

LPB8204DT0AG

20V P-Channel (D-S) MOSFET

1. FEATURES

- $V_{DS} = -20V$
 $R_{DS(ON)} \leq 4.6m\Omega, V_{GS@-4.5V}, I_{DS@-7A}$
 $R_{DS(ON)} \leq 7m\Omega, V_{GS@-2.5V}, I_{DS@-5.6A}$
- Low $R_{DS(ON)}$ trench technology.
- Low thermal impedance.
- Fast switching speed.
- We declare that the material of product compliance with RoHS requirements and Halogen Free.
- S- prefix for automotive and other applications requiring unique site and control change requirements; AEC-Q101 qualified and PPAP capable.

2. APPLICATIONS

- Load Switches
- DC/DC Conversion
- Motor Drives

3. DEVICE MARKING AND ORDERING INFORMATION

| Device | Marking | Shipping |
|--------------|---------|----------------|
| LPB8204DT0AG | P20 | 2000/Tape&Reel |

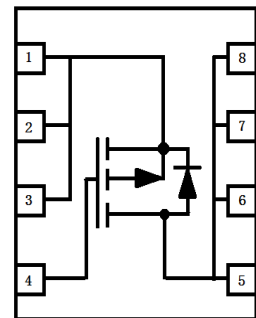
4. MAXIMUM RATINGS($T_a = 25^\circ C$)

| Parameter | Symbol | Limits | Unit | |
|--|----------------|-------------------------|------------|--------------|
| Drain-Source Voltage | V_{DS} | -20 | V | |
| Gate-Source Voltage | V_{GS} | ± 12 | | |
| Continuous Drain Current (Note1) | I_D | -8.8 | A | |
| Pulsed Drain Current (Note2) | I_{DM} | -40 | | |
| Continuous Source Current (Diode Conduction) (Note1) | I_S | -5 | | |
| Power Dissipation (Note1) | PD | $T_A = 25^\circ C$ | 3 | W |
| | | $T_A = 70^\circ C$ | 1.9 | |
| Avalanche Current | I_{AS} | 31 | A | |
| Avalanche Energy($L=0.1mH$) | E_{AS} | 48.05 | mJ | |
| Operating Junction and Storage Temperature Range | T_J, T_{stg} | -55~+150 | $^\circ C$ | |
| Maximum Junction-to-Ambient (Note1) | R_{qJA} | $t \leq 10 \text{ sec}$ | 40 | $^\circ C/W$ |
| | | Steady State | 90 | |

