

Rev.B Feb.-2025

PDFN3×3-8L P MOS

Double P-CHANNEL MOSFET in a PDFN3×3-8L Plastic Package.

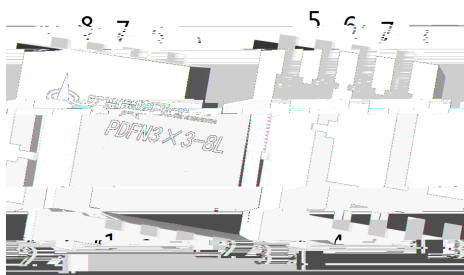
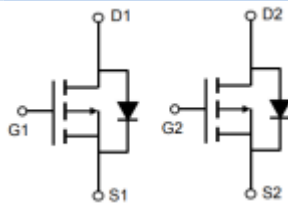
$V_{DS}(V)=-30V$   $I_D=-5.5A$

$R_{DS(ON)}<40m\Omega(V_{GS}=-10V)$

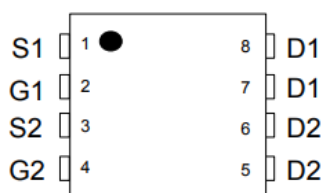
$R_{DS(ON)}<70m\Omega(V_{GS}=-4.5V)$

HF Product.

Intended for use in general purpose switching and phase control applications.



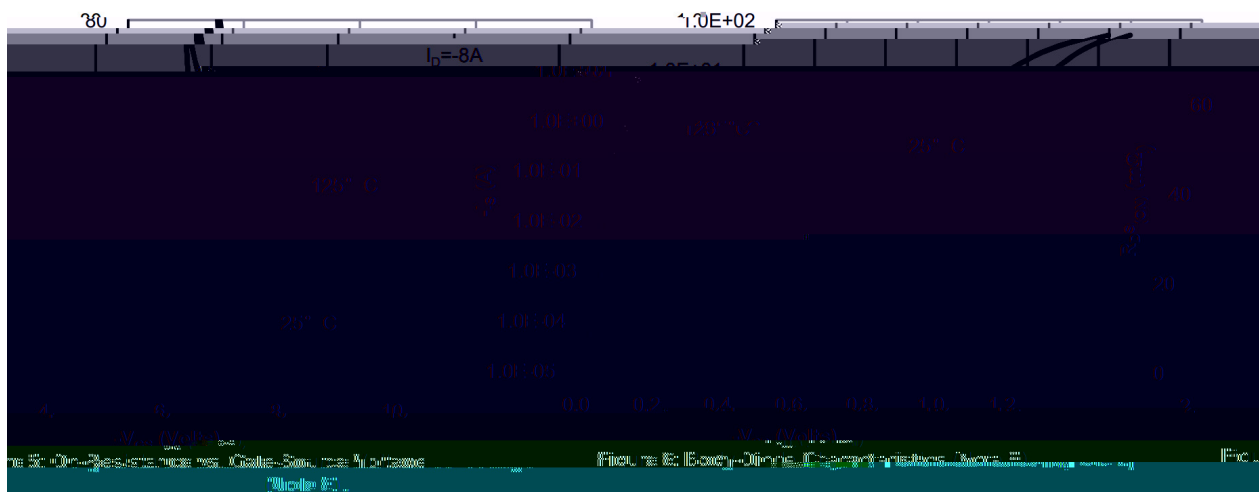
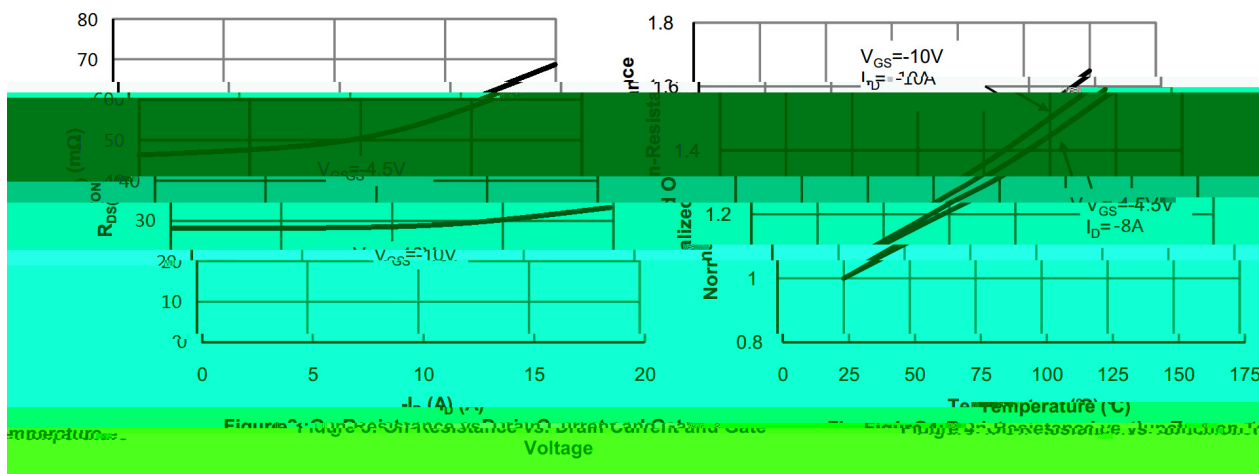
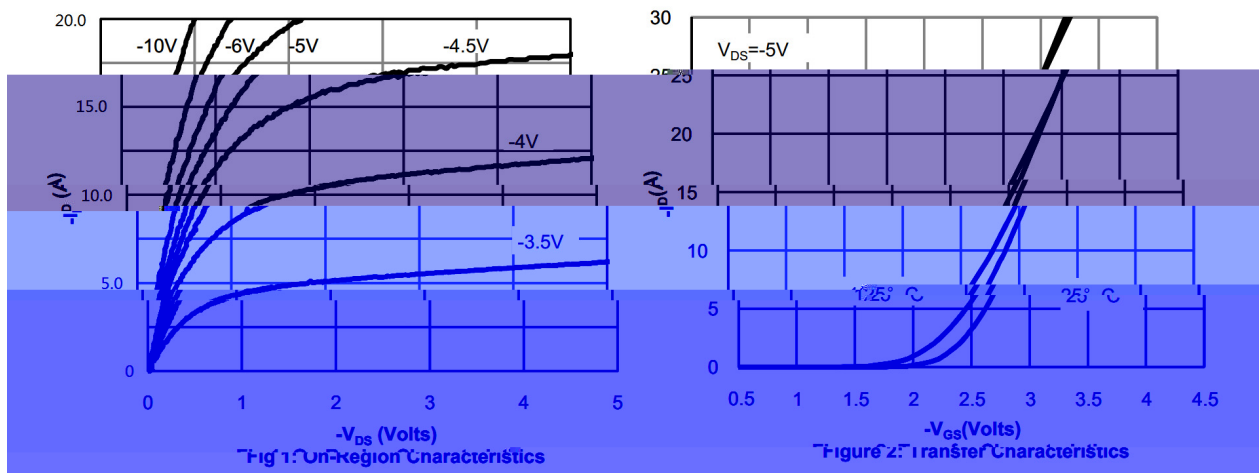
Top View

