



PJM06C40PA

N and P-Channel Complementary Power MOSFET

Product Summary

- **N-Channel**
- $V_{DS} = 40V, I_D = 6.5A$
- $R_{DS(on)} < 40m\Omega @ V_{GS} = 10V$
- $R_{DS(on)} < 60m\Omega @ V_{GS} = 4.5V$
- **P-Channel**
- $V_{DS} = -40V, I_D = -6A$
- $R_{DS(on)} < 75m\Omega @ V_{GS} = -10V$
- $R_{DS(on)} < 100m\Omega @ V_{GS} = -4.5V$

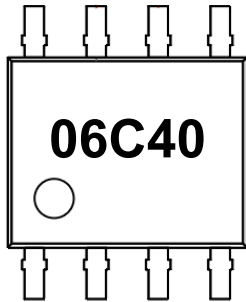
Features

- Advanced Trench Technology
- 100% Avalanche Tested
- RoHS and Reach Compliant
- Halogen and Antimony Free
- Moisture Sensitivity Level 3

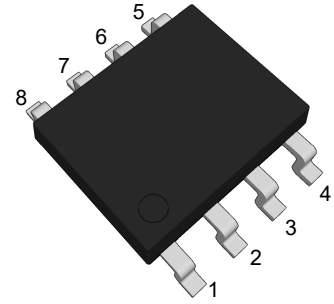
Application

- Power Management

Marking Code



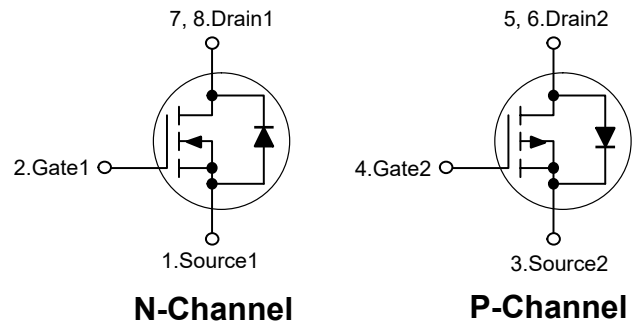
SOP-8



(Top View)

| Pin | Description | Pin | Description |
|-----|-------------|-----|-------------|
| 1 | Source1 | 4 | Gate2 |
| 2 | Gate1 | 5,6 | Drain2 |
| 3 | Source2 | 7,8 | Drain1 |

Schematic Diagram





PJM06C40PA

N and P-Channel Complementary Power MOSFET

Absolute Maximum Ratings

Ratings at 25°C ambient temperature unless otherwise specified.

| Parameter | Symbol | N-Channel | P-Channel | Unit |
|---------------------------------------|-----------|-------------|-----------|------|
| Drain-Source Voltage | V_{DS} | 40 | -40 | V |
| Gate-Source Voltage | V_{GS} | ±20 | | V |
| Drain Current-Continuous | I_D | 6.5 | -6 | A |
| Drain Current-Pulsed ^{Note1} | I_{DM} | 23 | -22 | A |
| Maximum Power Dissipation | P_D | 1.67 | 1.67 | W |
| Junction Temperature | T_J | 150 | | °C |
| Storage Temperature Range | T_{STG} | -55 to +150 | | °C |

Thermal Characteristics

| | | | |
|--|-----------------|----|------|
| Thermal Resistance, Junction-to-Ambient ^{Note2} | $R_{\theta JA}$ | 75 | °C/W |
|--|-----------------|----|------|

**N-Channel****Electrical Characteristics**(T_a=25°C unless otherwise specified)

| Parameter | Symbol | Test Condition | Min. | Typ. | Max. | Unit |
|---|----------------------|---|------|------|------|------|
| Static Characteristics | | | | | | |
| Drain-Source Breakdown Voltage | V _{(BR)DSS} | V _{GS} =0V, I _D =250μA | 40 | -- | -- | V |
| Zero Gate Voltage Drain Current | I _{DSS} | V _{DS} =40V, V _{GS} =0V | -- | -- | 1 | μA |
| Gate-Body Leakage Current | I _{GSS} | V _{GS} =±20V, V _{DS} =0V | -- | -- | ±100 | nA |
| Gate Threshold Voltage ^{Note3} | V _{GS(th)} | V _{DS} =V _{GS} , I _D =250μA | 1 | -- | 2.5 | V |
| Drain-Source On-Resistance ^{Note3} | R _{DS(on)} | V _{GS} =10V, I _D =4A | -- | -- | 40 | mΩ |
| | | V _{GS} =4.5V, I _D =3A | -- | -- | 60 | mΩ |
| Dynamic Characteristics | | | | | | |
| Input Capacitance | C _{iss} | V _{DS} =15V, V _{GS} =0V, f=1MHz | -- | 452 | -- | pF |
| Output Capacitance | C _{oss} | | -- | 51 | -- | pF |
| Reverse Transfer Capacitance | C _{rss} | | -- | 38 | -- | pF |
| Total Gate Charge | Q _g | V _{DS} =15V, I _D =3A, V _{GS} =4.5V | -- | 5 | -- | nC |
| Gate-Source Charge | Q _{gs} | | -- | 1.54 | -- | nC |
| Gate-Drain Charge | Q _{gd} | | -- | 1.84 | -- | nC |
| Switching Characteristics | | | | | | |
| Turn-on Delay Time | t _{d(on)} | V _{DD} =15V, I _D =1A, V _{GS} =10V, R _{GEN} =3.3Ω | -- | 7.8 | -- | nS |
| Turn-on Rise Time | t _r | | -- | 2.1 | -- | nS |
| Turn-off Delay Time | t _{d(off)} | | -- | 29 | -- | nS |
| Turn-off Fall Time | t _f | | -- | 2.1 | -- | nS |
| Source-Drain Diode Characteristics | | | | | | |
| Diode Forward Voltage ^{Note3} | V _{SD} | V _{GS} =0V, I _S =6.5A | -- | -- | 1.2 | V |
| Diode Forward Current ^{Note2} | I _S | | -- | -- | 6.5 | A |

