

P232LG10GNK

Power MOSFETs

100V, 232A, N-channel

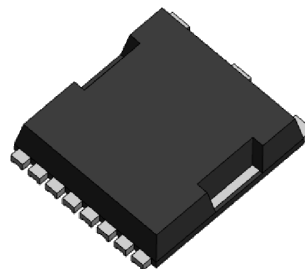
Feature

- N-channel
- SMD
- Super Large Current
- Low Ron
- 10V Gate Drive
- Low Capacitance
- Based on AEC-Q101
- Halogen free
- Pb free terminal
- RoHS:Yes

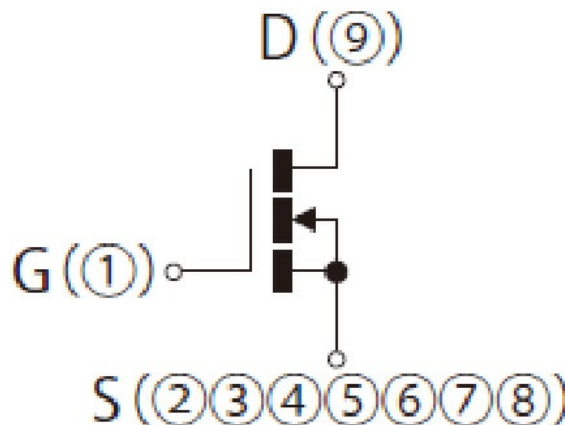
OUTLINE

Package (House Name): LG

Package (JEDEC Code): MO-299B



Equivalent circuit



Absolute Maximum Ratings

| Item | Symbol | Conditions | Ratings | Unit |
|--------------------------------|------------------|---|------------|------|
| Storage temperature | T _{stg} | | -55 to 175 | °C |
| Channel temperature | T _{ch} | | -55 to 175 | °C |
| Drain-source voltage | V _{DSS} | | 100 | V |
| Gate-source voltage | V _{GSS} | | ±20 | V |
| Continuous drain current(DC) | I _D | | 232 | A |
| Continuous drain current(Peak) | I _{DP} | Pulse width 10μs, Duty=1/100 | 696 | A |
| Continuous source current(DC) | I _S | | 232 | A |
| Total power dissipation | P _T | With heatsink | 441 | W |
| Single avalanche current | I _{AS} | Starting T _{ch} =25°C T _{ch} ≤150°C | 85 | A |
| Single avalanche energy | E _{AS} | Starting T _{ch} =25°C T _{ch} ≤150°C | 361 | mJ |