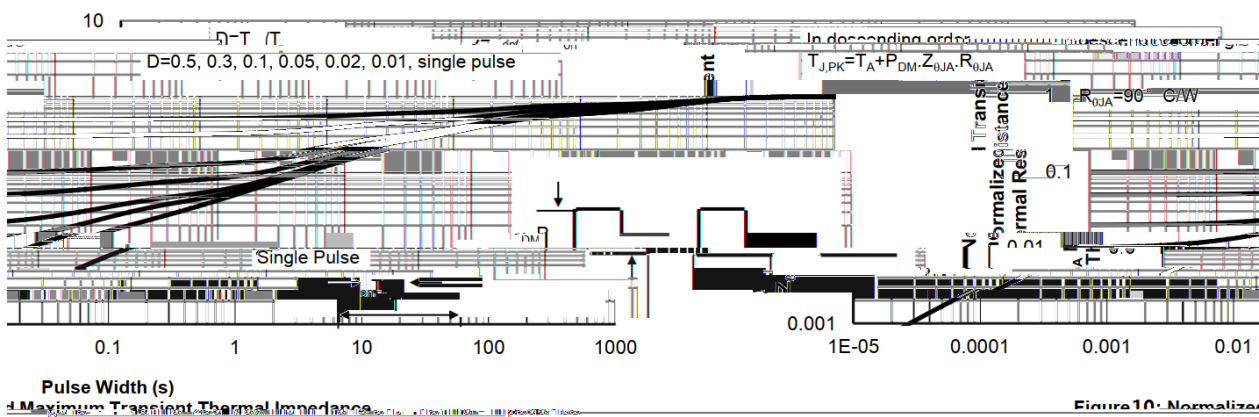
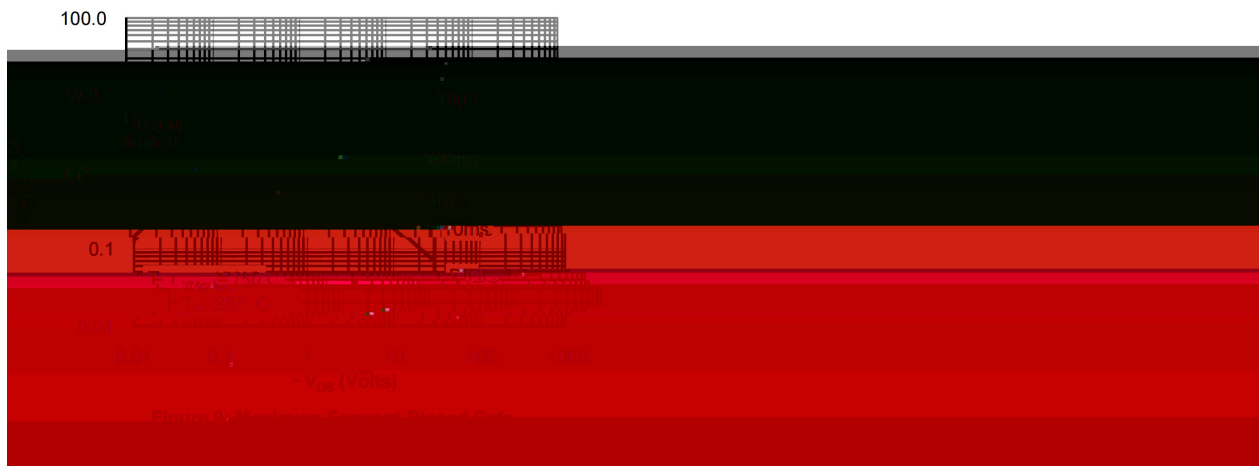
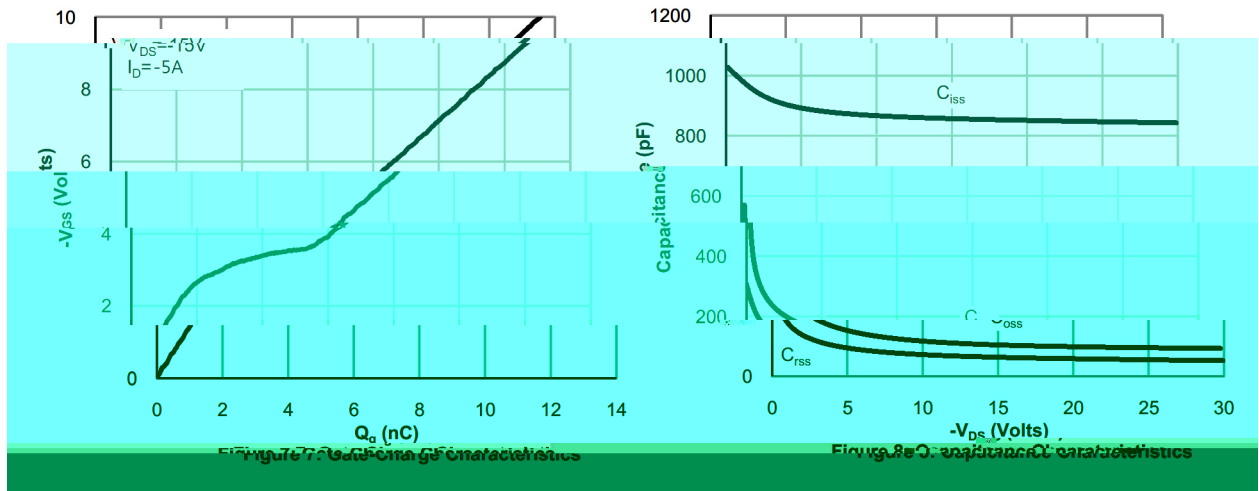


