

# PJP100N06SA-AU

## 60V N-Channel Enhancement Mode MOSFET

**Voltage**

**60 V**

**Current**

**95 A**

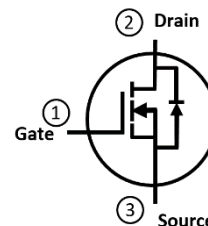
### Features

- $R_{DS(ON)}$ ,  $V_{GS}@10V$ ,  $I_D@20A < 6.1m\Omega$
- $R_{DS(ON)}$ ,  $V_{GS}@4.5V$ ,  $I_D@10A < 10m\Omega$
- Excellent FOM
- Logic Level Drive
- AEC-Q101 qualified
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

### Mechanical Data

- Case : TO-220AB-L Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 2.0948 grams

TO-220AB-L



### Maximum Ratings and Thermal Characteristics ( $T_A=25^{\circ}C$ unless otherwise noted)

| PARAMETER                                          |                     | SYMBOL          | LIMIT    | UNITS         |
|----------------------------------------------------|---------------------|-----------------|----------|---------------|
| Drain-Source Voltage                               |                     | $V_{DS}$        | 60       | V             |
| Gate-Source Voltage                                |                     | $V_{GS}$        | $\pm 20$ |               |
| Continuous Drain Current <sup>(Note 3)</sup>       | $T_C=25^{\circ}C$   | $I_D$           | 95       | A             |
|                                                    | $T_C=100^{\circ}C$  |                 | 68       |               |
| Pulsed Drain Current <sup>(Note 1)</sup>           | $T_C=25^{\circ}C$   | $I_{DM}$        | 345      |               |
| Power Dissipation                                  | $T_C=25^{\circ}C$   | $P_D$           | 100      | W             |
|                                                    | $T_C=100^{\circ}C$  |                 | 50       |               |
| Continuous Drain Current <sup>(Note 4)</sup>       | $T_A=25^{\circ}C$   | $I_D$           | 15       | A             |
|                                                    | $T_A=70^{\circ}C$   |                 | 12.4     |               |
| Power Dissipation                                  | $T_A=25^{\circ}C$   | $P_D$           | 2.4      | W             |
|                                                    | $T_A=70^{\circ}C$   |                 | 1.7      |               |
| Single Pulse Avalanche Current <sup>(Note 5)</sup> |                     | $I_{AS}$        | 27       | A             |
| Single Pulse Avalanche Energy <sup>(Note 5)</sup>  |                     | $E_{AS}$        | 69       | mJ            |
| Operating Junction and Storage Temperature Range   |                     | $T_J, T_{STG}$  | -55~175  | $^{\circ}C$   |
| Thermal Resistance <sup>(Note 4)</sup>             | Junction to Case    | $R_{\theta JC}$ | 1.5      | $^{\circ}C/W$ |
|                                                    | Junction to Ambient | $R_{\theta JA}$ | 62.5     |               |

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## Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise noted)

### NOTES :

1. Pulse width ≤ 100us, Duty cycle ≤ 2%.
2. Essentially independent of operating temperature typical characteristics.
3. Chip capability with an R<sub>θJC</sub>=1.5°C/W.
4. R<sub>θJA</sub> is the sum of the junction-to-case and case-to-ambient thermal resistance.
5. E<sub>AS</sub> is calculated based on the condition of L=1mH, I<sub>AS</sub>=12A, V<sub>DD</sub>=30V, V<sub>GS</sub>=10V. 100% test at L=0.1mH, I<sub>AS</sub>=27A in production.
6. Guaranteed by design, not subject to production testing.