1. Surface Mounted on 1" x 1" FR4 Board.
2. Pulse width limited by maximum junction temperature



DFN3333-8A



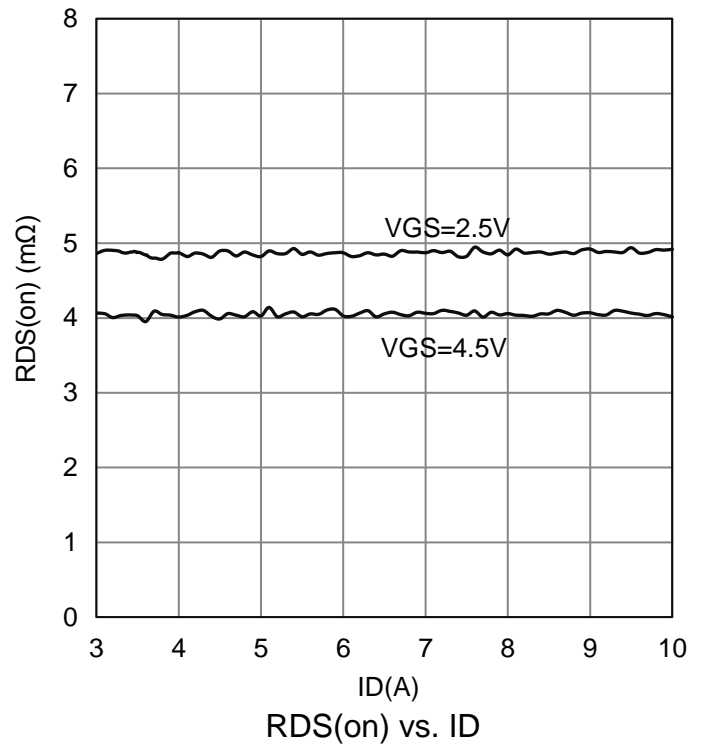