See Marking Instructions.

| Parameter                              | Symbol                               | Rating      | Unit |
|----------------------------------------|--------------------------------------|-------------|------|
| Drain-Source Voltage                   | $V_{DS}$                             | -30         | V    |
| Gate-Source Voltage                    | $V_{GS}$                             | $\pm 20$    | V    |
| Continuous Drain Current               | $I_D (T_A=25^\circ\text{C})$         | -5.5        | A    |
| Pulsed Drain Current                   | $I_{DM}$                             | -11         | A    |
| Power Dissipation                      | $P_D (T_A=25^\circ\text{C})$         | 2           | W    |
| Junction and Storage Temperature Range | $T_J, T_{STG}$                       | -55 to +150 |      |
| Maximum Junction-to-Ambient            | $R_{\theta JA}(t \leq 10s)$          | 62.5        | /W   |
| Maximum Junction-to-Ambient            | $R_{\theta JA}(\text{Steady-State})$ | 90          | /W   |

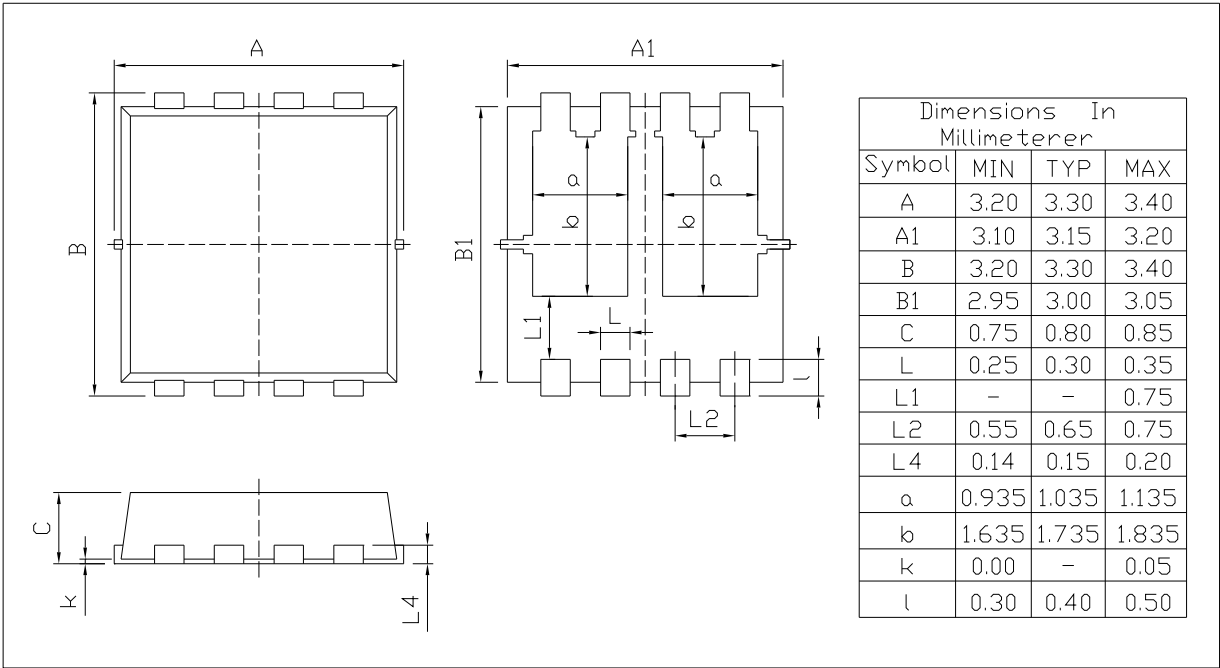
| Parameter                         | Symbol        | Test Conditions                                                                        | Min  | Typ  | Max       | Unit          |
|-----------------------------------|---------------|----------------------------------------------------------------------------------------|------|------|-----------|---------------|
| Drain-Source Breakdown Voltage    | $BV_{DS}$     | $I_D = -250\mu\text{A}$ $V_{GS} = 0\text{V}$                                           | -30  |      |           | V             |
| Zero Gate Voltage Drain Current   | $I_{DSS}$     | $V_{DS} = -30\text{V}$ $V_{GS} = 0\text{V}$                                            |      |      | -1.0      | $\mu\text{A}$ |
| Gate-Body leakage current         | $I_{GSS}$     | $V_{DS} = 0\text{V}$ $V_{GS} = \pm 20\text{V}$                                         |      |      | $\pm 100$ | nA            |
| Gate Threshold Voltage            | $V_{GS(th)}$  | $V_{DS} = V_{GS}$ $I_D = -250\mu\text{A}$                                              | -1.0 | -1.5 | -2.5      | V             |
| Static Drain-Source On-Resistance | $R_{DS(on)}$  | $V_{GS} = -10\text{V}$ $I_D = -10\text{A}$                                             |      | 28.5 | 30        | m $\Omega$    |
|                                   |               | $V_{GS} = -4.5\text{V}$ $I_D = -8\text{A}$                                             |      | 40   | 55        |               |
| Diode Forward Voltage             | $V_{SD}$      | $I_S = -1\text{A}$ $V_{GS} = 0\text{V}$                                                |      |      | -1.2      | V             |
| Gate Resistance                   | $R_g$         | $V_{GS} = 0\text{V}$ $V_{DS} = 0\text{V}$<br>$f = 1\text{MHz}$                         |      | 7    |           | $\Omega$      |
| Input Capacitance                 | $C_{iss}$     | $V_{GS} = 0\text{V}$ $V_{DS} = -15\text{V}$<br>$f = 1\text{MHz}$                       |      | 850  |           | pF            |
| Output Capacitance                | $C_{oss}$     |                                                                                        |      | 100  |           |               |
| Reverse Transfer Capacitance      | $C_{rss}$     |                                                                                        |      | 65   |           |               |
| Total Gate Charge                 | $Q_{g(10V)}$  | $V_{GS} = -10\text{V}$ $V_{DS} = -15\text{V}$<br>$I_D = -5\text{A}$                    |      | 14.2 |           | nC            |
| Total Gate Charge                 | $Q_{g(4.5V)}$ |                                                                                        |      | 7.4  |           |               |
| Gate-Source Charge                | $Q_{gs}$      |                                                                                        |      | 3.3  |           |               |
| Gate-Drain Charge                 | $Q_{gd}$      |                                                                                        |      | 3.8  |           |               |
| Turn-on Delay Time                | $t_{d(on)}$   | $V_{GS} = -10\text{V}$ $V_{DS} = -15\text{V}$<br>$R_L = 1.8\Omega$ $R_{GEN} = 3\Omega$ |      | 8.3  |           | ns            |
| Turn-on Rise Time                 | $t_r$         |                                                                                        |      | 6.5  |           |               |
| Turn-off Delay Time               | $t_{d(off)}$  |                                                                                        |      | 22   |           |               |
| Turn-off Fall Time                | $t_f$         |                                                                                        |      | 5.5  |           |               |