- Note: 1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. Surface Mounted on FR4 Board, t ≤ 10 sec.
3. Pulse Test: Pulse width ≤ 300μs, duty cycle ≤ 2%

**P-Channel****Electrical Characteristics**(T_a=25°C unless otherwise specified)

| Parameter | Symbol | Test Condition | Min. | Typ. | Max. | Unit |
|---|-----------------------|---|------|------|------|------|
| Static Characteristics | | | | | | |
| Drain-Source Breakdown Voltage | -V _{(BR)DSS} | V _{GS} =0V, I _D =-250μA | 40 | -- | -- | V |
| Zero Gate Voltage Drain Current | -I _{DSS} | V _{DS} =-40V, V _{GS} =0V | -- | -- | 1 | μA |
| Gate-Body Leakage Current | I _{GSS} | V _{GS} =±20V, V _{DS} =0V | -- | -- | ±100 | nA |
| Gate Threshold Voltage ^{Note3} | -V _{GS(th)} | V _{DS} =V _{GS} , I _D =-250μA | 1 | -- | 2.5 | V |
| Drain-Source On-Resistance ^{Note3} | R _{DS(on)} | V _{GS} =-10V, I _D =-3A | -- | -- | 75 | mΩ |
| | | V _{GS} =-4.5V, I _D =-2A | -- | -- | 100 | mΩ |
| Dynamic Characteristics | | | | | | |
| Input Capacitance | C _{iSS} | V _{DS} =-15V, V _{GS} =0V, f=1MHz | -- | 620 | -- | pF |
| Output Capacitance | C _{oss} | | -- | 65 | -- | pF |
| Reverse Transfer Capacitance | C _{rSS} | | -- | 53 | -- | pF |
| Total Gate Charge | Q _g | V _{DS} =-32V, I _D =-3A, V _{GS} =-4.5V | -- | 6.4 | -- | nC |
| Gate-Source Charge | Q _{gs} | | -- | 2.1 | -- | nC |
| Gate-Drain Charge | Q _{gd} | | -- | 2.5 | -- | nC |
| Switching Characteristics | | | | | | |
| Turn-on Delay Time | t _{d(on)} | V _{DD} =-20V, I _D =-3A, V _{GS} =-4.5V, R _{GEN} =3.3Ω | -- | 4.2 | -- | nS |
| Turn-on Rise Time | t _r | | -- | 23 | -- | nS |
| Turn-off Delay Time | t _{d(off)} | | -- | 26.8 | -- | nS |
| Turn-off Fall Time | t _f | | -- | 20.6 | -- | nS |
| Source-Drain Diode Characteristics | | | | | | |
| Diode Forward Voltage ^{Note3} | -V _{SD} | V _{GS} =0V, I _S =-6A | -- | -- | 1.2 | V |
| Diode Forward Current ^{Note2} | -I _S | | -- | -- | 6 | A |

Note: 1. Repetitive Rating: Pulse width limited by maximum junction temperature.