# PJP100N06SA-AU

## TYPICAL CHARACTERISTIC CURVES

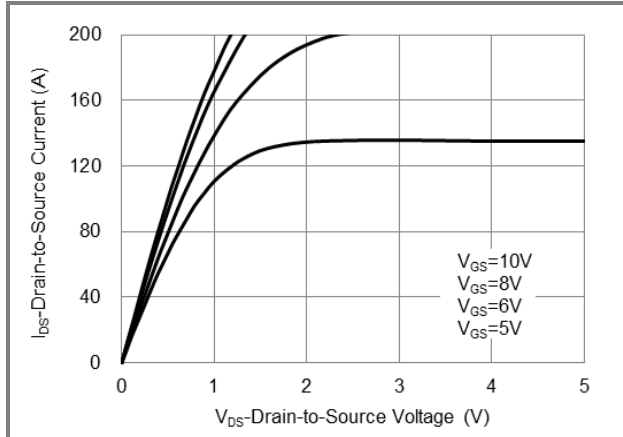


Fig.1 On-Region Characteristics

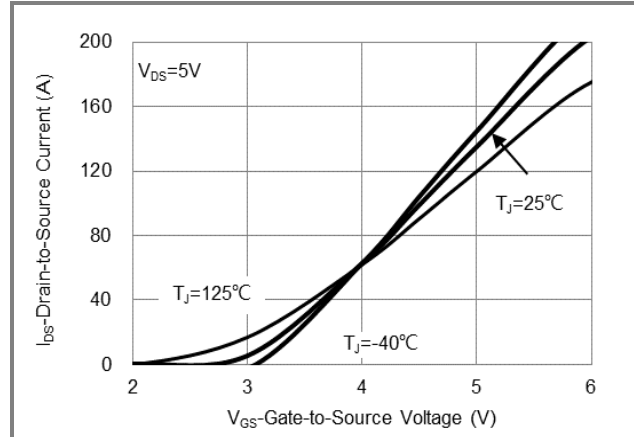


Fig.2 Transfer Characteristics

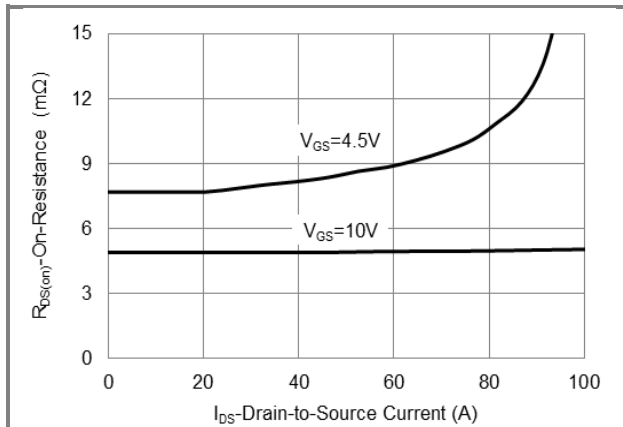


Fig.3 On-Resistance vs. Drain Current

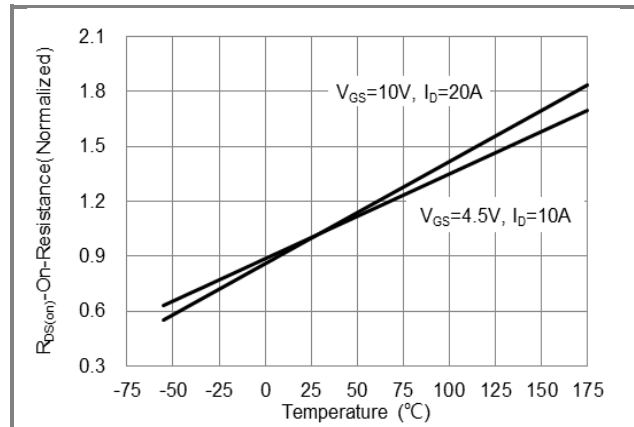


Fig.4 On-Resistance vs. Junction temperature

