



| SPECIFICATIONS (T <sub>A</sub> = 25 °C UNLESS OTHERWISE NOTED) |                      |  |                  |         |      |         |      |      |
|--|----------------------|--|------------------|---------|------|---------|------|------|
| Parameter  | Symbol               | Test Conditions  | Typ <sup>a</sup> | Limits  |      |         |      | Unit |
|  |                      |  |                  | VP0808L |      | VP1008L |      |      |
|  |                      |  |                  | Min     | Max  | Min     | Max  |      |
| <b>Static</b>  |                      |  |                  |         |      |         |      |      |
| Drain-Source Breakdown Voltage                                 | V <sub>(BR)DSS</sub> | V <sub>GS</sub> = 0 V, I <sub>D</sub> = -10 μA   | -110             | -80     |      | -100    |      | V    |
| Gate-Threshold Voltage   | V <sub>GS(th)</sub>  | V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = -1 mA   | -3.4             | -2      | -4.5 | -2      | -4.5 |      |
| Gate-Body Leakage  | I <sub>GSS</sub>     | V <sub>DS</sub> = 0 V, V <sub>GS</sub> = ±20 V<br>T <sub>J</sub> = 125 °C  |                  |         | ±100 |         | ±100 | nA   |
|  |                      |  |                  |         | ±500 |         | ±500 |      |
| Zero Gate Voltage Drain Current                                | I <sub>DSS</sub>     | V <sub>DS</sub> = -80 V, V <sub>GS</sub> = 0 V<br>T <sub>J</sub> = 125 °C  |                  |         | -10  |         |      | μA   |
|  |                      |  |                  |         | -500 |         |      |      |
|  |                      |  |                  |         |      |         | -10  |      |
|  |                      | V <sub>DS</sub> = -100 V, V <sub>GS</sub> = 0 V<br>T <sub>J</sub> = 125 °C   |                  |         |      |         | -500 |      |
| On-State Drain Current <sup>b</sup>                            | I <sub>D(on)</sub>   | V <sub>DS</sub> = -15 V, V <sub>GS</sub> = -10 V   | -2               | -1.1    |      | -1.1    |      | A    |
| Drain-Source On-Resistance <sup>b</sup>                        | r <sub>DS(on)</sub>  | V <sub>GS</sub> = -10 V, I <sub>D</sub> = -1 A<br>T <sub>J</sub> = 125 °C  | 2.5              |         | 5    |         | 5    | Ω    |
|  |                      |  | 4.4              |         | 8    |         | 8    |      |