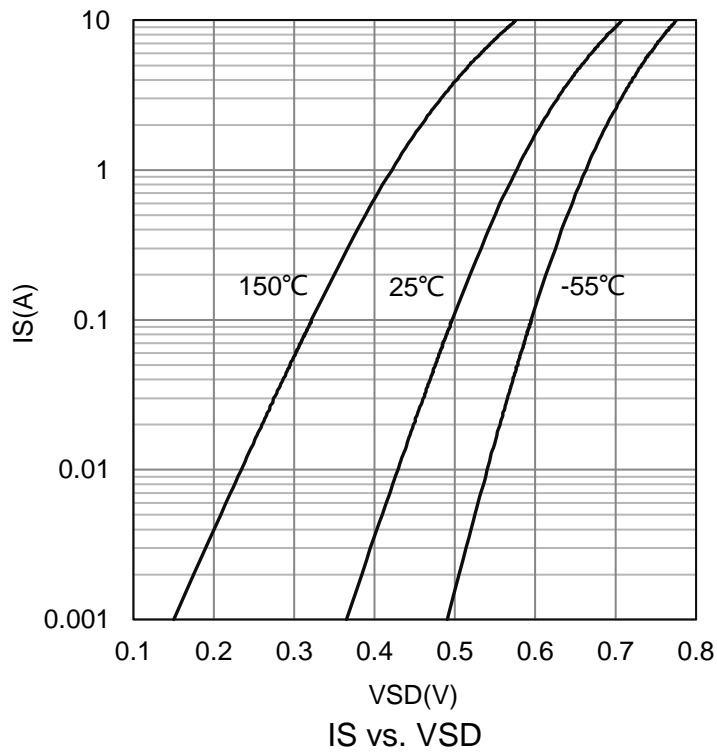
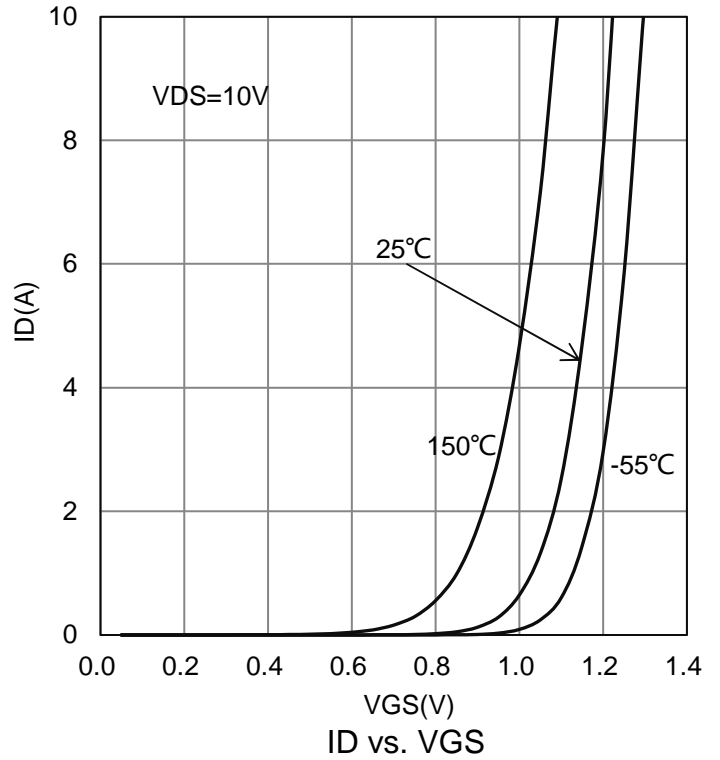
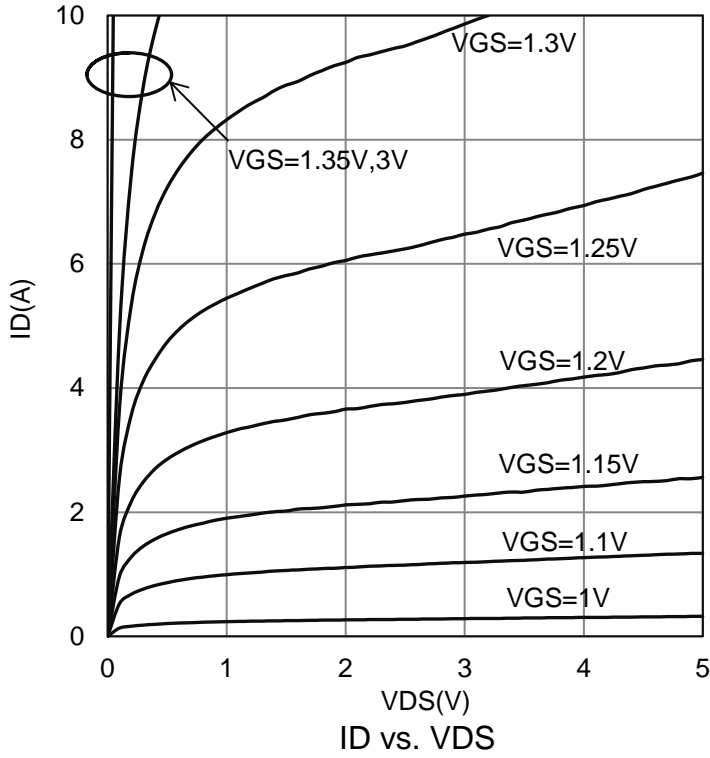
5. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