2. Surface Mounted on FR4 Board, t ≤ 10 sec.

3. Pulse Test: Pulse width≤300μs, duty cycle≤2%

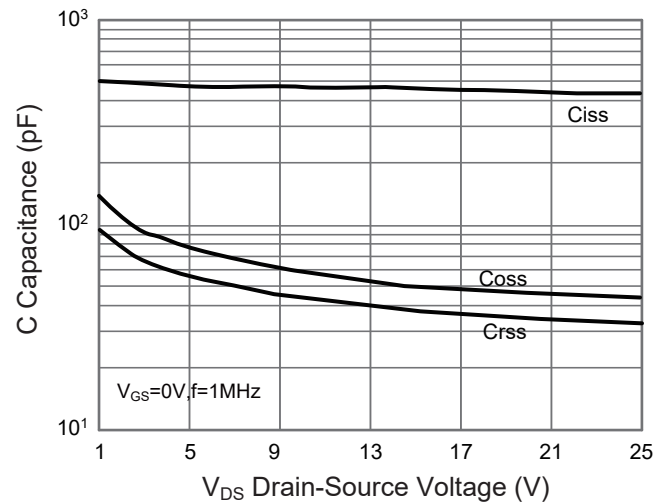
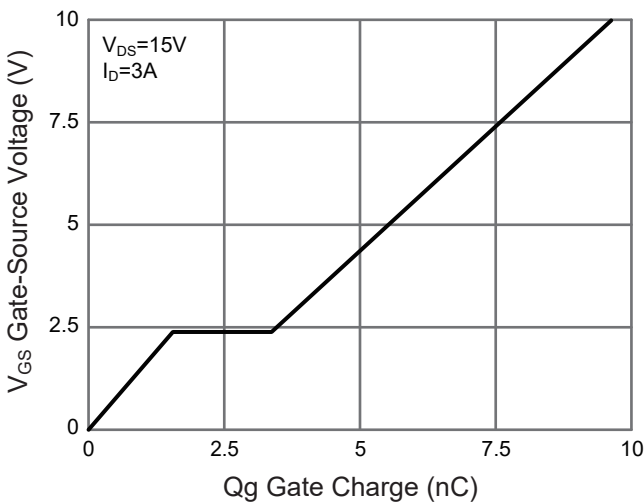
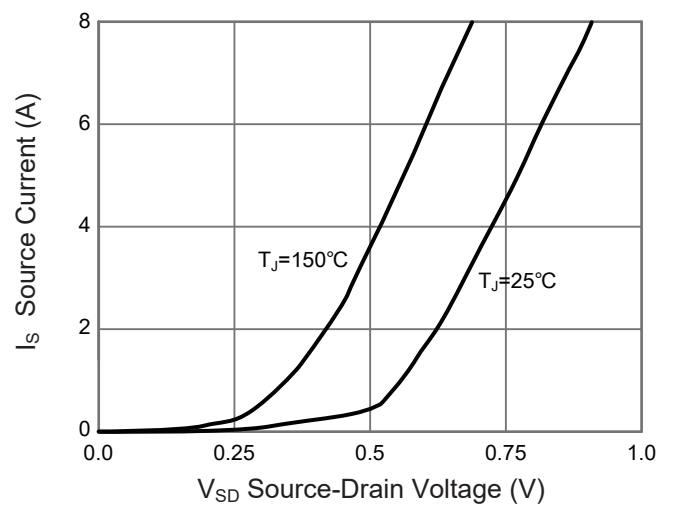
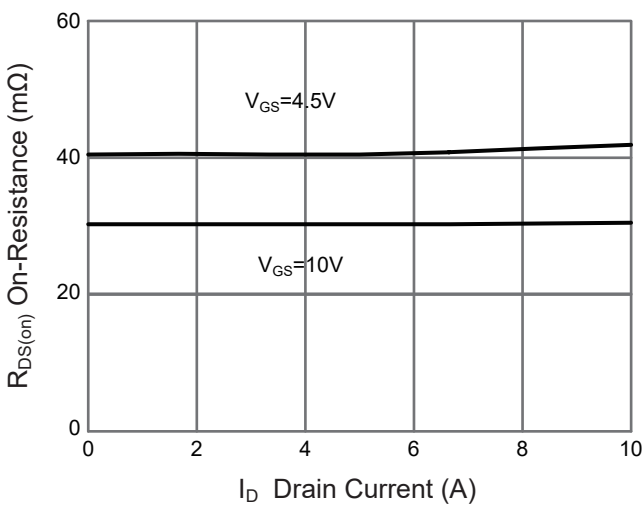
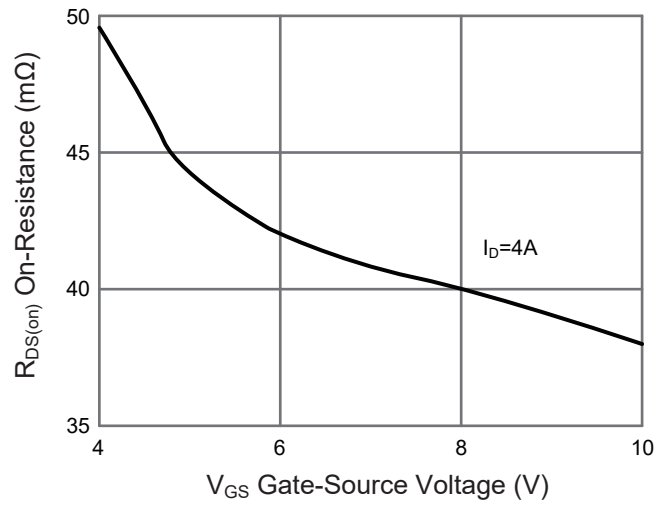
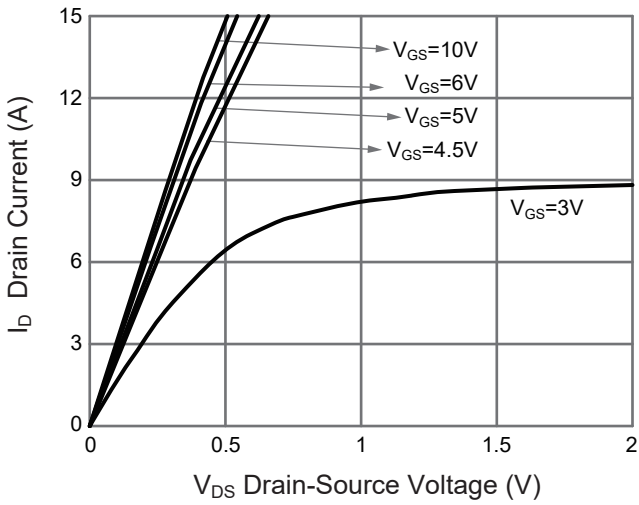