※ :See the original Specifications

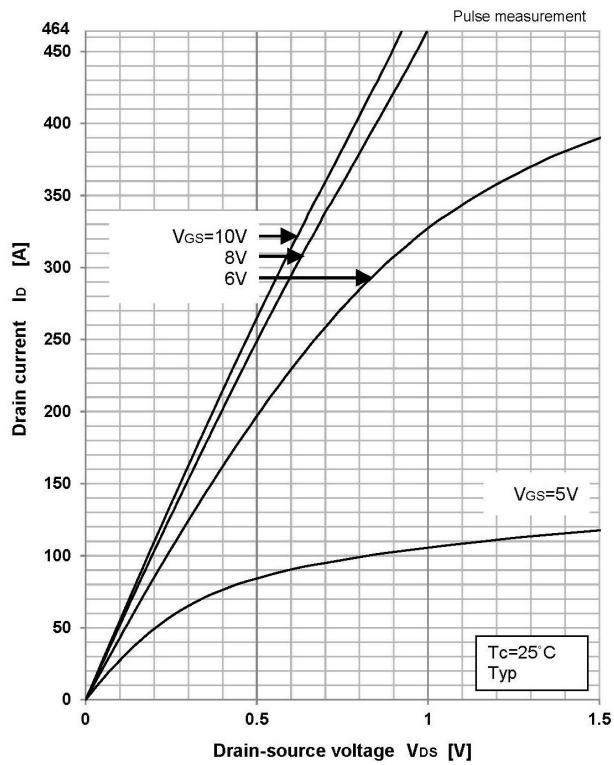
Electrical Characteristics

| Item | Symbol | Conditions | Ratings | | | Unit |
|---|---------------|---|---------|---------|--------|------|
| | | | MIN | TYP | MAX | |
| Drain-Source breakdown voltage | $V_{(BR)DSS}$ | ID=1mA, VGS=0V | 100 | | | V |
| Zero gate voltage drain current | I_{DSS} | VDS=100V, VGS=0V | | | 1 | μA |
| Gate-source leakage current | I_{GSS} | VGS=±20V, VDS=0V | | | ±0.1 | μA |
| Forward transconductance | g_{fs} | ID=58A, VDS=10V | 45 | | | S |
| Static drain-source on-state resistance | $R_{DS(ON)}$ | ID=100A, VGS=10V | | 0.00183 | 0.0022 | Ω |
| Gate threshold voltage | V_{th} | ID=1mA, VDS=10V | 2 | 3 | 4 | V |
| Source-drain diode forward voltage | V_{SD} | IS=100A, VGS=0V | | | 1.2 | V |
| Thermal resistance | $R_{th(j-c)}$ | Junction to case, With heatsink | | | 0.34 | °C/W |
| Total gate charge | Q_g | VDS=80V, VGS=10V, ID=116A | | 120 | | nC |
| Gate to source charge | Q_{gs} | VDS=80V, VGS=10V, ID=116A | | 36 | | nC |
| Gate to drain charge | Q_{gd} | VDS=80V, VGS=10V, ID=116A | | 43 | | nC |
| Input capacitance | C_{iss} | VDS=50V, VGS=0V, f=100kHz | | 8140 | | pF |
| Reverse transfer capacitance | C_{rss} | VDS=50V, VGS=0V, f=100kHz | | 27 | | pF |
| Output capacitance | C_{oss} | VDS=50V, VGS=0V, f=100kHz | | 1425 | | pF |
| Turn-on delay time | $t_{d(on)}$ | ID=50A, RL=1Ω, VDS=50V, Rg=0Ω, +VGS=10V, -VGS=0V | | 16 | | ns |
| Rise time | t_r | ID=58A, RL=0.86Ω, VDS=50V, Rg=0Ω, +VGS=10V, -VGS=0V | | 16 | | ns |
| Turn-off delay time | $t_{d(off)}$ | ID=58A, RL=0.86Ω, VDS=50V, Rg=0Ω, +VGS=10V, -VGS=0V | | 37 | | ns |
| Fall time | t_f | ID=58A, RL=0.86Ω, VDS=50V, Rg=0Ω, +VGS=10V, -VGS=0V | | 16 | | ns |
| Diode reverse recovery time | t_{rr} | IS=116A, VGS=0V, -di/dt=100A/μs | | 99 | | ns |
| Diode reverse recovery charge | Q_{rr} | IS=116A, VGS=0V, -di/dt=100A/μs | | 241 | | nC |

