型号：SLS65N06

60V N-Channel Enhancement Mode MOSFET

The SLS65N06DF uses advanced APM-SGT Ⅰ technology to provide excellent RDS(ON), low gate charge and
operation with gate voltages as low as 4.5V. This device is suitable for use as a Battery protection or in other Switching application.

主要特性/Features

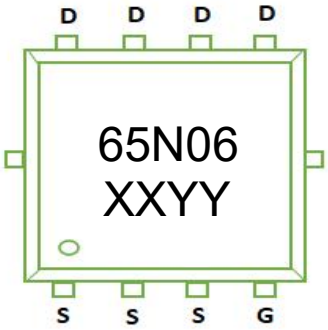
N-MOSFET

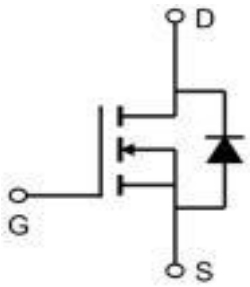
VDS = 60V ID =65A
RDS(ON) < 10mΩ @ VGS=10V **(Type：7.5mΩ)**

应用/Application

Battery Switch .
Load switch .
Power management.
Uninterruptible power supply

印字/MARKING　等效电路/Equivalent Circuit





极限参数/ P-MOSFET Absolute Maximum Ratings(TA=25℃unless otherwise noted)

Symbol	Parameter	Value	Unit
VDS	Drain source voltage	60	V
VGS	Gate source voltage	±20	V
I_D@T_A=25℃	Continuous drain current	60	A
I_D@T_A=70℃	Continuous drain current	31	A
IDM	Pulsed drain current	60	A
P_D@T_A=25℃	Power dissipation	60	W
EAS	Single pulsed avalanche energy	30	mJ
TSTG	Storage Temperature Range	-55 to 150	℃
Tj	Operation and storage temperature	-55 to 150	℃
RθJC	Thermal resistance, junction-case	2.1	°C/W
RθJA	Thermal resistance, junction-ambient5)	85	°C/W

电性能参数/ P-MOSFET Electrical Characteristics (TA=25℃unless otherwise noted)

Symbol	Parameter	Test condition	Min.	Typ.	Max.	Unit
BVDSS	Drain-source breakdown voltage	V_{GS}=0 V, I_D=250 μA	60	68		V
VGS(th)	Gate threshold voltage	V_{DS}=V_{GS} , I_D=250 μA	1.2	1.5	2.5	V
RDS(ON)	Drain-source on-state resistance	V_{GS}=10 V, I_D=20 A		7.5	10	mΩ
RDS(ON)	Drain-source on-state resistance	V_{GS}=4.5 V, I_D=10 A		10	13	mΩ
IGSS	Gate-source leakage current	V_{GS}=±20 V			±100	nA
IDSS	Drain-source leakage current	V_{DS}=60 V, V_{GS}=0 V			1	μA
Ciss	Input capacitance	V_{GS}=0 V, V_{DS}=50 V, f=100 kHz		1182.1		pF
Coss	Output capacitance			199.5		pF
Crss	Reverse transfer capacitance			4.1		pF
td(on)	Turn-on delay time	V_{GS}=10 V, V_{DS}=50 V, R_G=2 Ω, I_D=10 A		17.9		ns
t_r	Rise time			4.0		ns
td(off)	Turn-off delay time			34.9		ns
t_f	Fall time			5.5		ns
Q_g	Total gate charge	I_D=10 A, V_{DS}=50 V, V_{GS}=10 V		18.4		nC
Q_{gs}	Gate-source charge			3.3		nC
Qgd	Gate-drain charge			3.1		nC
Vplateau	Gate plateau voltage			2.8		V
I_S	Diode forward current	VGS<Vth			60	A
ISP	Pulsed source current				180	
VSD	Diode forward voltage	I_S=20 A, V_{GS}=0 V			1.3	V
trr	Reverse recovery time	I_S=10 A, di/dt=100 A/μs		41.8		ns
Q_{rr}	Reverse recovery charge			36.1		nC
Irrm	Peak reverse recovery current			1.4		A

Note

1、Calculated continuous current based on maximum allowable junction temperature.

2、Repetitive rating; pulse width limited by max. junction temperature.

3、Pd is based on max. junction temperature, using junction-case thermal resistance.