| Characteristic | Symbol | Min. | Typ. | Max. | Unit |
|---|--|---------|------|------|------|
| Static | | | | | |
| Drain-Source Breakdown Voltage (VGS = 0V, ID = -250uA) | V(BR)DSS | -20 | - | - | V |
| Gate Threshold Voltage (VDS =VGS , ID =-250μA) | VGS(th) | -0.4 | - | - | V |
| Gate Leakage Current (VDS =0V, VGS =± 12V) | IGSS | - | - | ±100 | nA |
| Zero Gate Voltage Drain Current (VDS =-16V, VGS =0V) | IDSS | - | - | -1 | μA |
| Drain-Source On-Resistance (VGS = -4.5 V, ID = -7 A) | RDS(ON) (Note 3) | - | - | 4.6 | mΩ |
| Drain-Source On-Resistance (VGS = -2.5 V, ID = -5.6 A) | | - | - | 7 | |
| Diode Forward Voltage (Note 3) (IS =-2.5 A, VGS =0V) | VSD | - | - | -1.3 | V |
| Dynamic (Note 4) | | | | | |
| Total Gate Charge | (VDS = -10 V, VGS = -4.5 V, ID = -7 A) | Qg | - | 80 | nC |
| Gate-Source Charge | | Qgs | - | 12.4 | |
| Gate-Drain Charge | | Qgd | - | 16.6 | |
| Turn-On Delay Time | (VDS = -10 V, RL = 1.4 Ω, ID = -7 A, VGEN = -4.5 V, RGEN = 6 Ω) | td(on) | - | 6 | ns |
| Rise Time | | tr | - | 12 | |
| Turn-Off Delay Time | | td(off) | - | 85 | |
| Fall Time | | tf | - | 35 | |
| Input Capacitance | (VDS = -15 V, VGS = 0 V, f = 1 MHz) | Ciss | - | 7042 | pF |
| Output Capacitance | | Coss | - | 647 | |
| Reverse Transfer Capacitance | | Crss | - | 584 | |
| Gate Resistance (VDS=0V, VGS=0V, f=1.0MHz) | Rg | - | 5.6 | - | Ω |