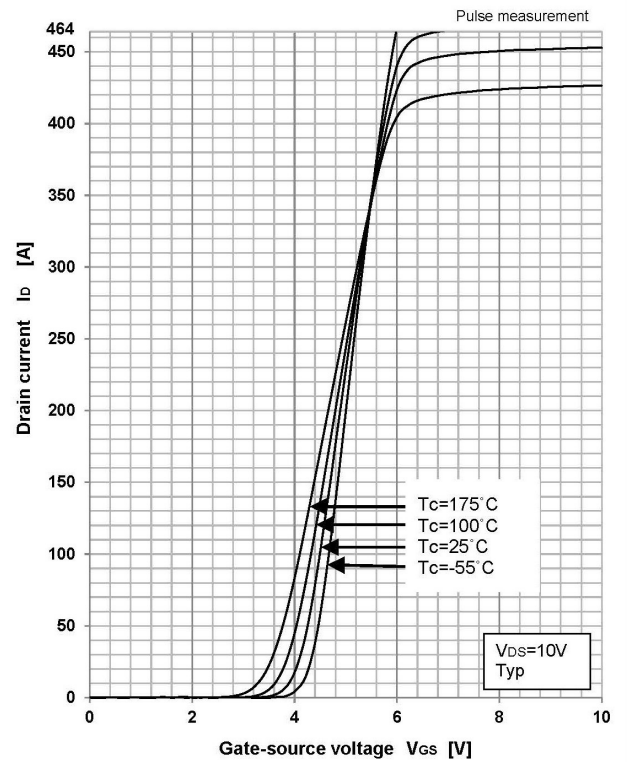
※ :See the original Specifications

CHARACTERISTIC DIAGRAMS

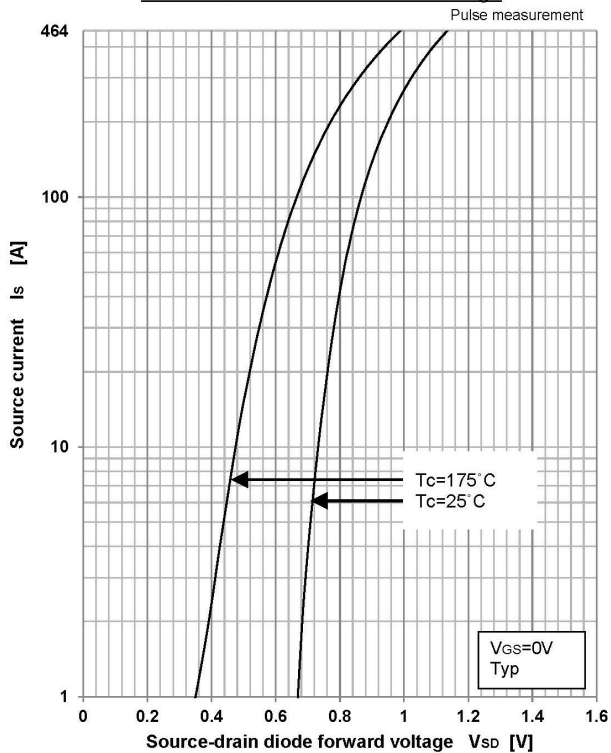