4、V_{DD}=50 V, R_G=50 Ω, L=0.3 mH, starting T_j=25 ℃ .

5、The value of $R_{\theta JA}$ is measured with the device mounted on 1 in 2 FR-4 board with 2oz. Copper, in a still air environment with T_a=25 ℃.

典型特性/ Typical Characteristics

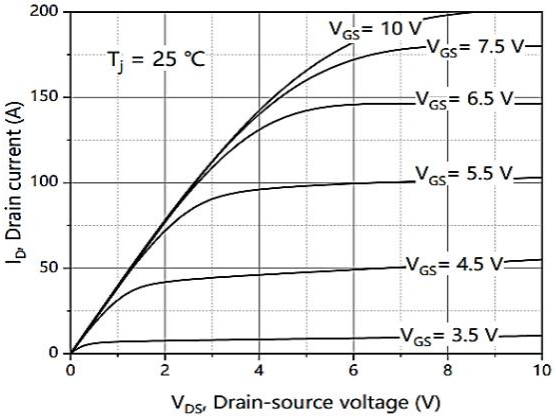


Figure 1. Typ. output characteristics

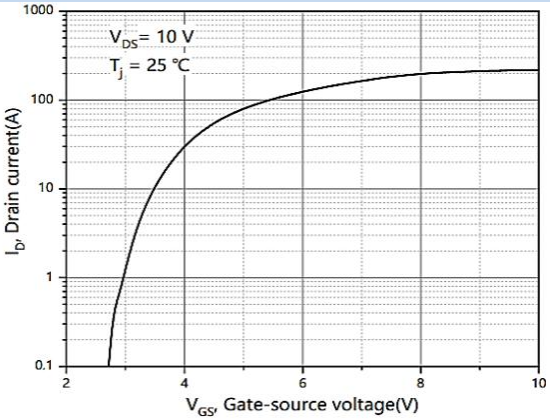


Figure 2. Typ. transfer characteristics

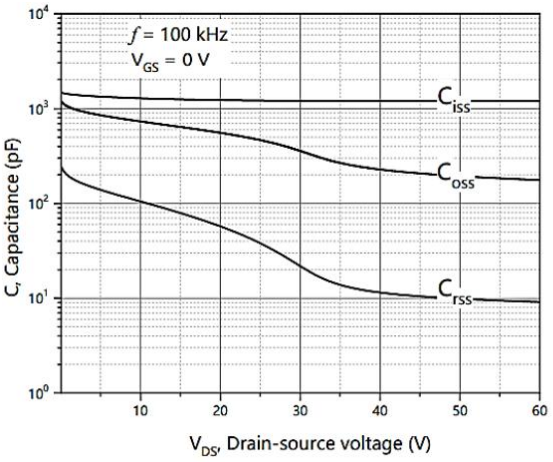


Figure 3. Typ. capacitances

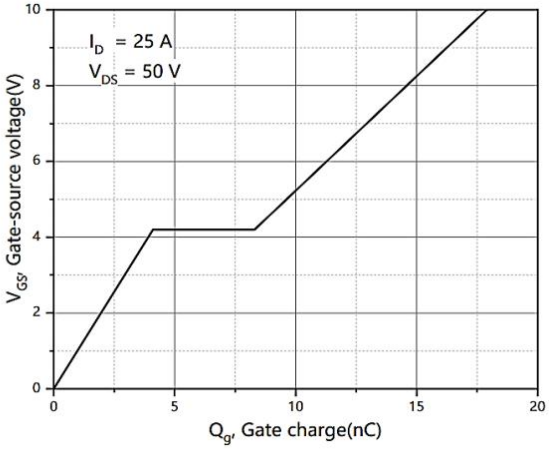


Figure 4. Typ. gate charge

