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

JMSL1018PGQ

Features

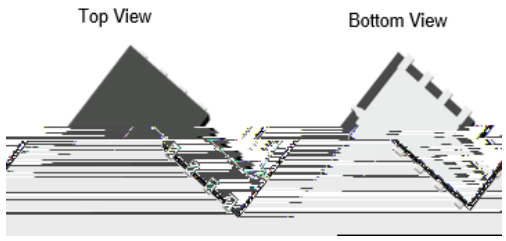
- Ultra-low ON-resistance, RDS(ON)
- Low Gate Charge
- 100% UIS Tested
- 100% Vds Tested
- Halogen-free; RoHS-compliant
- AEC-Q101 Qualified

Applications

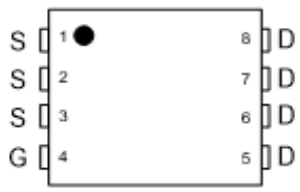
- Load Switch
- PWM Application
- General Automtoive Application

Product Summary

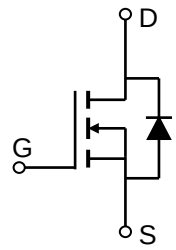
Parameters	Value	Unit
V_{DSS}	100	V
$V_{GS(th)\_Typ}$	1.5	V
I_D(@V_{GS}=10V)	57	A
$R_{DS(ON)\_Typ}$(@V_{GS}=10V	13.2	mΩ
$R_{DS(ON)\_Typ}$(@V_{GS}=4.5V	17.6	mΩ



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

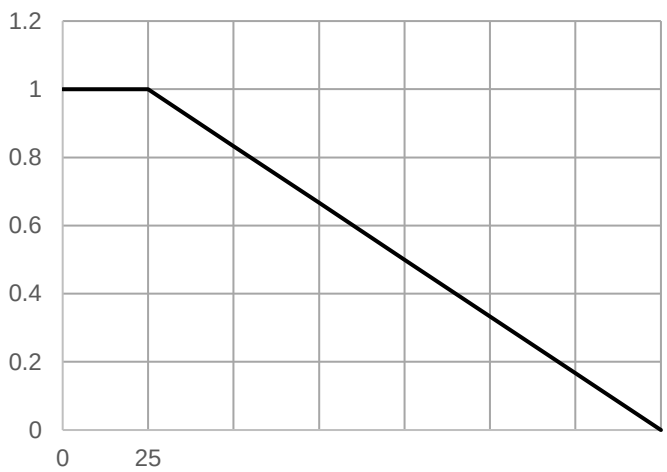
Absolute Maximum Ratings (@ T_C = 25°C unless otherwise specified)

