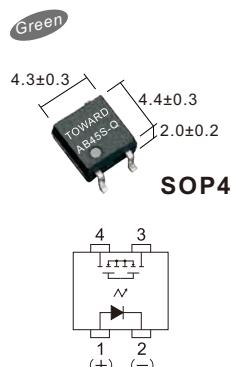


AB45S-Q

60V • 1 Form A

AEC-Q101
Certification



RoHS compliant

Features

- Contact Form 2a
- Load Voltage 60 V Max.
- Operation LED Current 3mA Max.
- Load Current 200mA Max.
- On-Resistance 2Ω Typ.
- Output Capacitance 20 pF Typ.

Application:

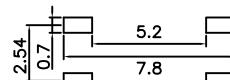
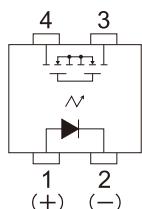
- Automobile BMS Controller
- Energy Storage System
- Big-data storage

Part Identification

| SOP Type | | Quantity |
|----------|------------------------------|------------|
| Stick | Tape & Reel | Stick 100 |
| | Feed direction : Pin No. 3,4 | Tape 1000 |
| AB45S-Q | | AB45S-Q-R1 |

Terminal Identification 電路結構圖

Terminal Identification



- 1: Anode (LED)
2: Cathode (LED)
3,4: Drain (MOS FET)

* Recommended Soldering Pattern
For Reflow Soldering

Absolute Maximum Ratings 絕對最大定格 (Ambient Temperature 周圍溫度 : 25°C)

| Item | | Symbol | Value |
|---------------------------------|--|-------------------|--------------------|
| Input 輸入 | Continuous LED Current 連續的LED電流 | I _F | 50mA |
| | Peak LED Current LED的峰值電流 (f=100 Hz duty=1%) | I _{FP} | 500mA |
| | LED Reverse Voltage 逆向的LED電壓 | V _R | 5V |
| | Input Power Dissipation 容許損失 | P _{In} | 75mW |
| Output 輸出 | Load Voltage 負荷電壓 | V _L | 60V(AC peak or DC) |
| | Load Current 負荷電流 | I _L | 200mA |
| | Peak Load Current 峰值負荷電流(1 ms,1 shot) | I _{Peak} | 600mA |
| | Output Power Dissipation 電流損耗 | P _{Out} | 300mW |
| Total Power Dissipation 全損耗 | | P _T | 350mW |
| I/O Breakdown Voltage 入/出力間絕緣電壓 | | V _{I/O} | 1500Vrms Min. |
| Operating Temperature 使用時周圍溫度 * | | T _{Opr} | -40°C ~ + 105°C |
| Storage Temperature 周圍保存溫度 * | | T _{Stg} | -40°C ~ + 125°C |

* The temperature is based on AEC-Q101 certification.

Recommended Operating Condition 建議使用條件 (Ambient Temperature 周圍溫度: 25 °C)

| Item | Symbol | Number of used channels | MIN. | TYP. | MAX. | units |
|----------------------------------|----------------|-------------------------|------|------|------|-------|
| Continuous LED Current 連續的 LED電流 | I _F | | 5 | 10 | 15 | mA |
| Load Voltage 負荷電壓 | V _L | | --- | --- | 30 | V |
| Load Current 負荷電流 | I _L | | --- | --- | 100 | mA |

Electrical Specifications LED順向電壓(Ambient Temperature 周圍溫度: 25°C)

| Item | | Symbol | MIN. | TYP. | MAX. | Units | Conditions |
|--------------------|--------------------------------------|--------------------|-----------------|------|------|-------|--|
| Input 輸入 | LED Forward Voltage LED順向電壓 | V _F | 0.9 | 1.17 | 1.3 | V | I _F =10mA |
| | Operation LED Current LED的動作電流 | I _{F On} | | 0.5 | 3 | mA | |
| | Recovery LED Voltage LED的恢復電壓 | V _{F off} | 0.5 | 1 | | V | |
| Output 輸出 | On-Resistance 導通電阻 Drain to Drain | R _{on} | | 2 | 5 | Ω | I _F =5mA, I _L = Rated Current Time to flow is within 1sec. |
| | Off-State Leakage Current 開路狀態時的電流 | I _{Leak} | | | 1 | uA | V _L =60V |
| | Output Capacitance 輸出端容量 | C _{out} | | 20 | | pF | V _L =0V, f=1MHz |
| Transmission 傳達 | Turn-On Time 動作時間 | T _{On} | | 0.05 | 0.5 | ms | I _F =5mA I _L =Rated Current |
| | Turn-Off Time 復位時間 | T _{Off} | | 0.13 | 0.5 | ms | |
| Coupled 結合 | I/O Insulation Resistance 輸入/出間的絕緣阻抗 | R _{I/O} | 10 ⁹ | | | Ω | |
| | I/O Capacitance 輸入/力端的靜電容量 | C _{I/O} | | 1.3 | | pF | f=1MHz |

