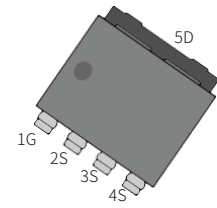


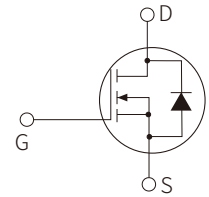
FEATURES

- | Surface-mounted package
- | Advanced trench cell design
- | Super Trench


LFPAK8080

APPLICATION

- | BMS
- | Drones
- | High power inverter system
- | Light electric vehicles


Schematic Symbol

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Drain-Source Voltage $T_c=25^\circ\text{C}$	V_{DS}	60	V
Drain Current (Pulsed) $T_c=25^\circ\text{C}$	I_{DM}	1200	A
Drain Current (DC)	I_D^{**}	$T_c=25^\circ\text{C}$	300
		$T_c=100^\circ\text{C}$	250
Gate-Source Voltage $T_c=25^\circ\text{C}$	V_{GS}	± 20	V
Drain power dissipation $T_c=25^\circ\text{C}$	P_{tot}	197	W
Junction Temperature	T_J	175	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 to 175	$^\circ\text{C}$
Single Pulsed Avalanche Energy $L=1.0\text{mH}$	E_{AS}	1200	mJ
Thermal Resistance -Junction to Ambient	$R_{\theta JA}$	46	$^\circ\text{C}/\text{W}$
Thermal Resistance- Junction to Case	$R_{\theta JC}$	0.76	$^\circ\text{C}/\text{W}$
Continuous-Source Current $T_c=25^\circ\text{C}$	I_S	300	A

Notes:

- * Surface Mounted on 1 in² pad area, $t \leq 10$ sec
- ** Pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 2\%$

ELECTRICAL CHARACTERISTICS (T_A=25°C)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source Breakdown Voltage	BV _{DSS}	V _{GS} =0V, I _{DS} =250μA	60			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _{DS} =250μA	1		2.5	V
Drain Leakage Current	I _{DSS}	V _{DS} =48V, V _{GS} =0V			1	μA
Gate Leakage Current	I _{GSS}	V _{GS} =±20V, V _{DS} =0V			±100	nA
On-State Resistance	R _{DS(on)} ^a	V _{GS} =10V, I _{DS} =50A		0.6	0.68	mΩ
		V _{GS} =4.5V, I _{DS} =30A		1.1	1.45	mΩ
Diode Characteristics						
Diode Forward Voltage	V _{SD} ^a	I _{SD} =50A, V _{GS} =0V			1.3	V
Reverse Recovery Time	t _{rr}	I _{SD} =50A, V _{GS} =0V dI _{SD} /dt=100A/μs		82		nS
Reverse Recovery Charge	Q _{rr}			165		nC
Dynamic Characteristics^b						
Input capacitance	C _{iss}	V _{GS} =0V, V _{DS} =30V, Frequency = 1 MHz		8770		pF
Output capacitance	C _{oss}			2389		pF
Reverse transfer capacitance	C _{rss}			268		pF
Turn-on Delay Time	t _{d(on)}	V _{DS} =30V, V _{GEN} =10V R _G =3.9Ω, R _L =0.6Ω, I _{DS} =50A		22		nS
Turn-on Rise Time	t _r			107		nS
Turn-Off Delay Time	t _{d(off)}			135		nS
Turn-Off Fall Time	t _f			102		nS
Gate Charge Characteristics^b						
Total Gate Charge	Q _g	V _{DS} =30V, V _{GS} =10V, I _{DS} =50A		171		nC
Gate-Source Charge	Q _{gs}			39		nC
Gate-Drain Charge	Q _{gd}			39		nC