PJM06C40PA

N and P-Channel Complementary Power MOSFET

N-Channel

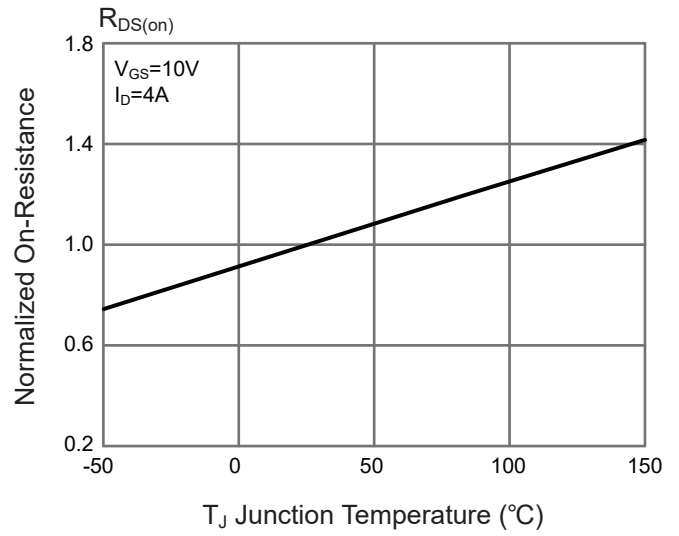
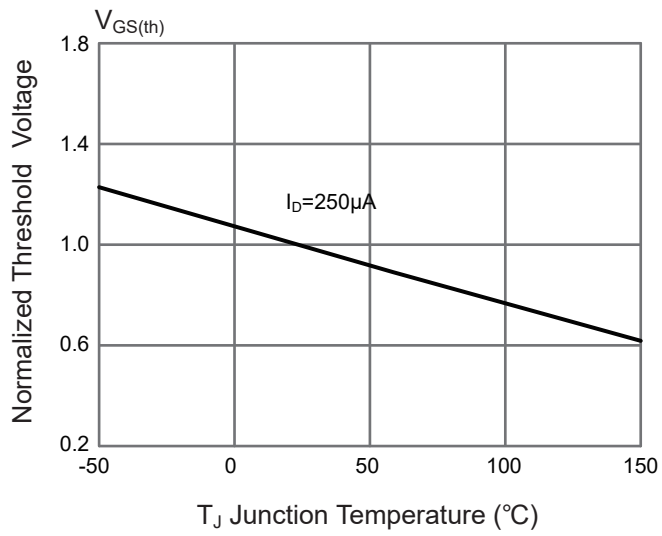
Typical Characteristics Curves