| Forward Transconductance <sup>b</sup>                          | g <sub>fs</sub>      | V <sub>DS</sub> = -10 V, I <sub>D</sub> = -0.5 A   | 325              | 200     |      | 200     |      | mS   |
| Common Source Output Conductance <sup>b</sup>                  | g <sub>os</sub>      | V <sub>DS</sub> = -7.5 V, I <sub>D</sub> = -0.1 A  | 0.45             |         |      |         |      |      |
| <b>Dynamic</b>   |                      |  |                  |         |      |         |      |      |
| Input Capacitance  | C <sub>iss</sub>     | V <sub>DS</sub> = -25 V, V <sub>GS</sub> = 0 V<br>f = 1 MHz  | 75               |         | 150  |         | 150  | pF   |
| Output Capacitance   | C <sub>oss</sub>     |  | 40               |         | 60   |         | 60   |      |
| Reverse Transfer Capacitance                                   | C <sub>rss</sub>     |  | 18               |         | 25   |         | 25   |      |
| <b>Switching<sup>c</sup></b>                                   |                      |  |                  |         |      |         |      |      |
| Turn-On Time   | t <sub>d(on)</sub>   | V <sub>DD</sub> = -25 V, R <sub>L</sub> = 47 Ω<br>I <sub>D</sub> ≅ -0.5 A, V <sub>GEN</sub> = -10 V<br>R <sub>G</sub> = 25 Ω | 11               |         | 15   |         | 15   | ns   |
|  | t <sub>r</sub>       |  | 30               |         | 40   |         | 40   |      |
| Turn-Off Time  | t <sub>d(off)</sub>  |  | 20               |         | 30   |         | 30   |      |
|  | t <sub>f</sub>       |  | 20               |         | 30   |         | 30   |      |

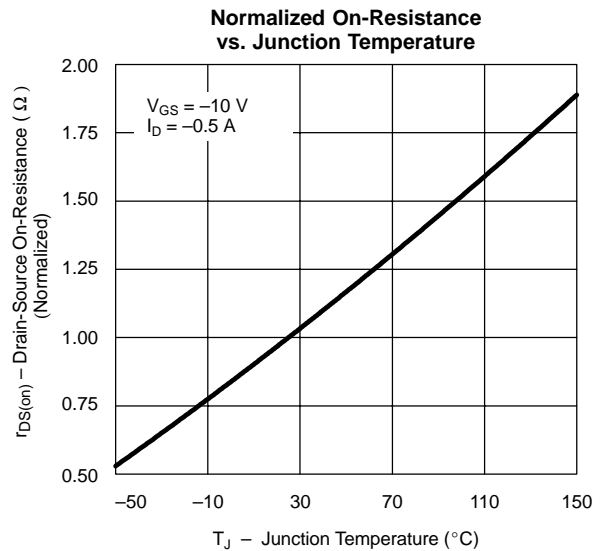
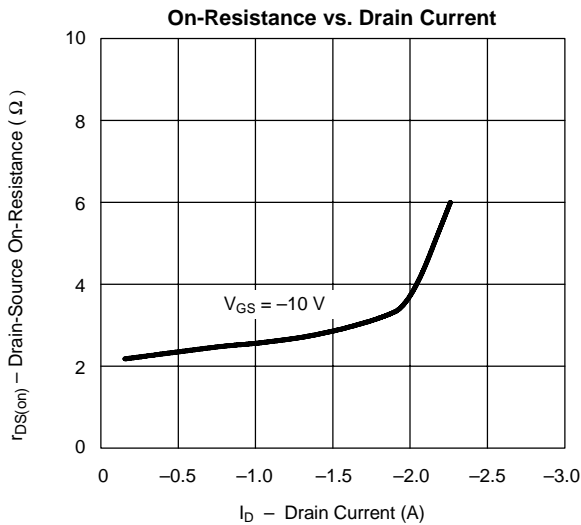
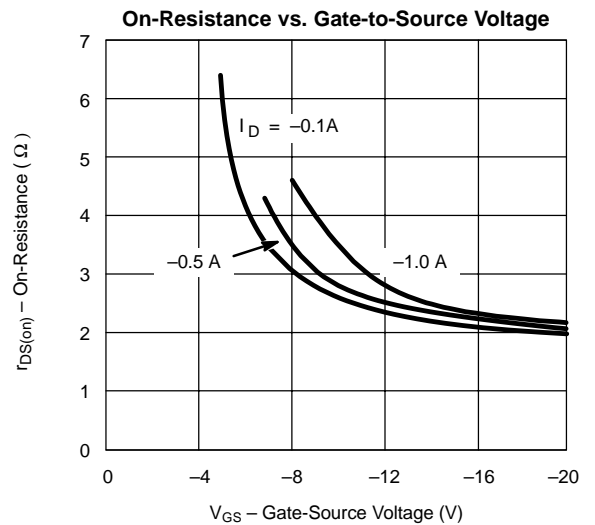
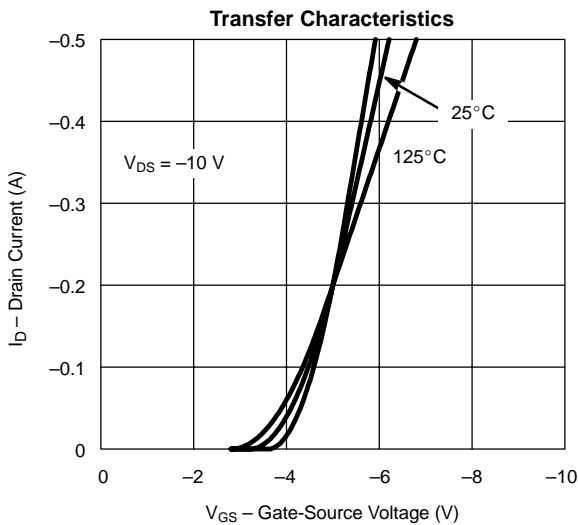
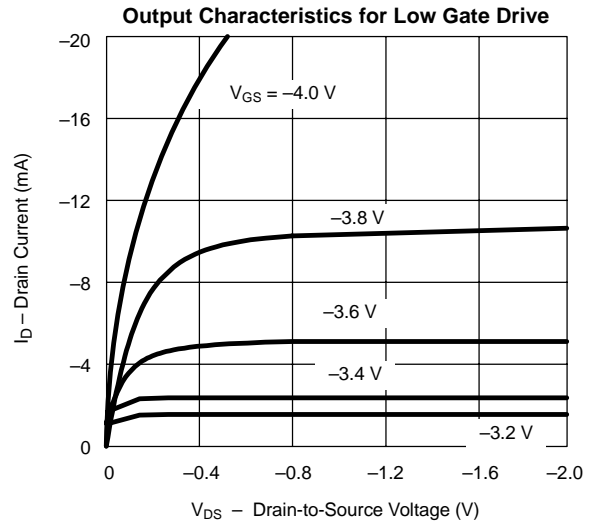
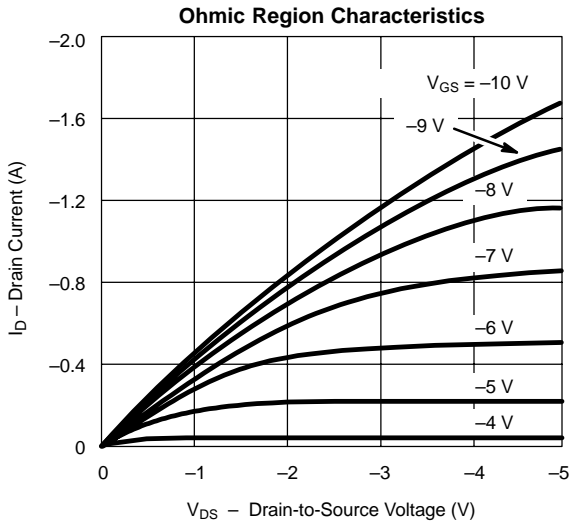
Notes

- a. For DESIGN AID ONLY, not subject to production testing.
- b. Pulse test: PW ≤ 300 μs duty cycle ≤ 2%.
- c. Switching time is essentially independent of operating temperature.

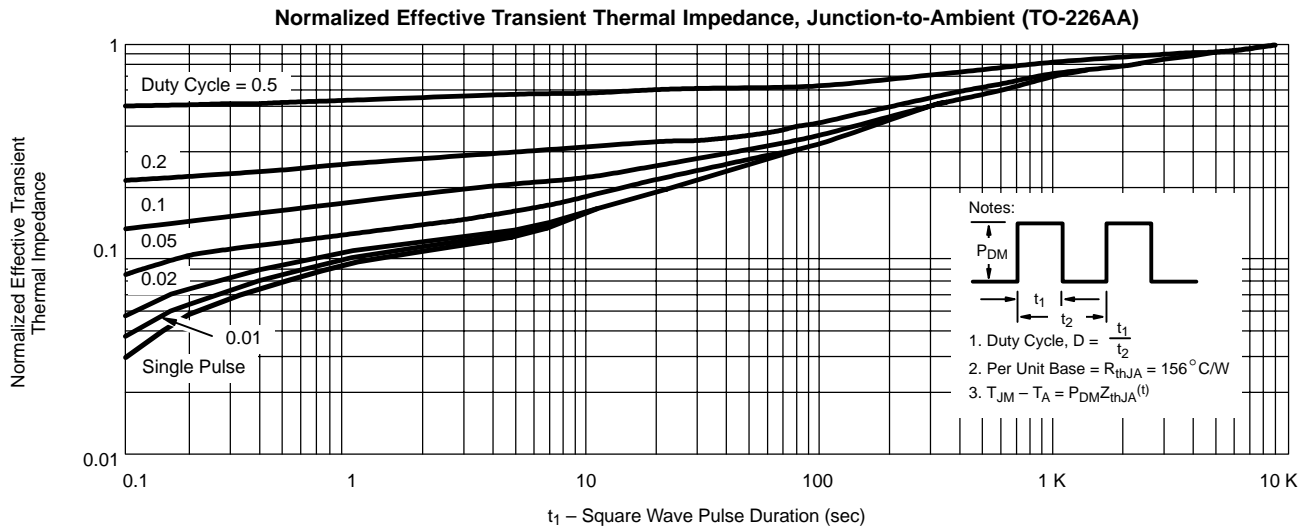
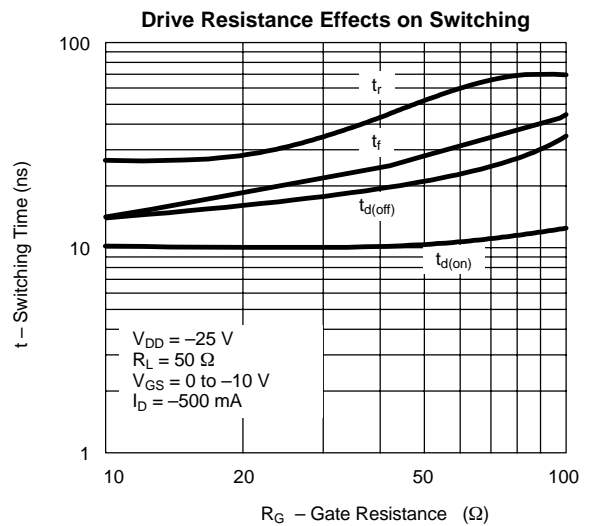
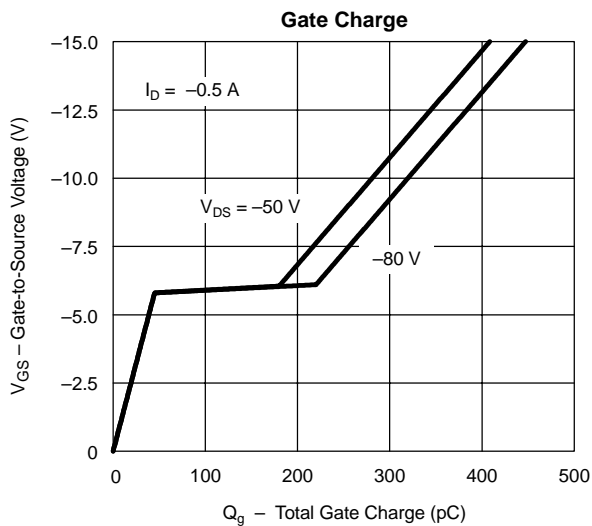
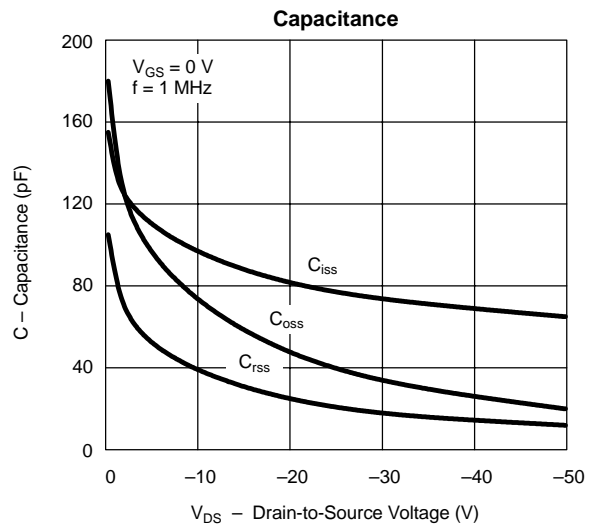
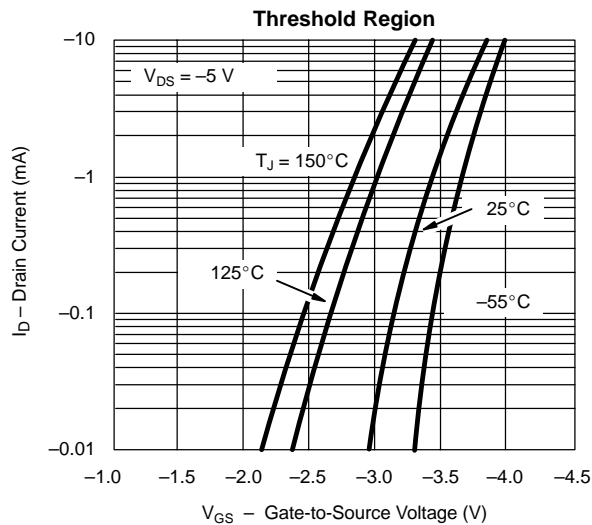
VPDV10



**TYPICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$  UNLESS OTHERWISE NOTED)**



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