Notes:

a : Pulse test ; pulse width ≤ 300us, duty cycle ≤ 2 %

b : Guaranteed by design, not subject to production testing

PARAMETER CHARACTERISTIC CURVE

Figure1: Power Capability

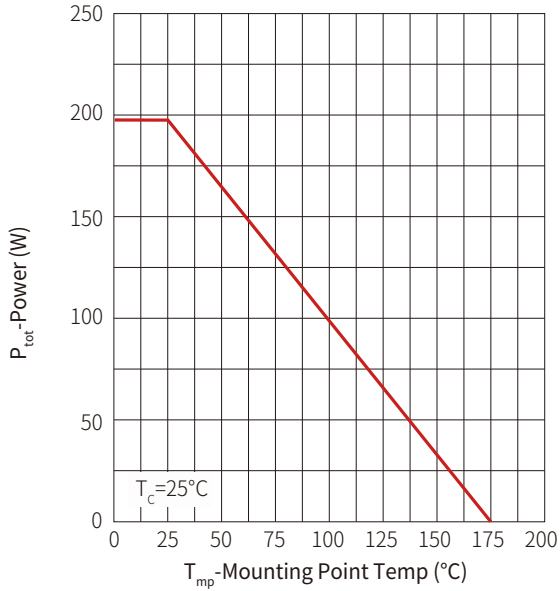


Figure2: Current Capability

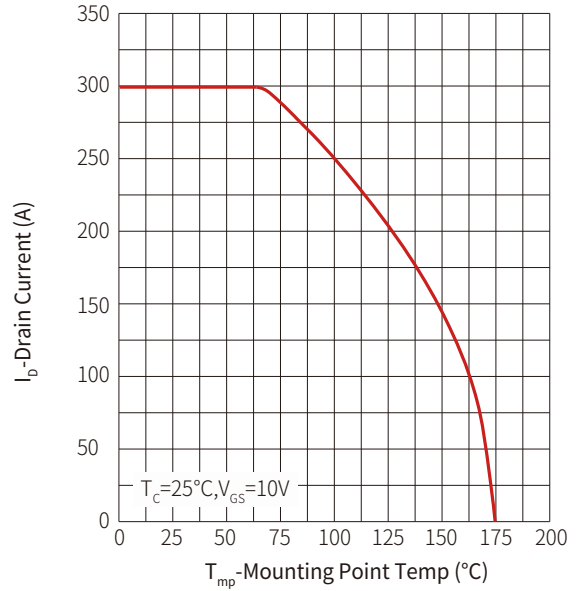


Figure3: Safe operating Area

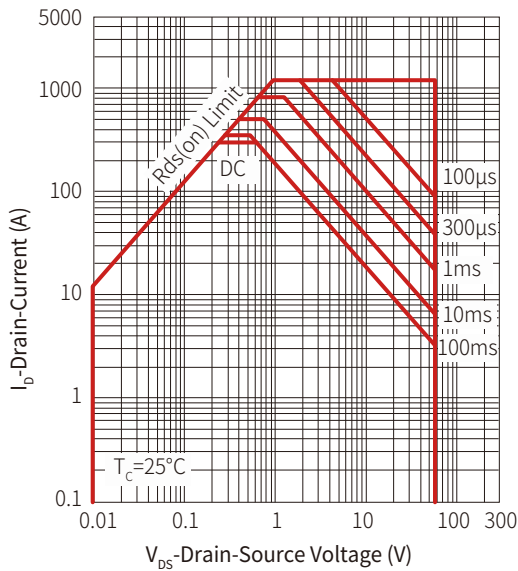


Figure 4: Transient Thermal Impedance

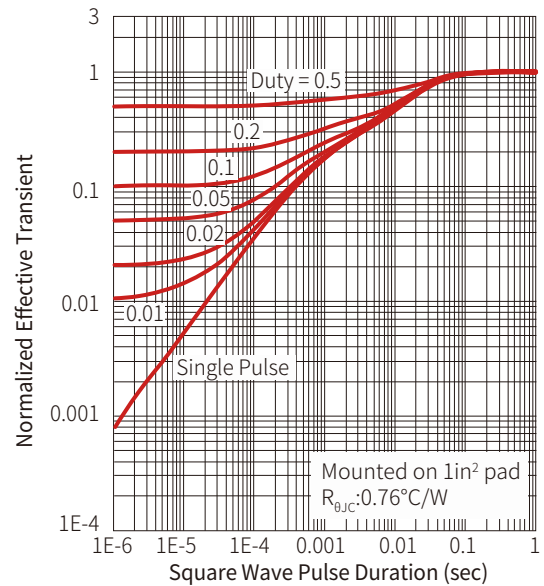