PJM06C40PA

N and P-Channel Complementary Power MOSFET



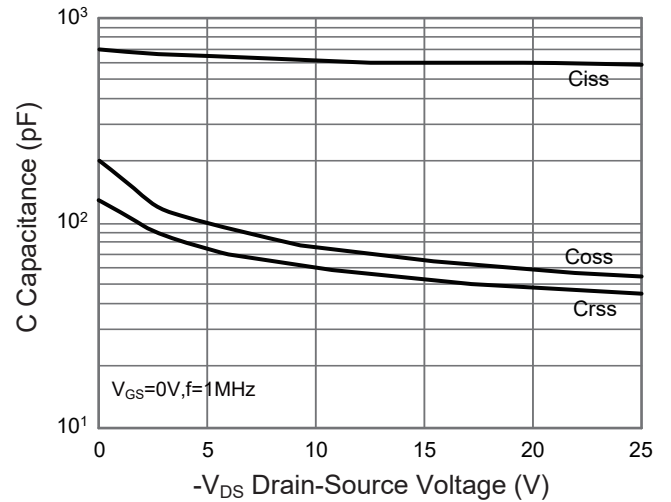
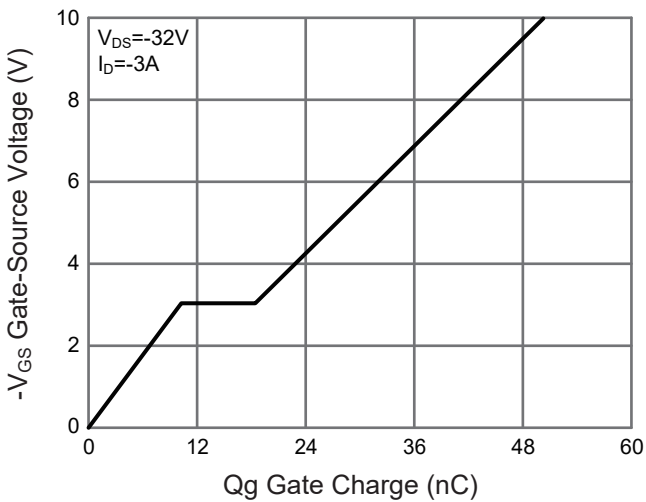
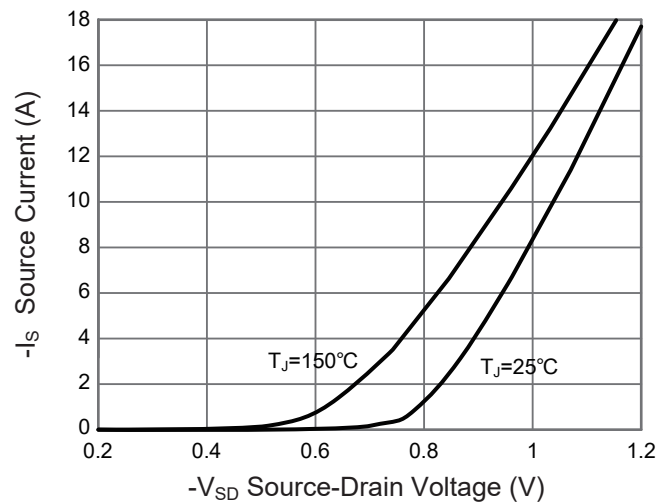
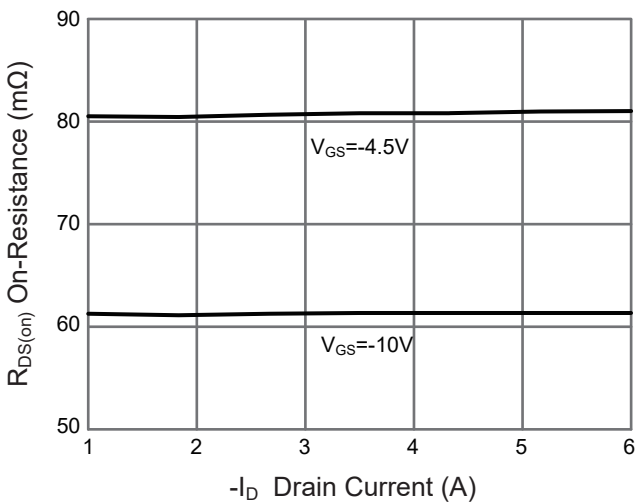
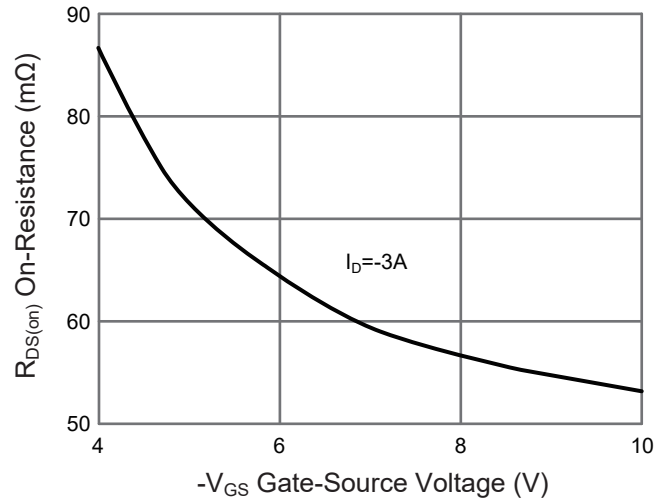