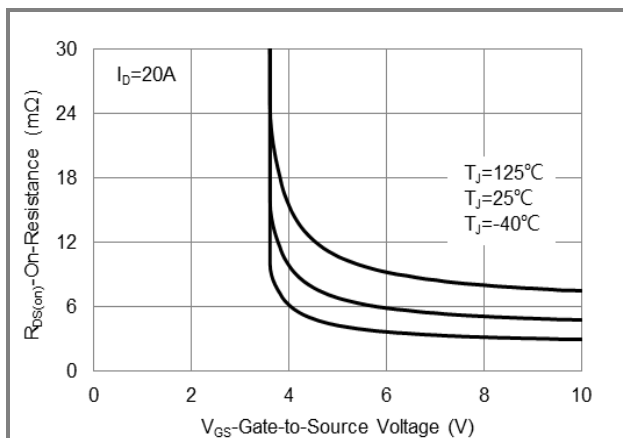


Fig.5 On-Resistance Variation with  $V_{GS}$

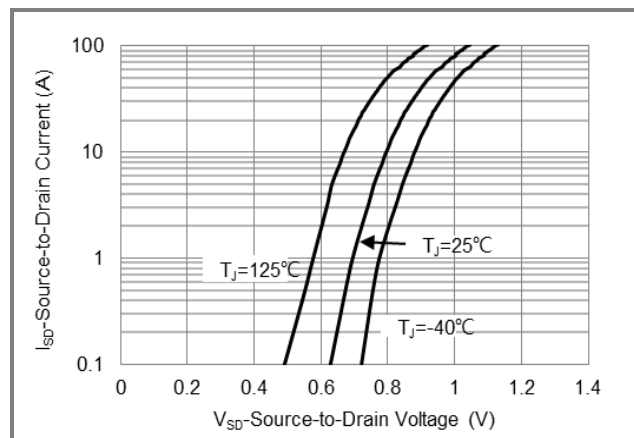
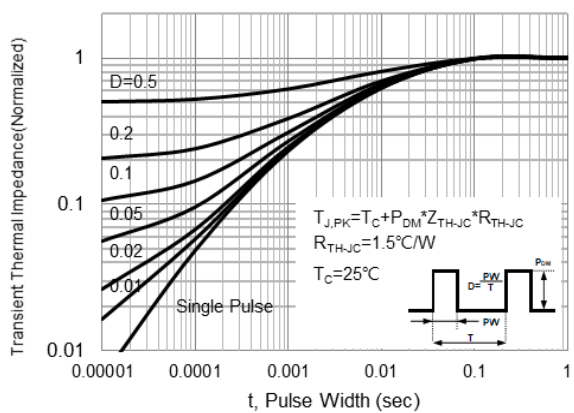
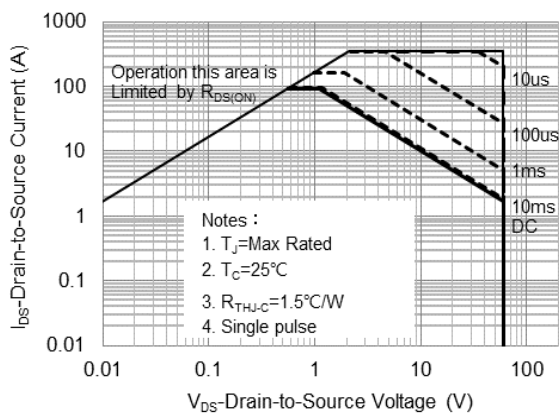
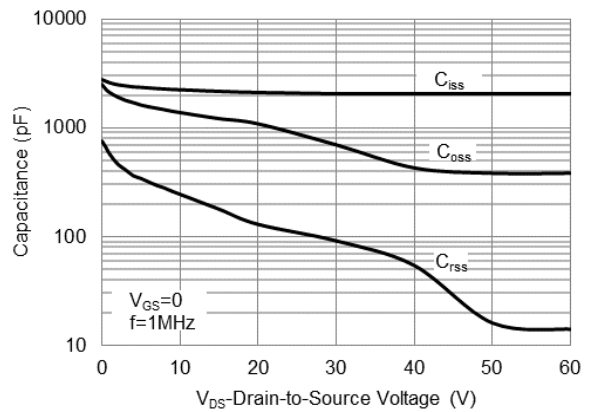
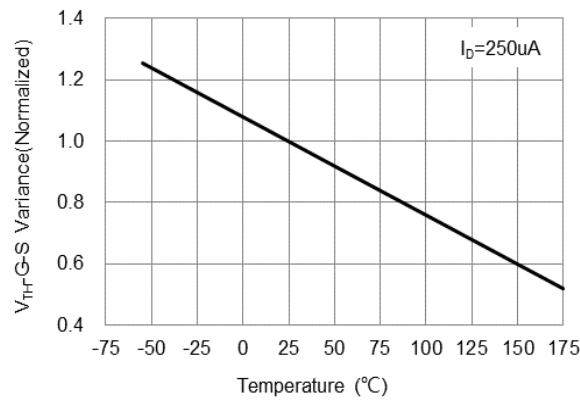
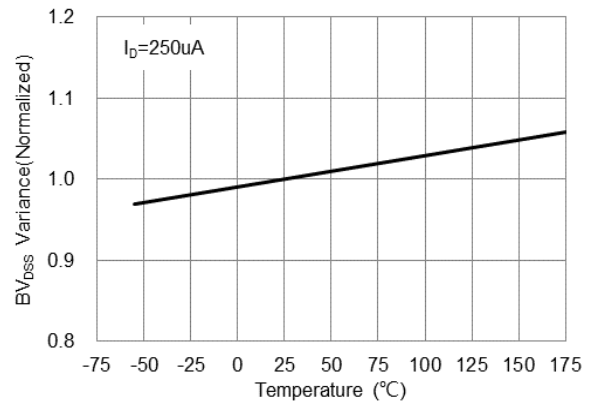
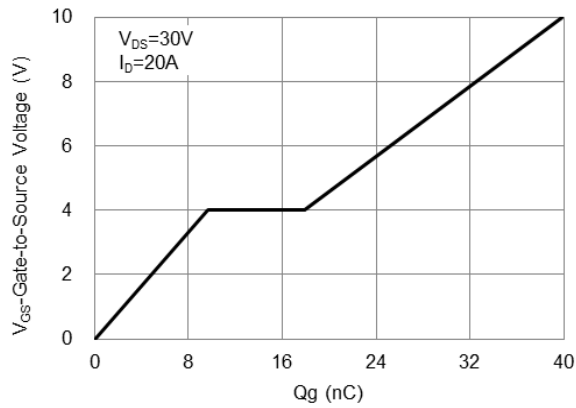