Figure 5: Output Characteristics

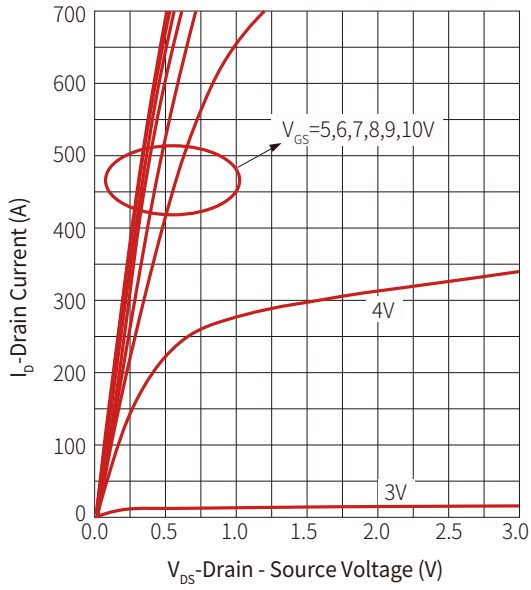


Figure 6: On Resistance

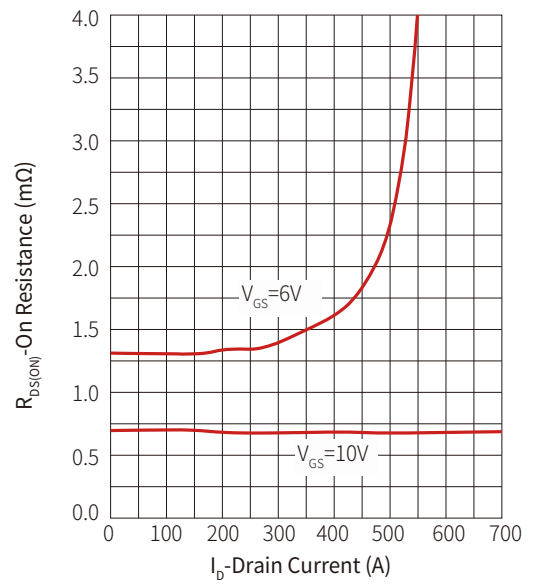


Figure 7: Transfer Characteristics

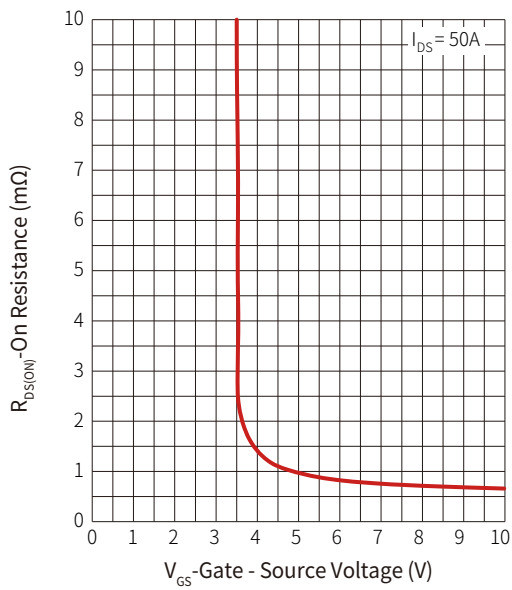


Figure 8: Normalized Threshold Voltage

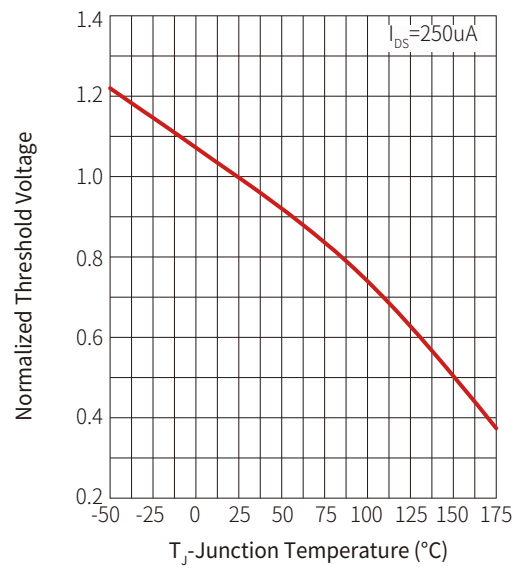


Figure 9: Normalized On Resistance

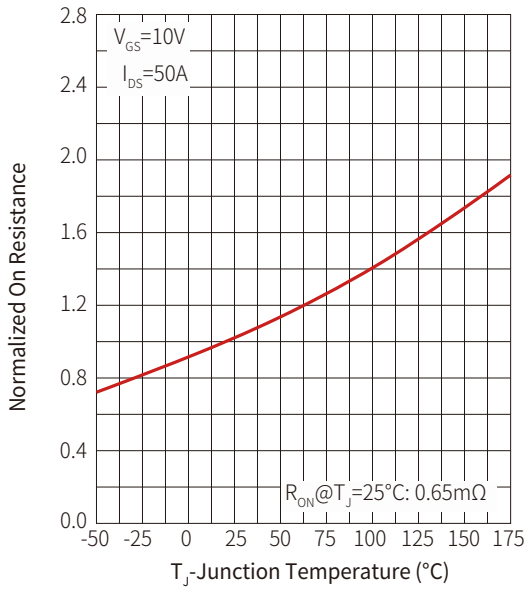


Figure 10: Diode Forward Current