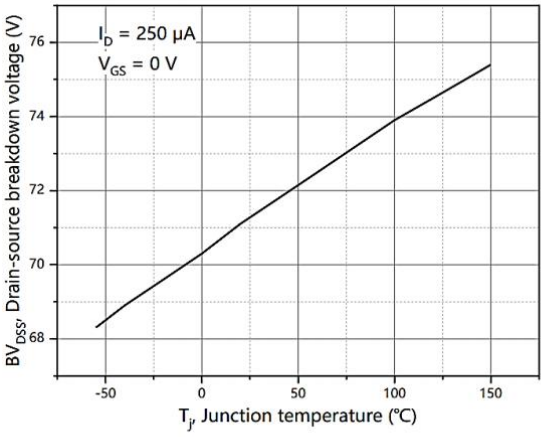


Figure 5. Drain-source breakdown voltage

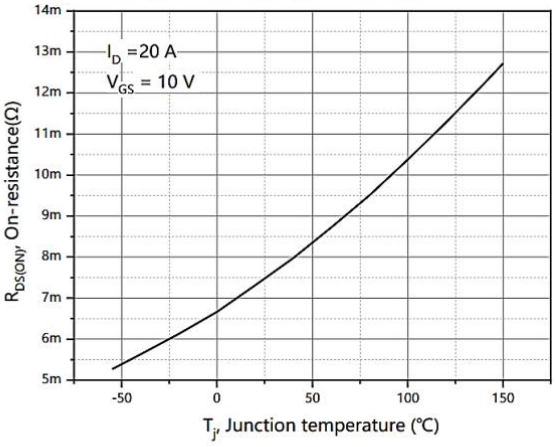


Figure 6. Drain-source on-state resistance

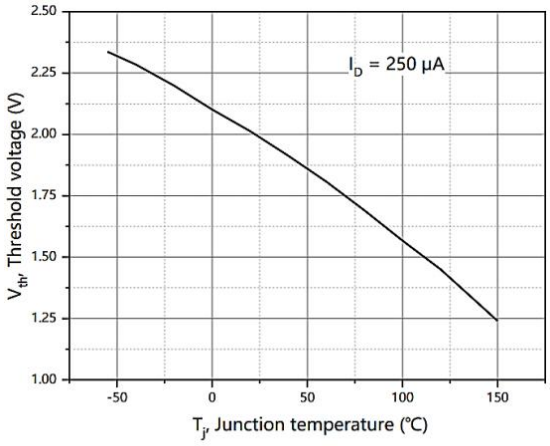


Figure 7. Threshold voltage

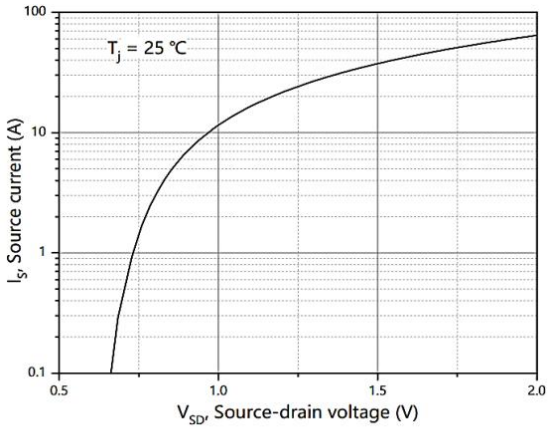


Figure 8. Forward characteristic of body diode

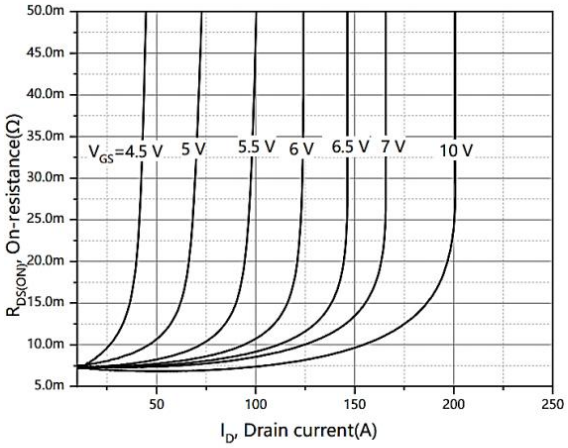


Figure 9. Drain-source on-state resistance

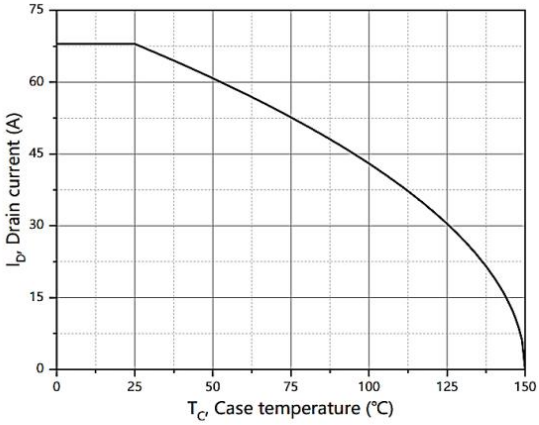


Figure 10. Drain current

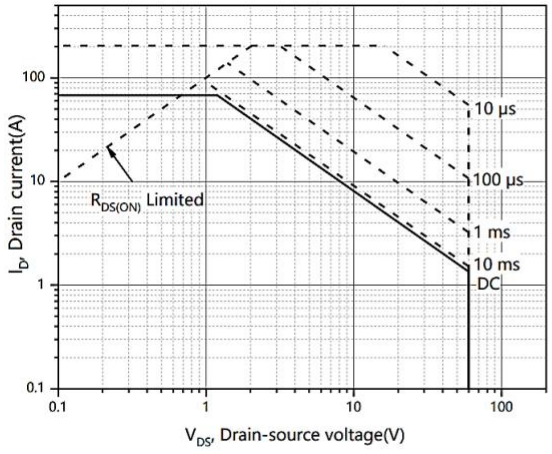


Figure 11. Safe operation area T_C=25 ℃

