# 100V, 57A, 17.6mΩ N-channel Power SGT MOSFET

## JMSL1018PGQ

### Features

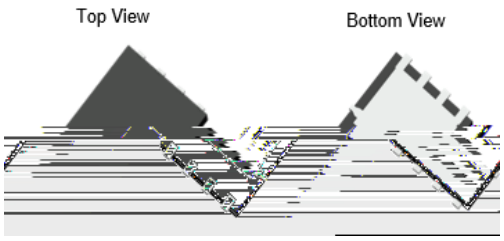
- Ultra-low ON-resistance, RDS(ON)
- Low Gate Charge
- 100% UIS Tested
- 100% Vds Tested
- Halogen-free; RoHS-compliant
- AEC-Q101 Qualified

### Applications

- Load Switch
- PWM Application
- General Automtoive Application

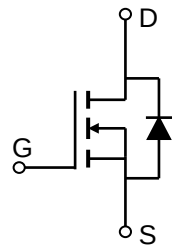
### Product Summary

| Parameters | Value | Unit |
|---|---|---|
| $V_{DSS}$ | 100 | V |
| $V_{GS(th)\_Typ}$ | 1.5 | V |
| $I_D$(@$V_{GS}$=10V) | 57 | A |
| $R_{DS(ON)\_Typ}$(@$V_{GS}$=10V | 13.2 | mΩ |
| $R_{DS(ON)\_Typ}$(@$V_{GS}$=4.5V | 17.6 | mΩ |




PDFN5X6-8L


Pin Assignment




Schematic Diagram

### Ordering Information

| Device | Marking | MSL | Form | Package | Reel(pcs) | Per Carton (pcs) |
|---|---|---|---|---|---|---|
| JMSL1018PGQ-13 | L1018PQ | 1 | Tape&Reel | PDFN5x6-8L | 5000 | 50000 |

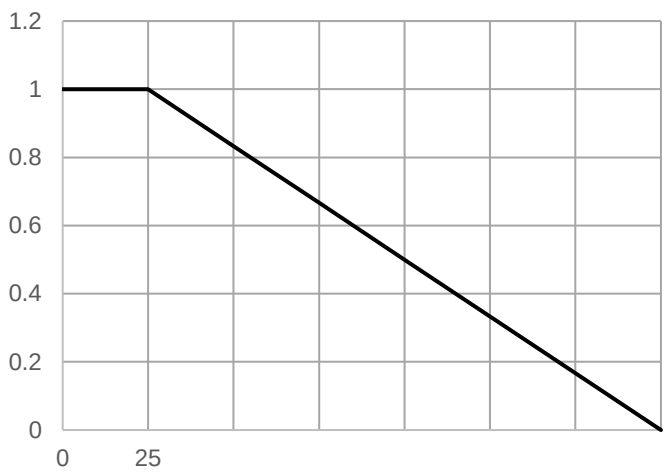
### Absolute Maximum Ratings (@ $T_C$ = 25°C unless otherwise specified)

| Symbol | Parameter | | Value | Unit |
|---|---|---|---|---|
| $V_{DS}$ | Drain-to-Source Voltage | | 100 | V |
| $V_{GS}$ | Gate-to-Source Voltage | | ±20 | V |
| $I_D$ | Continuous Drain Current | $T_C$ = 25°C | 57 | A |
| | | $T_C$ = 100°C | 41 | |
| $I_{DM}$ | Pulsed Drain Current [1] | | Refer to Fig.4 | A |
| $E_{AS}$ | Single Pulsed Avalanche Energy [2] | | 44 | mJ |
| $P_D$ | Power Dissipation | $T_C$ = 25°C | 105 | W |
| | | $T_C$ = 100°C | 52 | |
| $T_J$ $_{STG}$ | Junction & Storage Temperature Range | | -55 to 175 | °C |