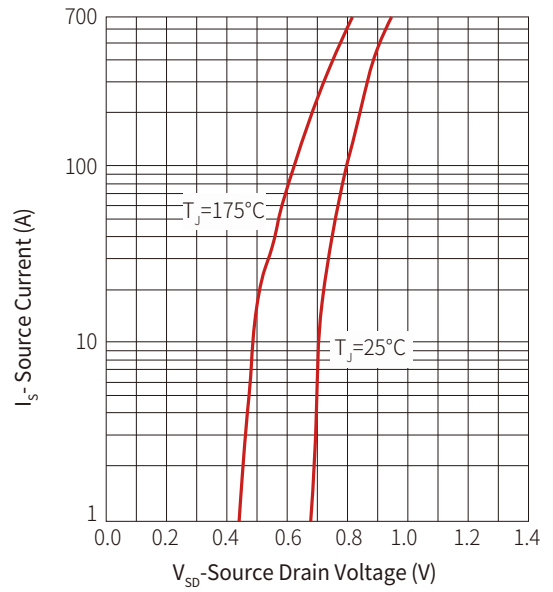


Figure 11: Capacitance

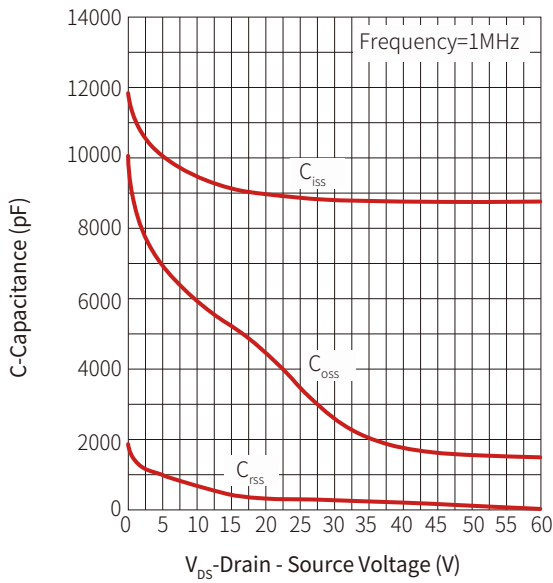
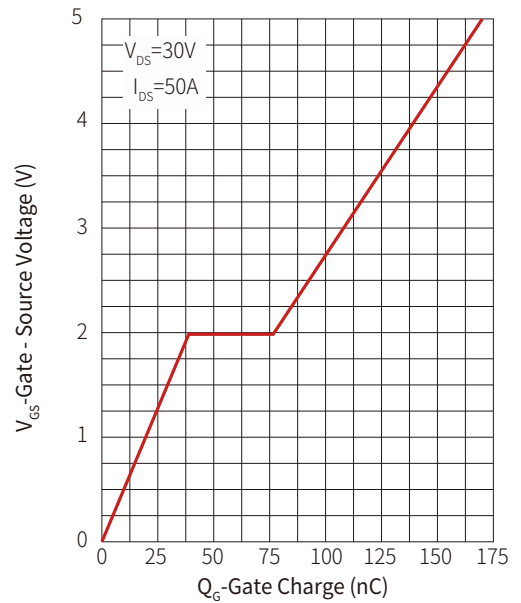
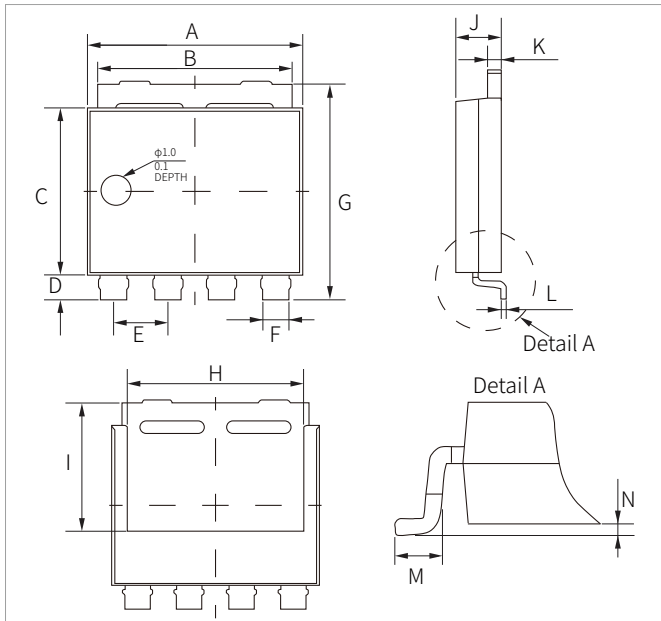


Figure 12: Gate Charge



LFPAK8080 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	7.90	8.10	0.311	0.319
B	7.10	7.30	0.279	0.288
C	6.10	6.30	0.240	0.249
D	0.90	1.30	0.035	0.052
E	2.00(Typ.)		0.079(Typ.)	
F	0.90	1.10	0.035	0.044
G	7.80	8.10	0.307	0.319
H	6.70	6.90	0.263	0.272
I	4.90	5.10	0.192	0.201
J	1.50	1.70	0.059	0.067
K	0.47	0.57	0.018	0.023
L	0.18	0.24	0.008	0.010
M	0.60	0.80	0.023	0.032
N	0.15(Max.)		0.006(Max.)	

ORDERING INFORMATION

Part Number	Component Package	Marking	QTY/Reel	QTY/Box
SNM006N06LF	LFPAK8080	 006N06 XXXX	2000PCS	14000PCS

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By QR Code

Website



Wechat

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