Typical output characteristics



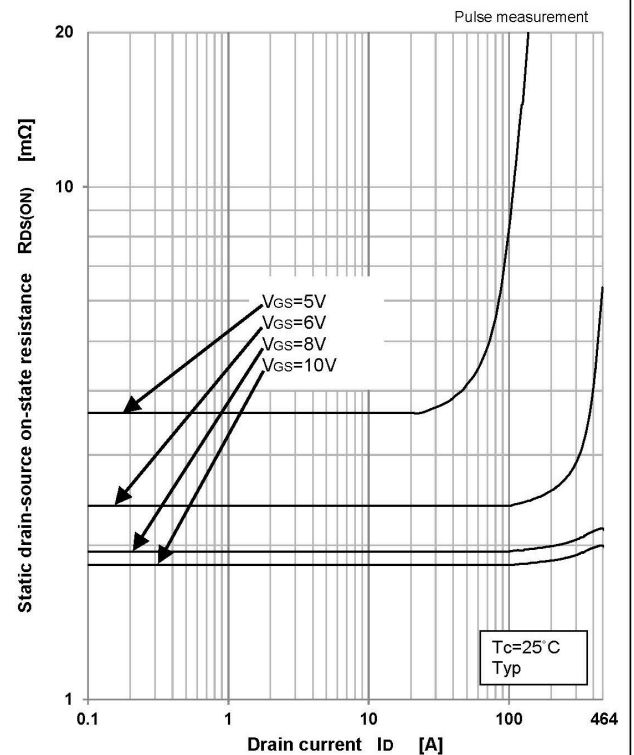
Transfer characteristics

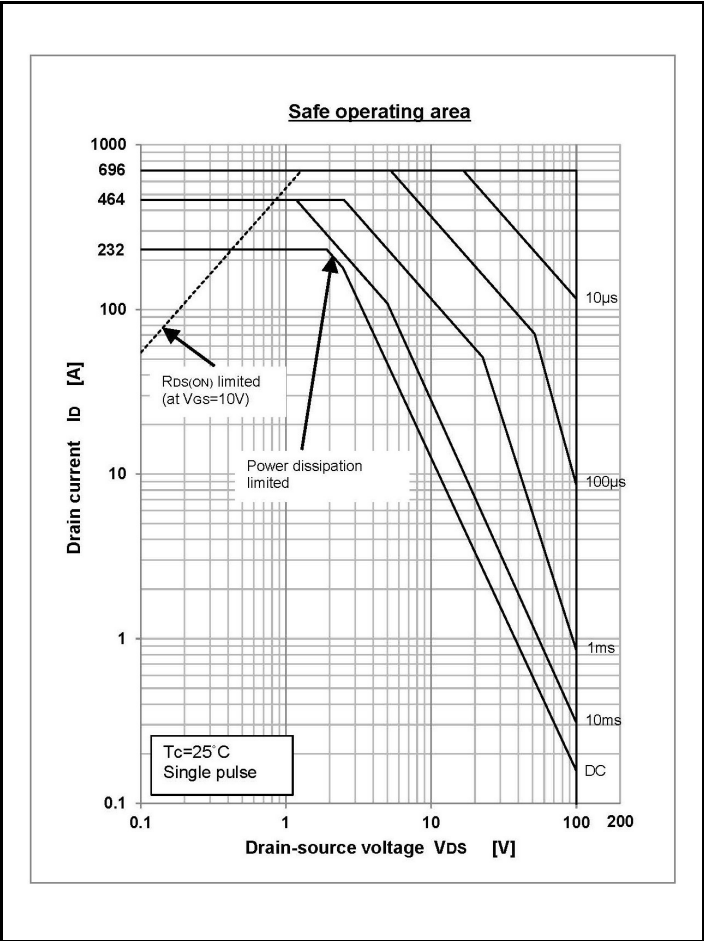
