



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

## JMSL1018PGQ

### Features

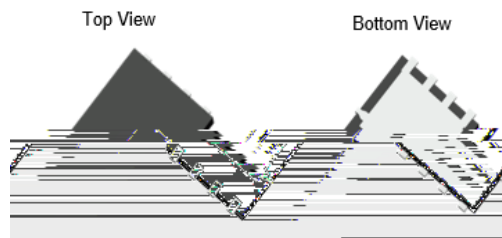
- Ultra-low ON-resistance, RDS(ON)
- Low Gate Charge
- 100% UIS Tested
- 100% Vds Tested
- Halogen-free; RoHS-compliant
- AEC-Q101 Qualified

### Applications

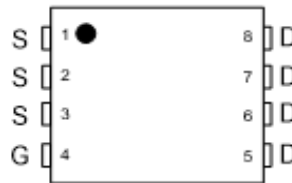
- Load Switch
- PWM Application
- General Automotive Application

### Product Summary

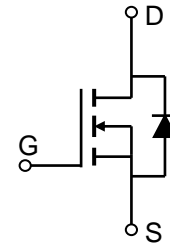
Parameters	Value	Unit
$V_{DSS}$	100	V
$V_{GS(th\_Typ)}$	1.5	V
$I_D(@V_{GS}=10V)$	57	A
$R_{DS(ON)\_Typ}(@V_{GS}=10V)$	13.2	mΩ
$R_{DS(ON)\_Typ}(@V_{GS}=4.5V)$	17.6	mΩ



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 (@ $T_C = 25^\circ\text{C}$ 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	$T_C = 25^\circ\text{C}$	57
		$T_C = 100^\circ\text{C}$	41
$I_{DM}$	Pulsed Drain Current <sup>(1)</sup>	Refer to Fig.4	A
$E_{AS}$	Single Pulsed Avalanche Energy <sup>(2)</sup>	44	mJ
$P_D$	Power Dissipation	$T_C = 25^\circ\text{C}$	105
		$T_C = 100^\circ\text{C}$	52
$T_{J\_STG}$	Junction & Storage Temperature Range	-55 to 175	°C

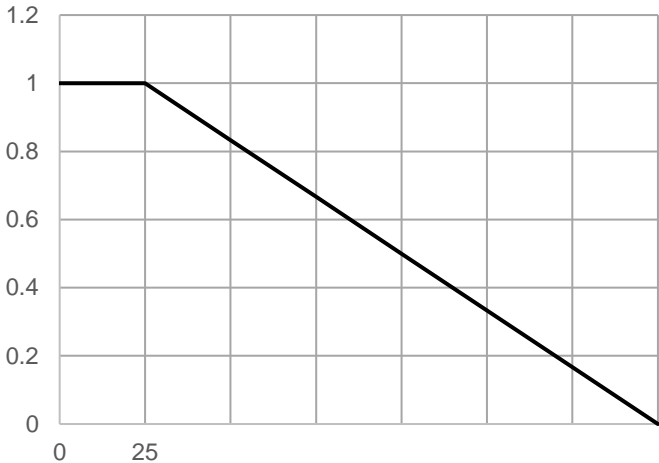
### Thermal Characteristics

Symbol	Parameter	Max	Unit
R	Thermal Resistance, Junction to Ambient <sup>(3)</sup>	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

