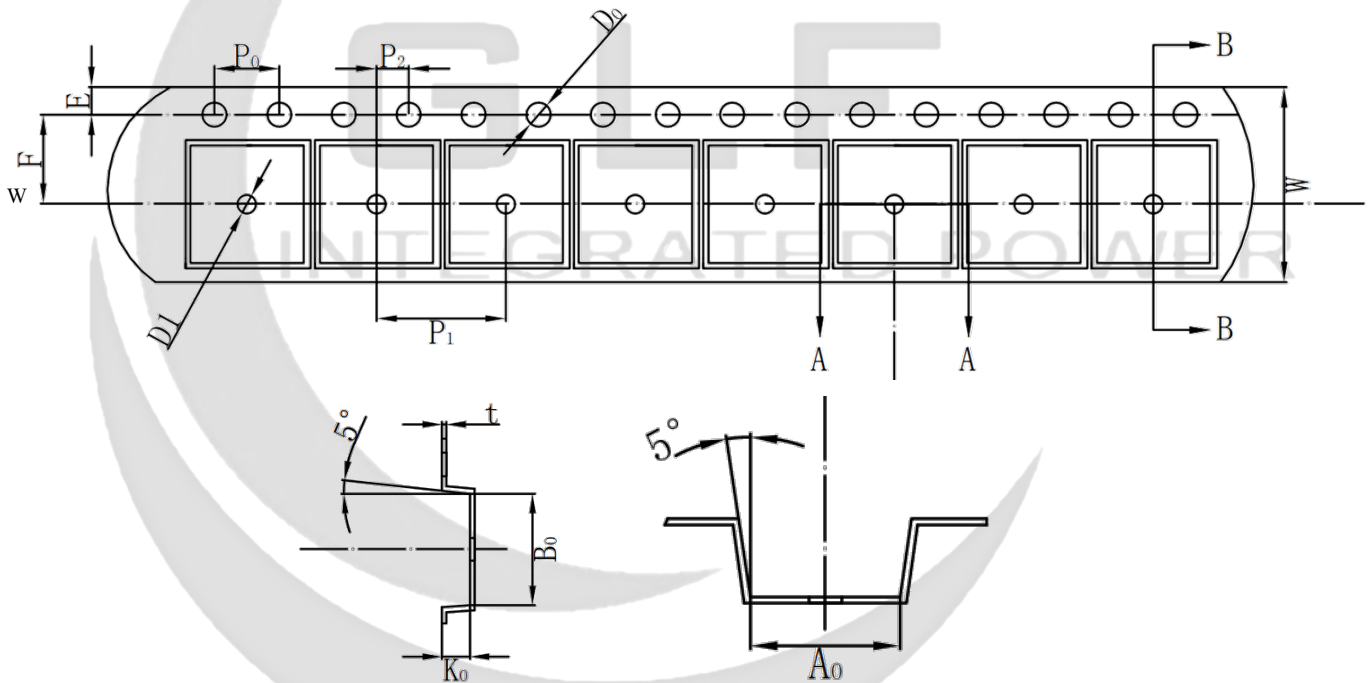
**REEL DIMENSIONS**



**QUADRANT ASSIGNMENTS PIN 1 ORIENTATION TAPE**



**TAPE DIMENSIONS**



Device	Package	Pins	SPQ	Reel Diameter (mm)	Reel Width W1	A0	B0	K0	P1	W	Pin1
GLF3006A	SOT23-5	5	3000	178	9	3.25	3.30	1.38	4	8	Q3
GLF3006B											
GLF3006C											

**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