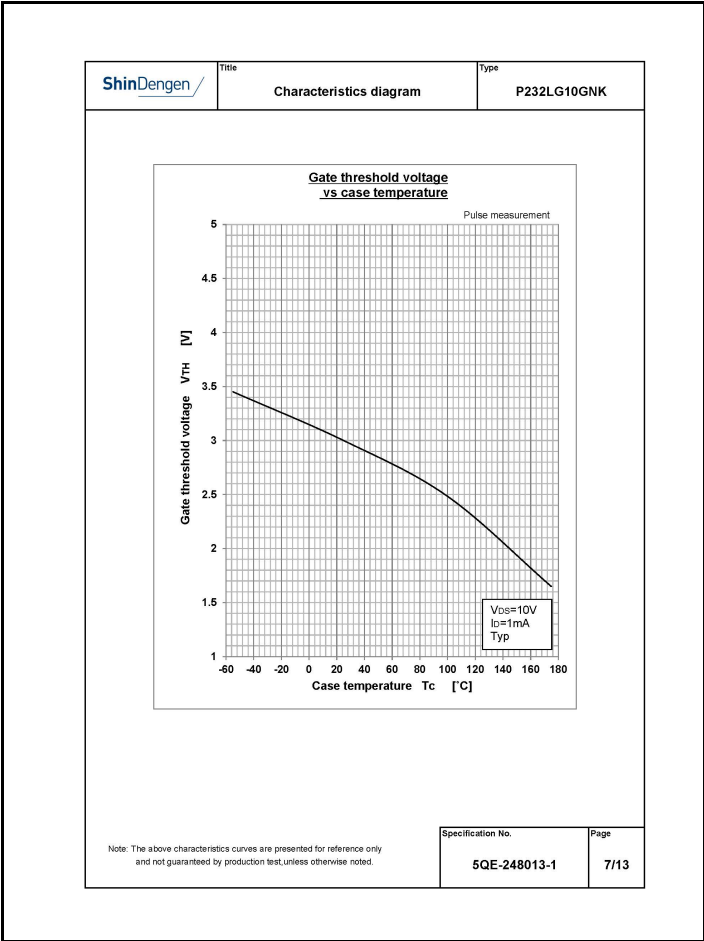
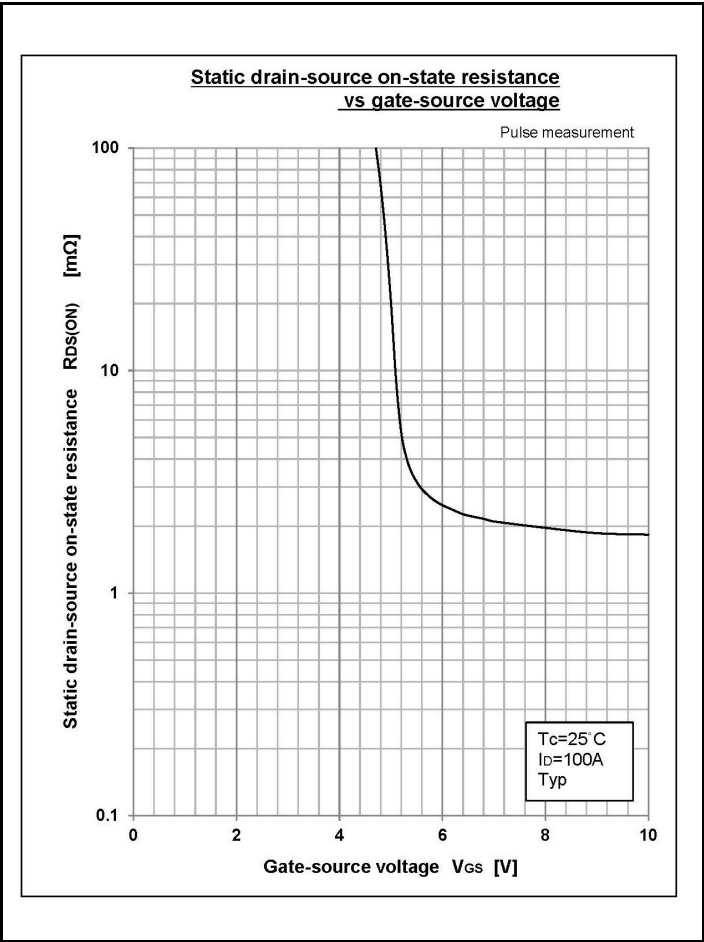
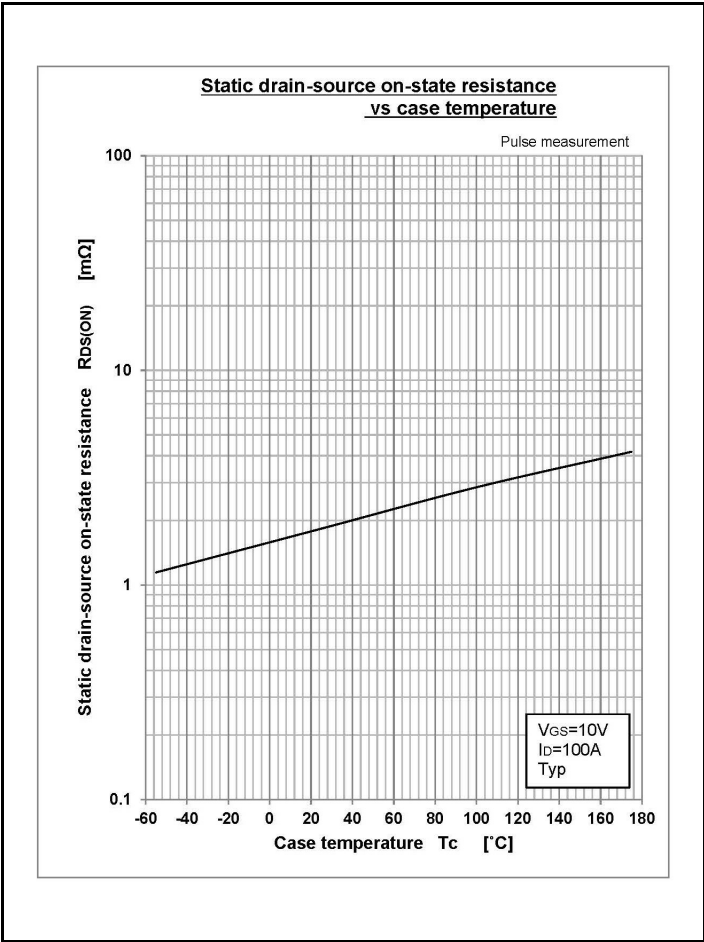