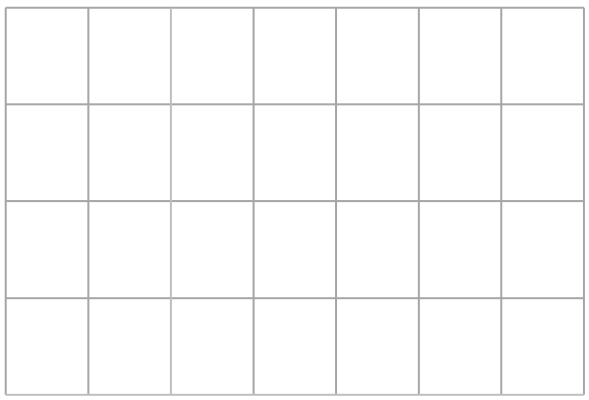
### Thermal Characteristics

| Symbol | Parameter | Max | Unit |
|---|---|---|---|
| R | Thermal Resistance, Junction to Ambient[3] | 46 | °C/W |
| R | Thermal Resistance, Junction to Case | 1.4 | |

## Typical Performance Characteristics



## Typical Performance Characteristics



## Test Circuit

**Figure 1: Gate Charge Test Circuit & Waveform**

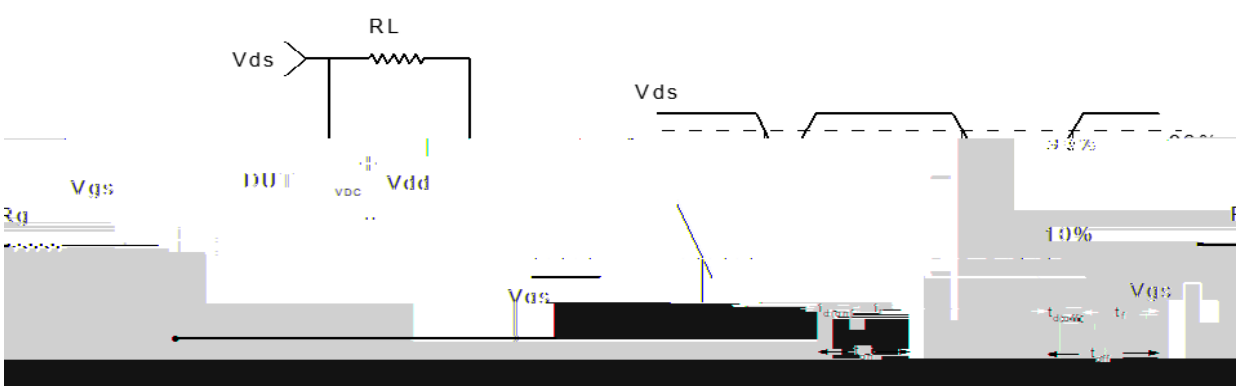



**Figure 2: Resistive Switching Test Circuit & Waveform**

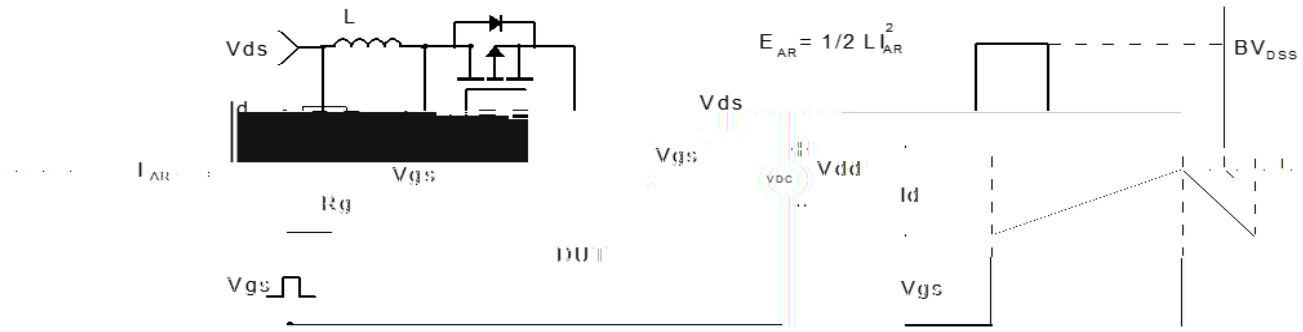



**Figure 3: Unclamped Inductive Switching Test Circuit& Waveform**


**Figure 4: Diode Recovery Test Circuit & Waveform**

# Package Mechanical Data(PDFN5X6-8L)