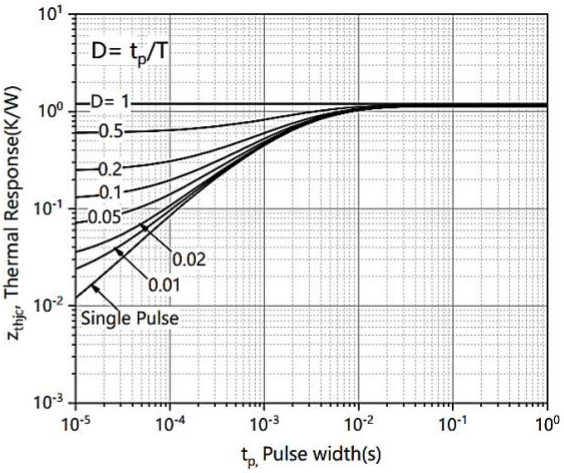
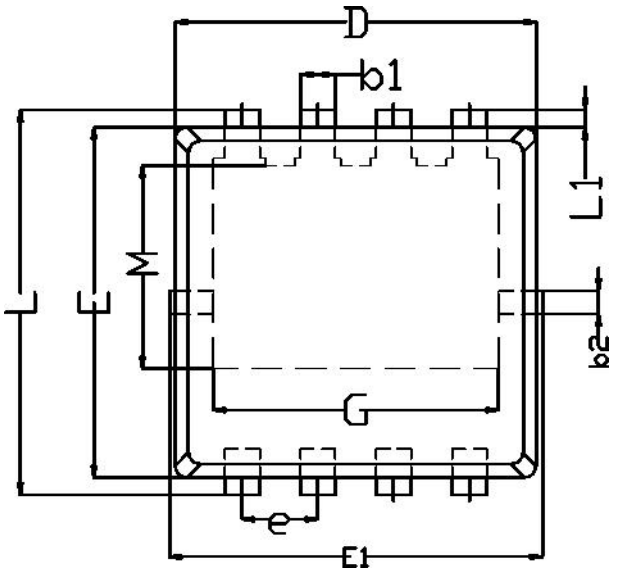
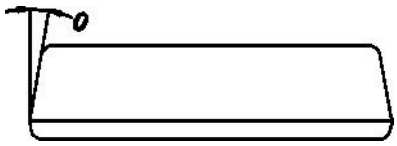
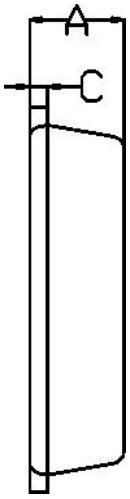


Figure 12. Max. transient thermal impedance

成品外观尺寸/PDFN3*3 Package Information







Syabol	Din in mi		
	Min	Nom	Max
A	0.75	0.80	0.85
LI	0.10	0.15	0.20
bl	0.25	0.30	0.35
b2	0.15	0.20	0.25
C	0.10	0.15	0.20
D	3.050	3.100	3.150
e	0.650OSO		
E	2.950	3.000	3.050
El	3.150	3.200	3.250
L	3.250	3.300	3.350
M	L685	1.735	1.785
G	2.400	2.450	2.500
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