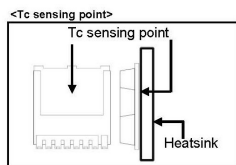
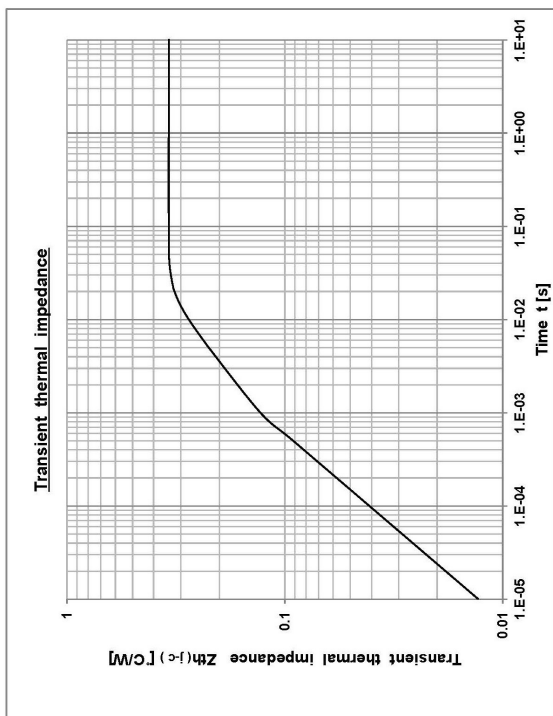
Source current vs source-drain diode forward voltage