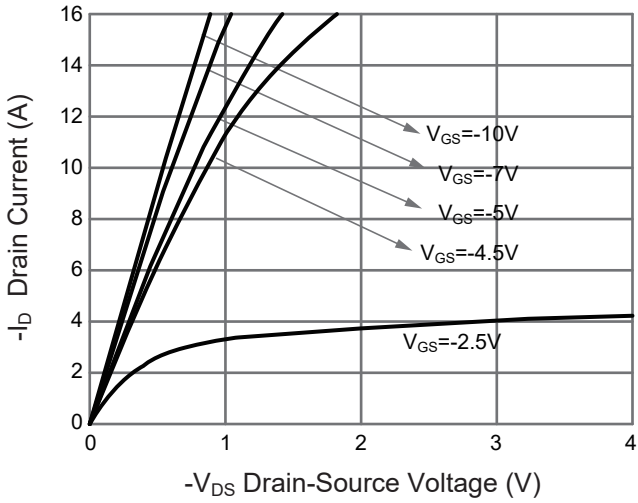


PJM06C40PA

N and P-Channel Complementary Power MOSFET

P-Channel

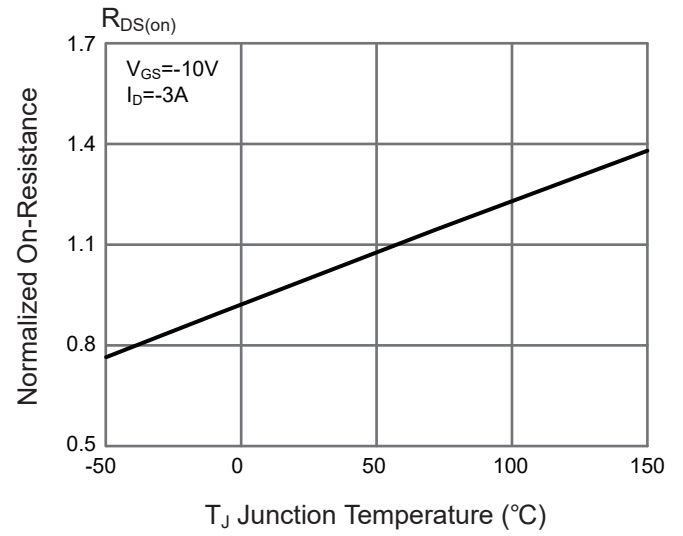
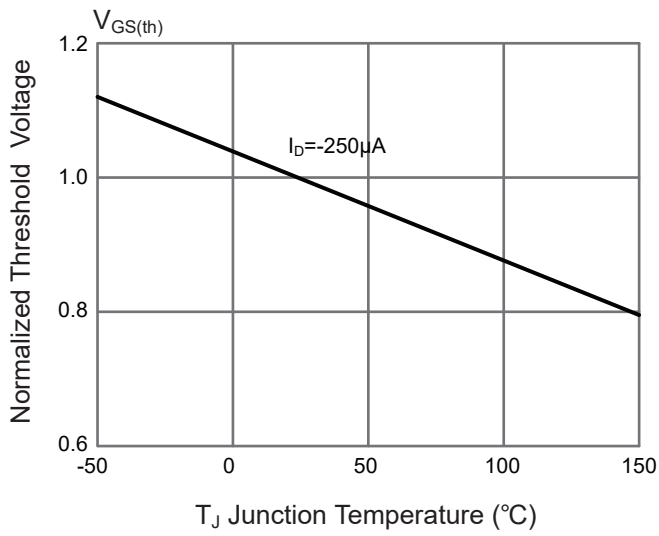
Typical Characteristics Curves