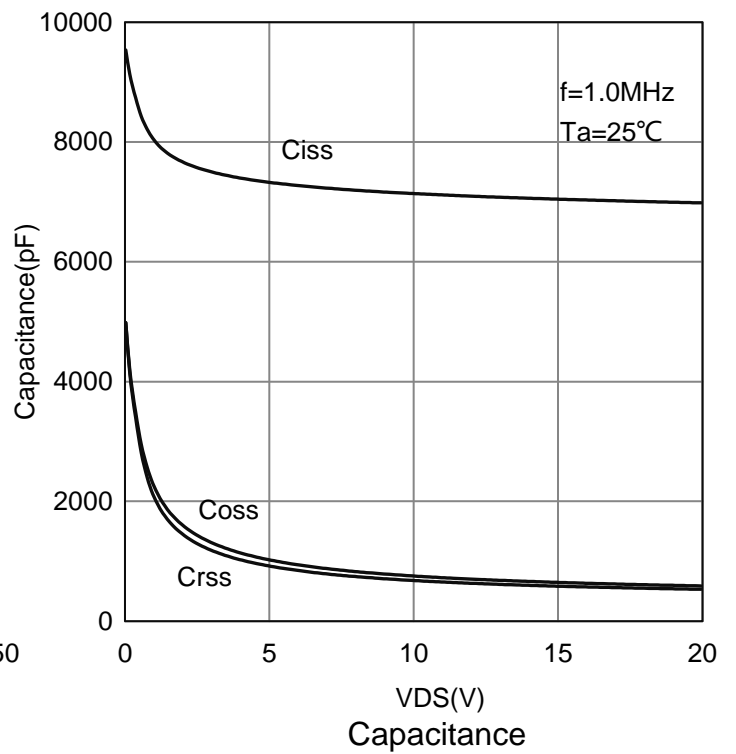
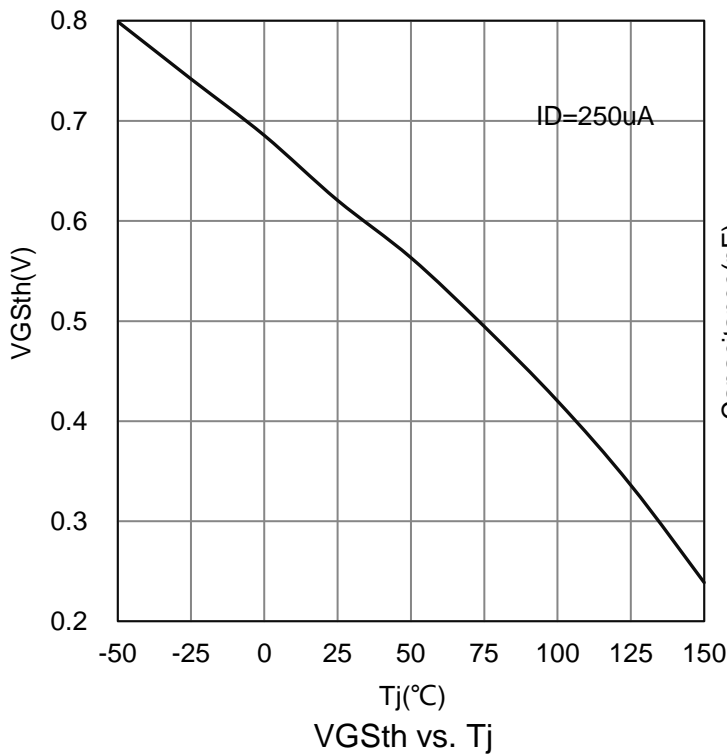
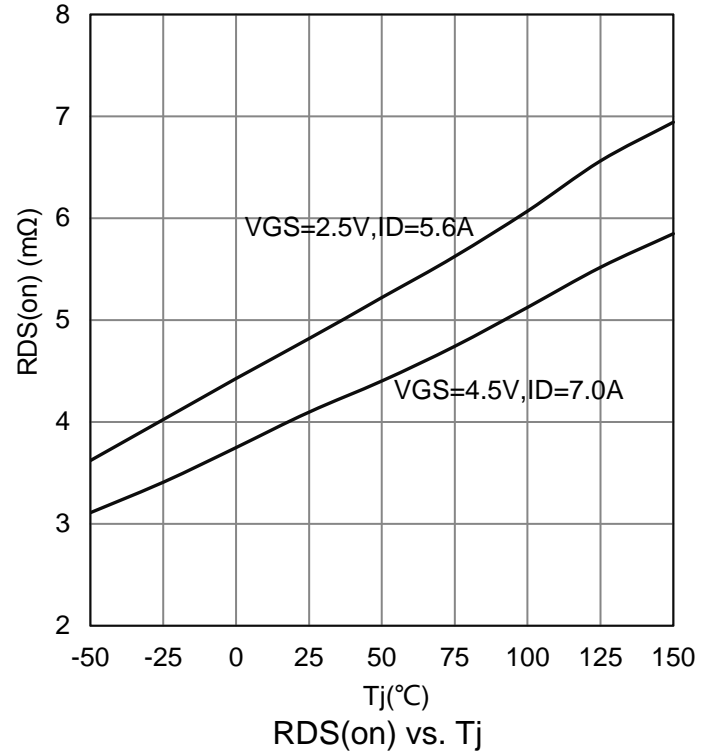
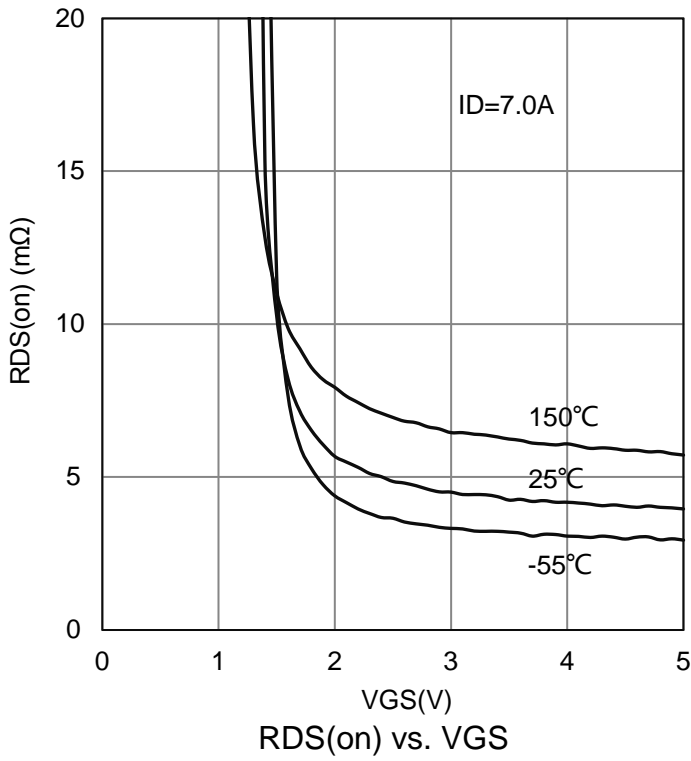
3. Pulse test: PW ≤ 300us , duty cycle ≤ 2%.