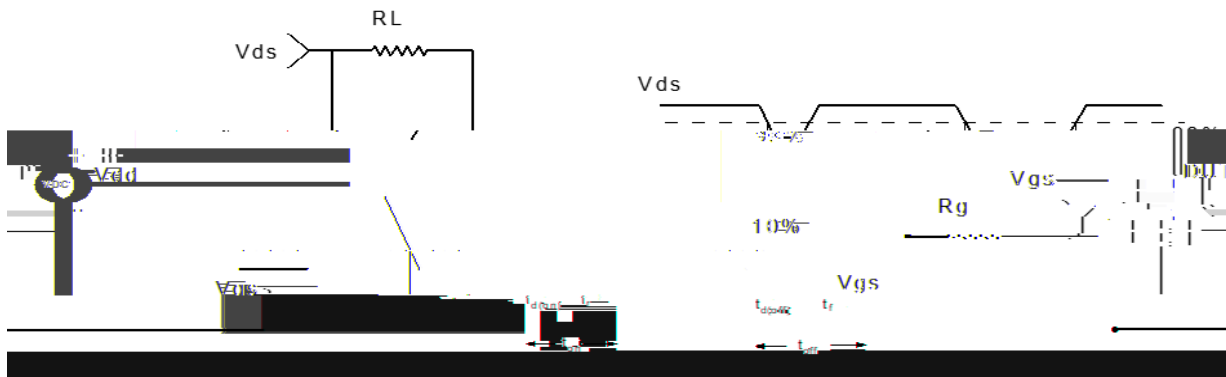


Figure 2: Resistive Switching Test Circuit & Waveform

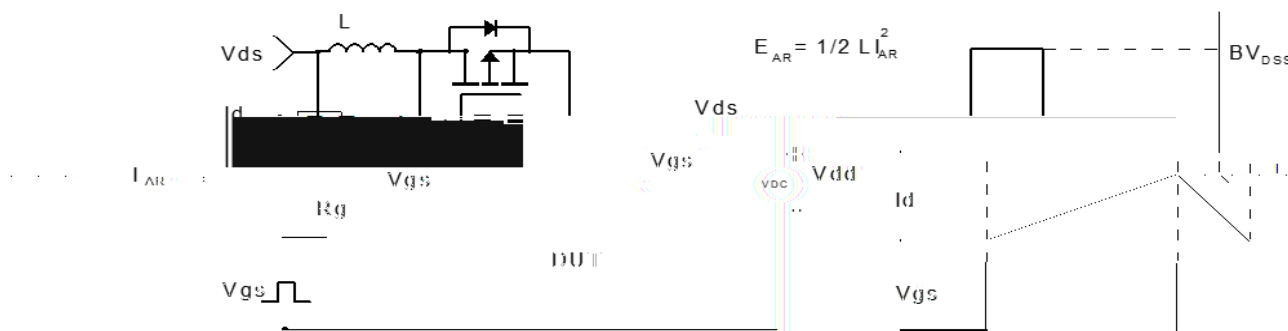


Figure 3: Unclamped Inductive Switching Test Circuit & Waveform

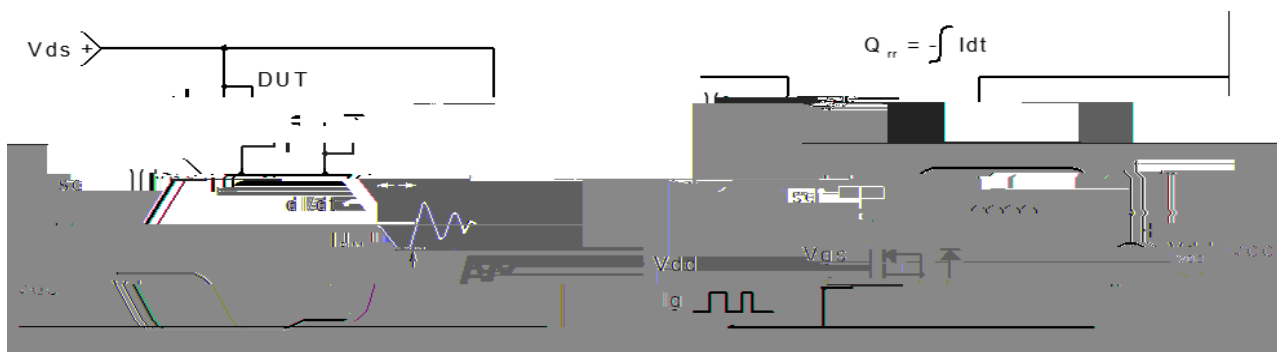


Figure 4: Diode Recovery Test Circuit & Waveform





### Package Mechanical Data(PDFN5X6-8L)

Package Outline

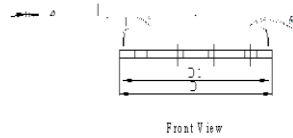
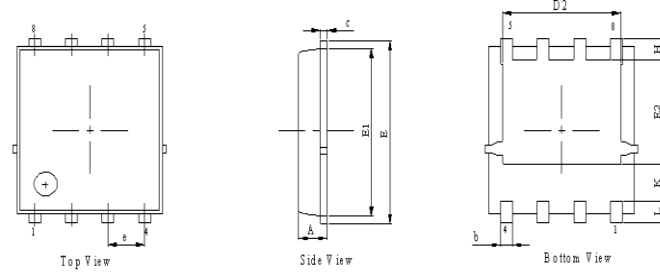


Figure 10: JMSL1018PGQ  
 Model: JMSL1018PGQ  
 Model File: JMSL1018PGQ.dwg

NOTES:  
 1. Dimension unit: mm  
 2. All dimensions are in mm  
 3. Dimension D1 and D2

MILLIMETER		
L	NOM.	MAX.
9	1	1.15

DIM.	MIN.
A	0.1

Symbol	Value	Value	Value
C	0.24	0.24	0.4
D	5	5	5
D1	4.95	5.05	5.15
E	6.05	6.05	6.15

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