Static drain-source on-state resistance vs drain current

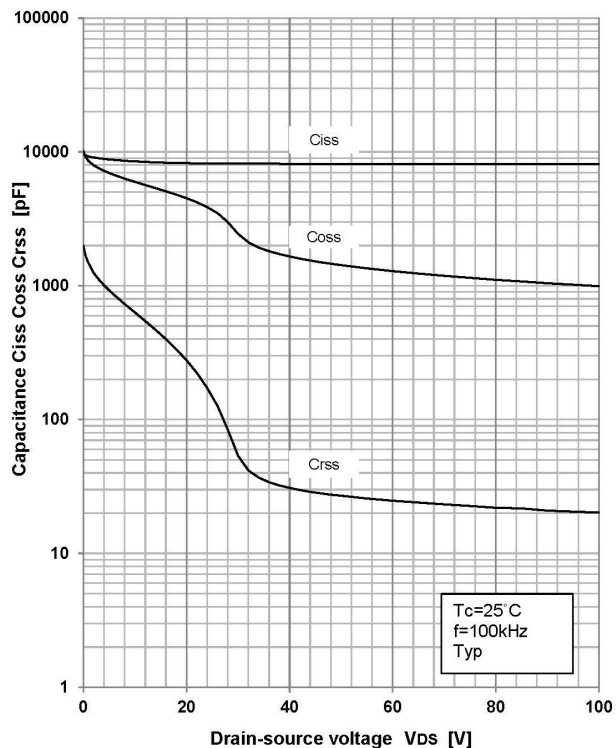




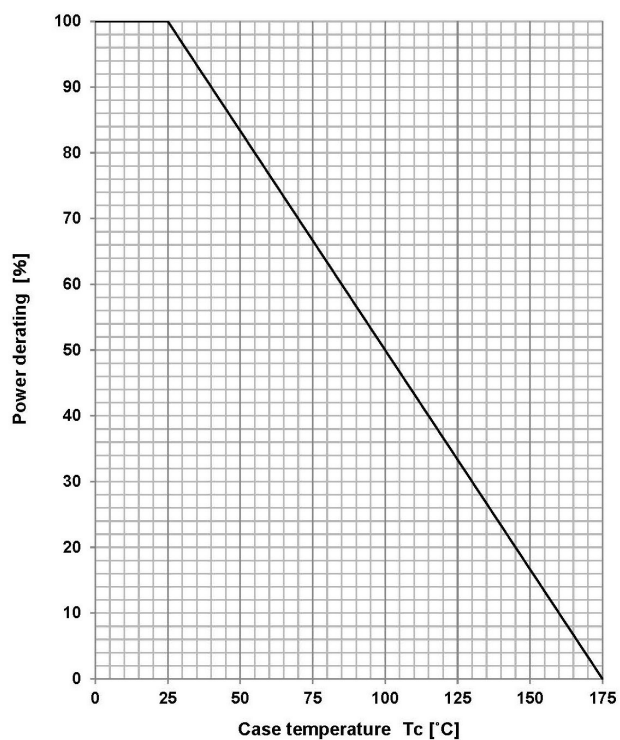


Specification No. _____

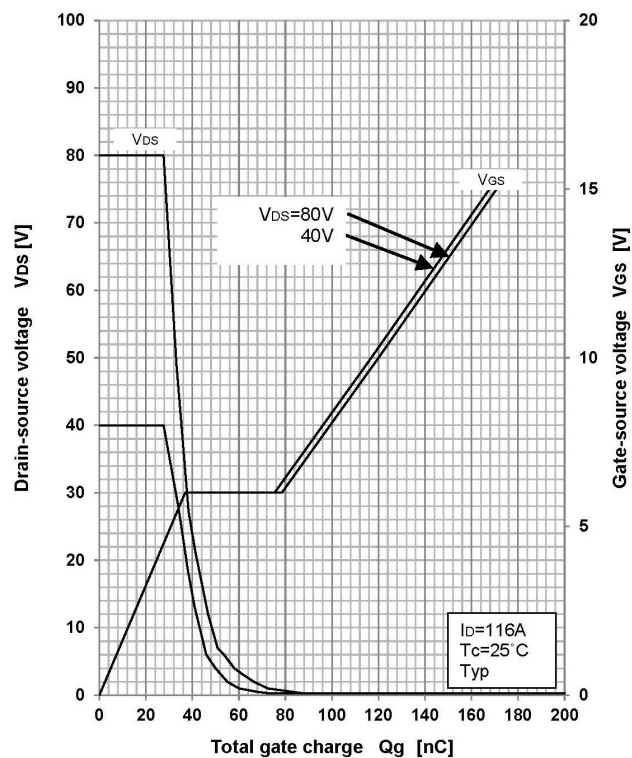
Capacitance characteristics

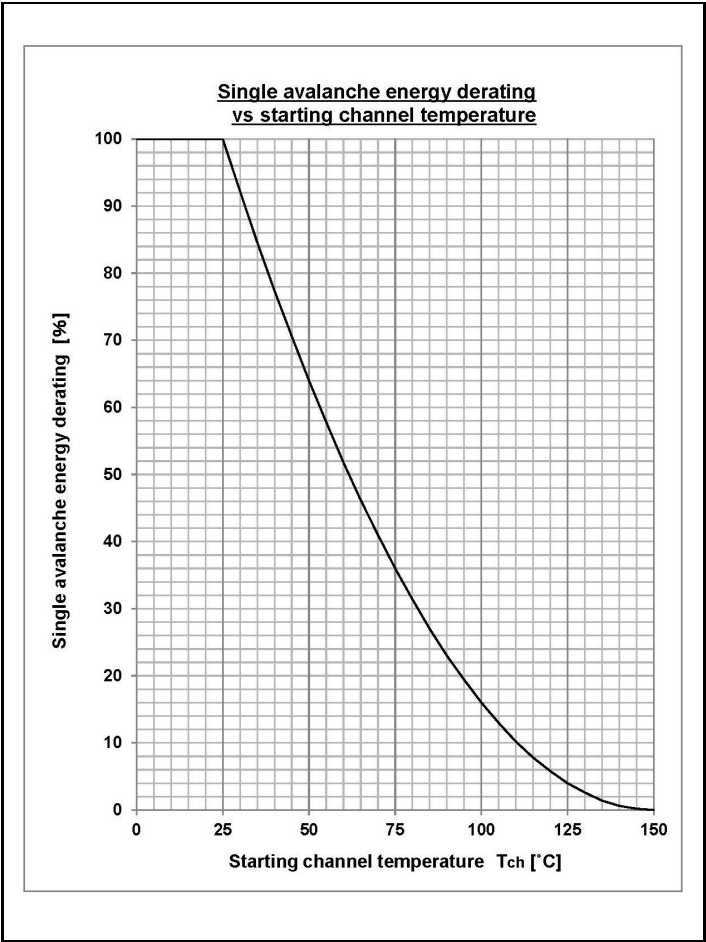