4. Guaranteed by design, not subject to production testing.

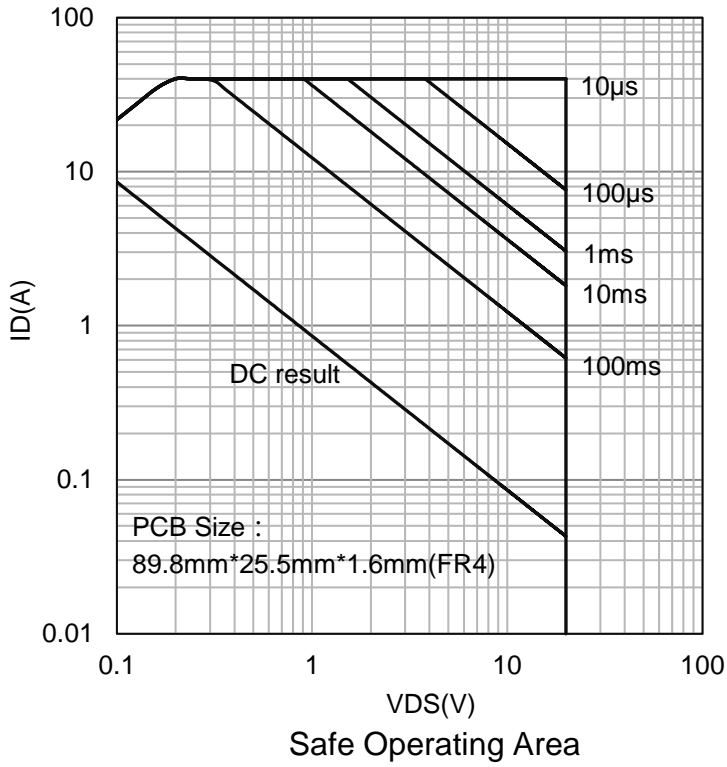
6. ELECTRICAL CHARACTERISTICS CURVES



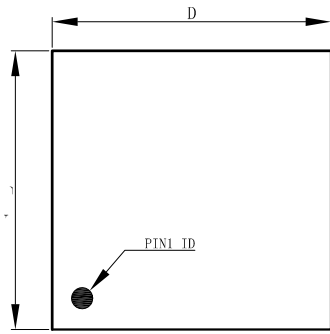
6.ELECTRICAL CHARACTERISTICS CURVES(Con.)



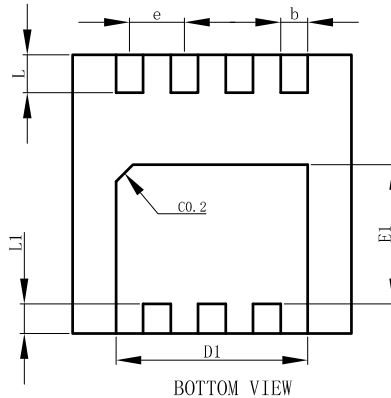
6.ELECTRICAL CHARACTERISTICS CURVES(Con.)



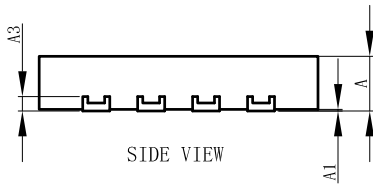
7.OUTLINE AND DIMENSIONS



TOP VIEW



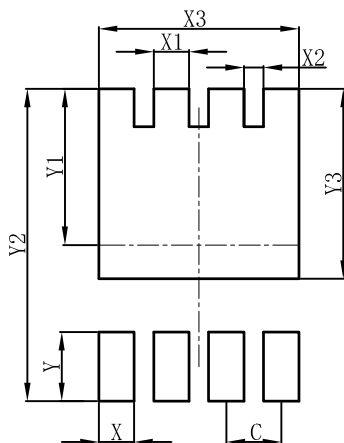
BOTTOM VIEW



SIDE VIEW

| DFN3333-8A | | | |
|----------------------|-----------|------|------|
| DIM | MIN | NOR | MAX |
| A | 0.60 | 0.65 | 0.70 |
| A1 | 0.00 | 0.03 | 0.05 |
| b | 0.27 | 0.32 | 0.37 |
| D | 3.25 | 3.30 | 3.35 |
| E | 3.25 | 3.30 | 3.35 |
| D1 | 2.22 | 2.27 | 2.32 |
| E1 | 1.60 | 1.65 | 1.70 |
| e | 0.65BSC | | |
| L | 0.40 | 0.45 | 0.50 |
| L1 | 0.30 | 0.35 | 0.40 |
| A3 | 0.152REF. | | |
| All Dimensions in mm | | | |

8.SOLDERING FOOTPRINT



| DFN3333-8A | |
|------------|------|
| DIM | (mm) |
| C | 0.65 |
| X | 0.42 |
| X1 | 0.42 |
| X2 | 0.23 |
| X3 | 2.37 |
| Y | 0.70 |
| Y1 | 1.85 |
| Y2 | 3.70 |
| Y3 | 2.25 |

单击下面可查看定价，库存，交付和生命周期等信息

[>>LRC\(乐山无线电\)](#)