PJM06C40PA

N and P-Channel Complementary Power MOSFET





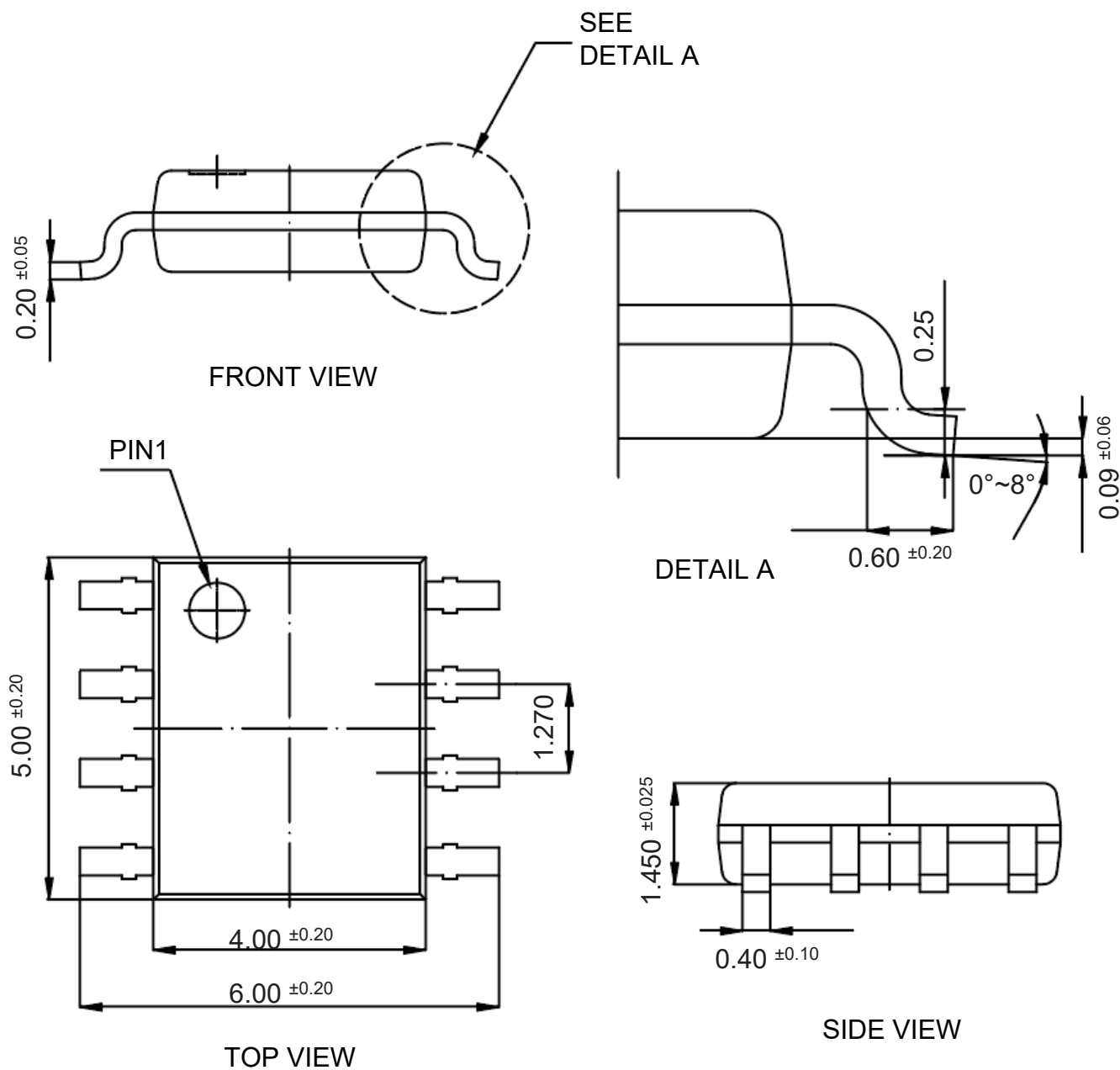
PJM06C40PA

N and P-Channel Complementary Power MOSFET

Package Outline

SOP-8

Dimensions in mm



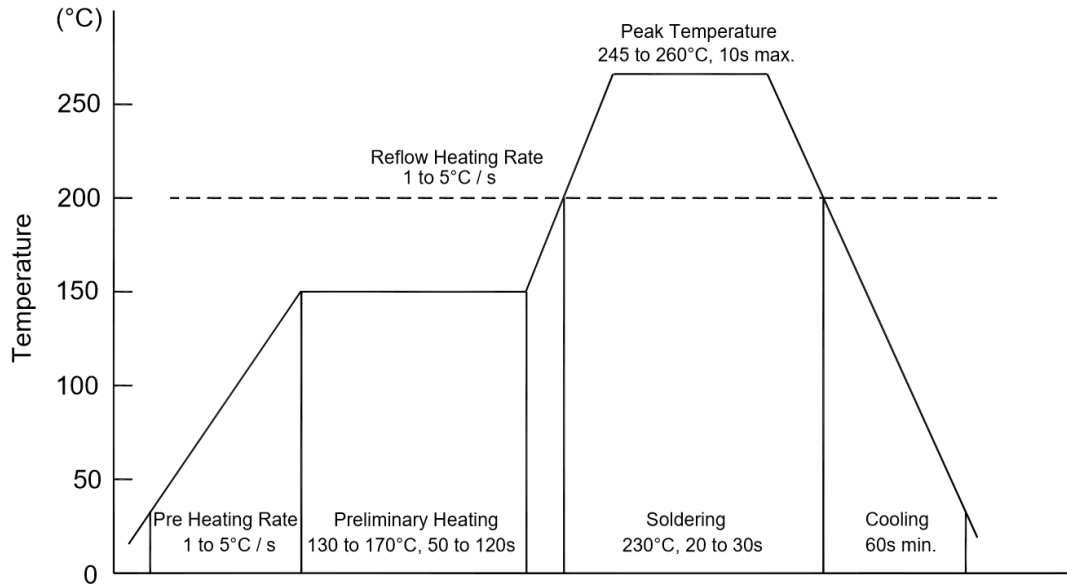
Ordering Information

| Device | Package | Shipping |
|------------|---------|------------------------|
| PJM06C40PA | SOP-8 | 4,000PCS/Reel&13inches |



Conditions of Soldering and Storage

◆ Recommended condition of reflow soldering



Recommended peak temperature is over 245°C. If peak temperature is below 245°C, you may adjust the following parameters:

- Time length of peak temperature (longer)
- Time length of soldering (longer)
- Thickness of solder paste (thicker)

◆ Conditions of hand soldering

- Temperature: 300°C
- Time: 3s max.
- Times: one time

◆ Storage conditions

- **Temperature**
5 to 40°C
- **Humidity**
30 to 80% RH
- **Recommended period**
One year after manufacturing