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

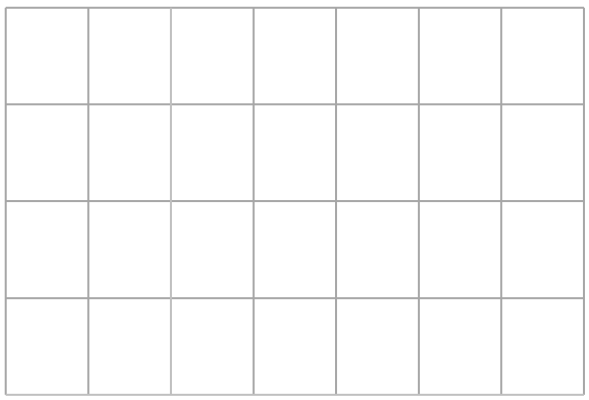
Thermal Characteristics

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

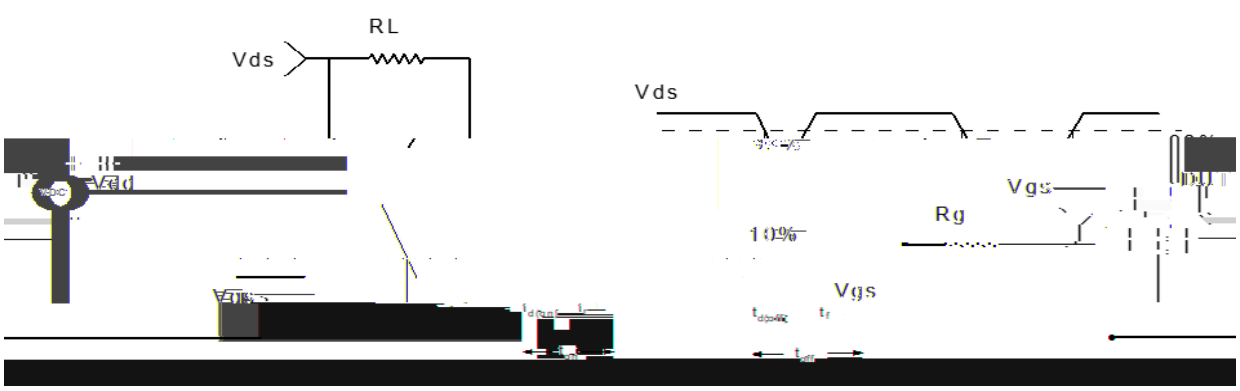


Figure 2: Resistive Switching Test Circuit & Waveform

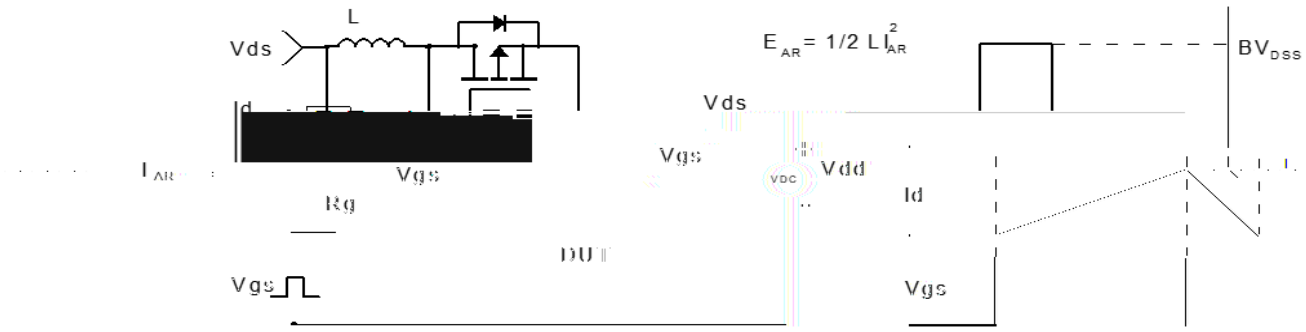


Figure 3: Unclamped Inductive Switching Test Circuit& Waveform

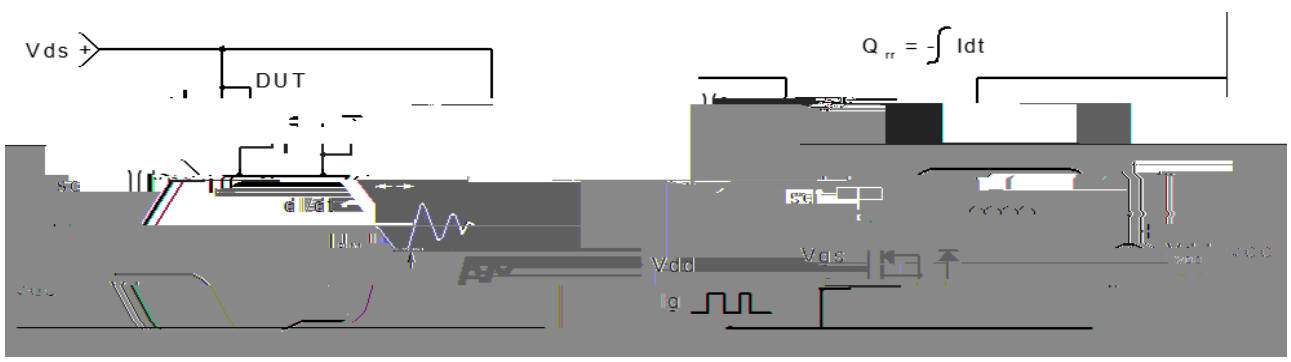


Figure 4: Diode Recovery Test Circuit & Waveform

Package Mechanical Data(PDFN5X6-8L)