Power derating vs case temperature



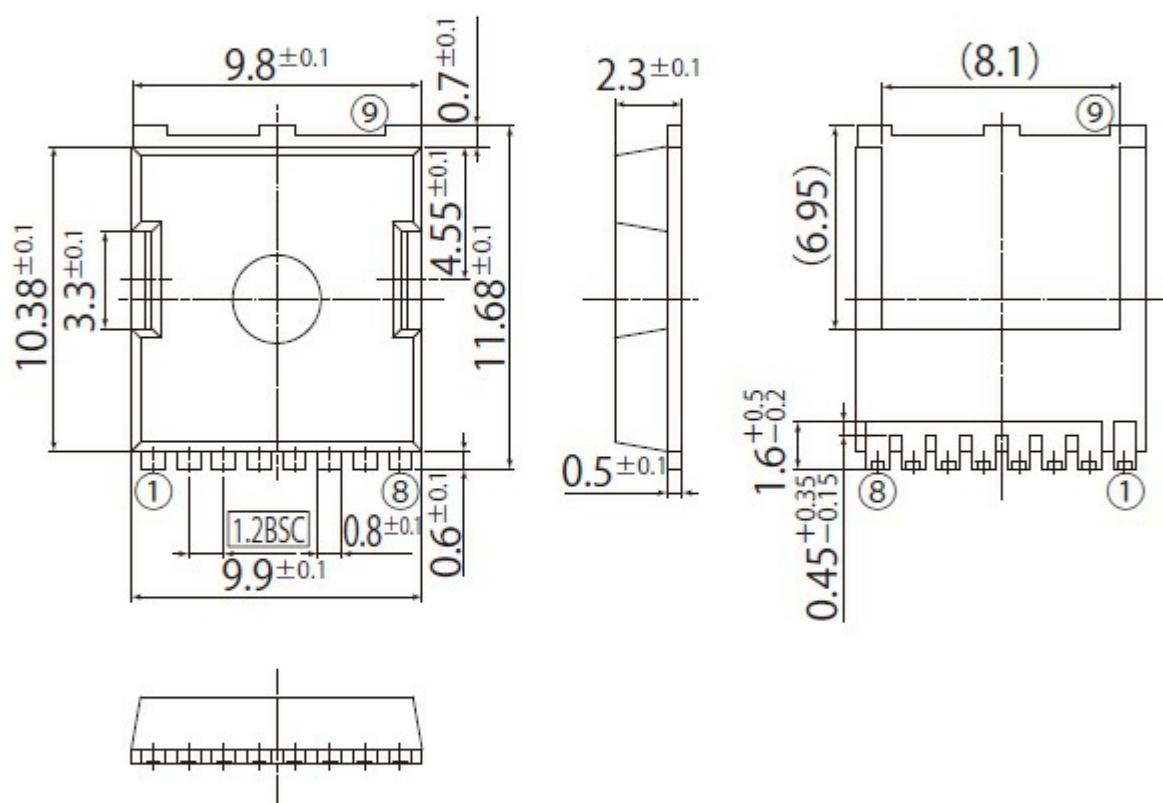
Gate charge characteristics





G9

| | |
|------------|----------|
| JEDEC Code | MO-299B |
| JEITA Code | — |
| House Name | LG(TOLL) |



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