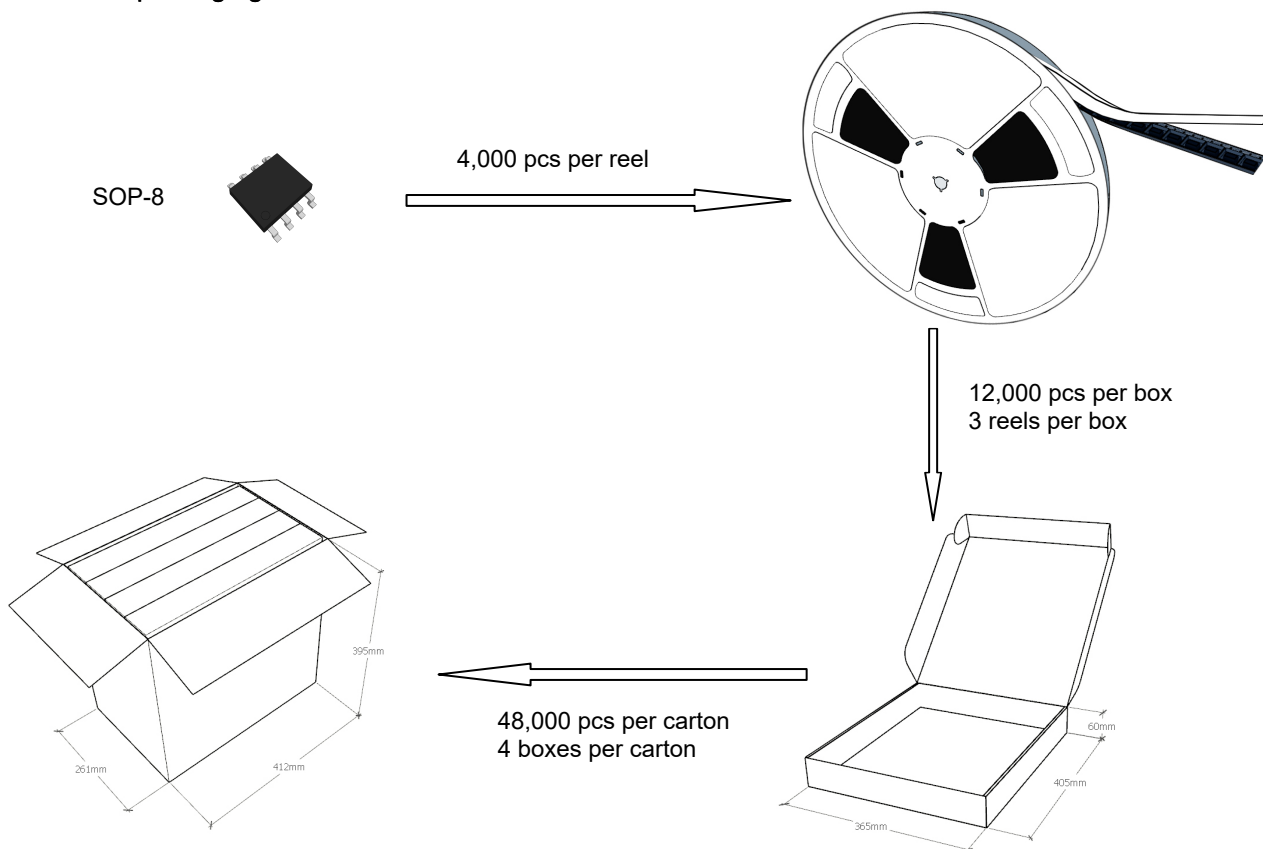


PJM06C40PA

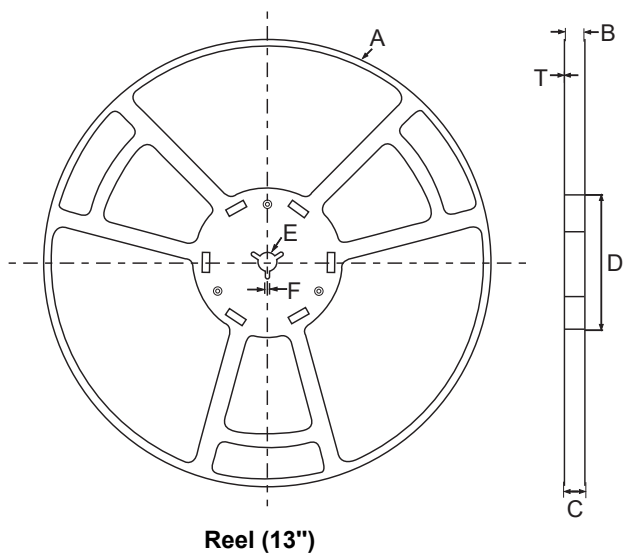
N and P-Channel Complementary Power MOSFET

Package Specifications

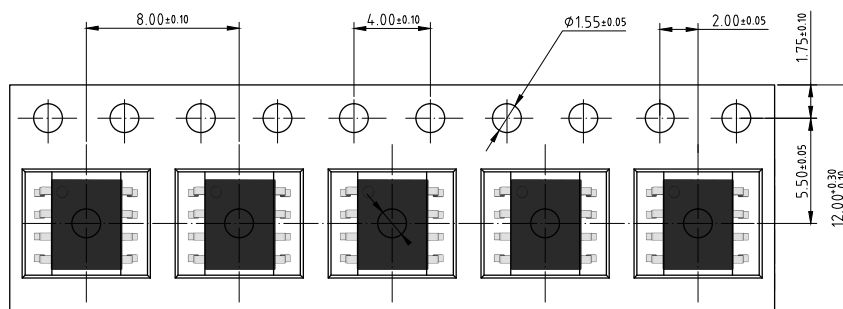
- The method of packaging



◆ Embossed tape and reel data



| symbol | Value(unit:mm) |
|--------|---------------------|
| A | $\phi 330 \pm 1$ |
| B | 12.7 ± 0.5 |
| C | 16.5 ± 0.3 |
| D | $\phi 99.5 \pm 0.5$ |
| E | $\phi 13.6 \pm 0.3$ |
| F | 2.8 ± 0.3 |
| T | 1.9 ± 0.2 |



X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [MOSFET](#) category:

Click to view products by [Pingjingsemi](#) manufacturer:

Other Similar products are found below :

[IRFD120](#) [JANTX2N5237](#) [BUK455-60A/B](#) [MIC4420CM-TR](#) [VN1206L](#) [NDP4060](#) [SI4482DY](#) [IPS70R2K0CEAKMA1](#) [SQD23N06-31L-GE3](#)
[TK16J60W,S1VQ\(O](#) [2SK2614\(Te16L1,Q\)](#) [DMN1017UCP3-7](#) [DMN1053UCP4-7](#) [SQJ469EP-T1-GE3](#) [NTE2384](#) [DMC2700UDMQ-7](#)
[DMN2080UCB4-7](#) [DMN61D9UWQ-13](#) [US6M2GTR](#) [DMN31D5UDJ-7](#) [DMP22D4UFO-7B](#) [DMN1006UCA6-7](#) [DMN16M9UCA6-7](#)
[STF5N65M6](#) [IRF40H233XTMA1](#) [STU5N65M6](#) [DMN6022SSD-13](#) [DMN13M9UCA6-7](#) [DMTH10H4M6SPS-13](#) [DMN2990UFB-7B](#)
[IPB80P04P405ATMA2](#) [2N7002W-G](#) [MCAC30N06Y-TP](#) [MCQ7328-TP](#) [NTMC083NP10M5L](#) [BXP7N65D](#) [BXP4N65F](#) [AOL1454G](#)
[WMJ80N60C4](#) [BXP2N20L](#) [BXP2N65D](#) [BXT1150N10J](#) [BXT1700P06M](#) [TSM60NB380CP](#) [ROG](#) [RQ7L055BGTGR](#) [DMNH15H110SK3-13](#)
[SLF10N65ABV2](#) [BSO203SP](#) [BSO211P](#) [IPA60R230P6](#)