Fig.6 Source-Drain Diode Forward Voltage

# PJP100N06SA-AU

## TYPICAL CHARACTERISTIC CURVES

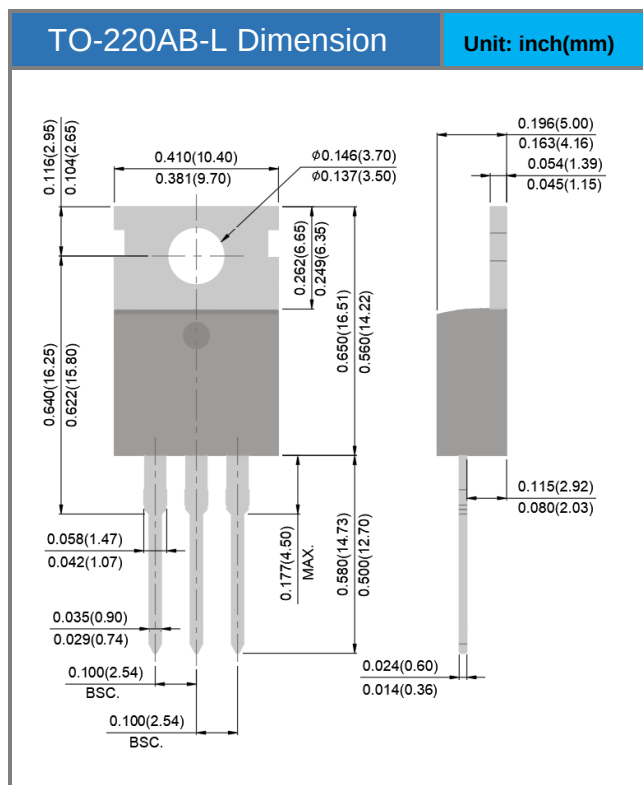


# PJP100N06SA-AU

## Product and Packing Information

| Part No.       | Package Type | Packing Type  | Marking  |
|----------------|--------------|---------------|----------|
| PJP100N06SA-AU | TO-220AB-L   | 50 pcs / Tube | 100N06SA |

## Packaging Information



## PJP100N06SA-AU

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