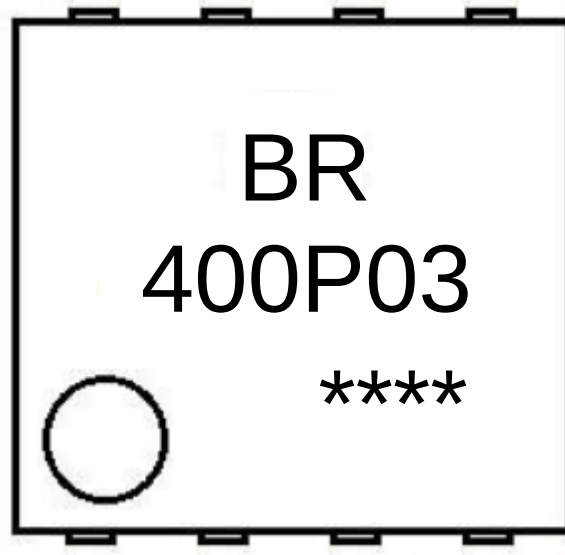


PDFN3X3-8L

Unit:mm



Rev.00 202011



BR

400P03

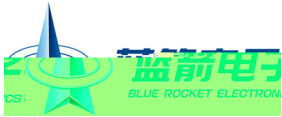
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Note:

BR: Company Code

400P03: Product Type Code

\*\*\*\*\*: Lot No. Code, code change with Lot No



Temperature Profile for IR Reflow Soldering(Pb-Free)

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|  |
|  |
|  |
|  |
|  |
|  |

- 1

150 180

60 90sec;
- 2

245±5

5±0.5sec;
- 3

2 10

/sec.
- Note:

1.Preheating:150~180 , Time:60~90sec.

2.Peak Temp.:245±5 , Duration:5±0.5sec.

3. Cooling Speed: 2~10 /sec.

260±5 %