AG062SN060MNK

N-Channel Enhancement Mode MOSFET

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
60V	7.5mΩ@10V	62A
	10mΩ@4.5V	

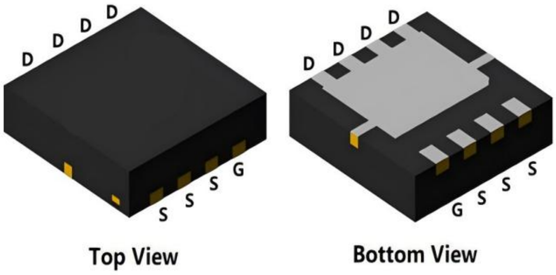
Feature

- Split gate trench MOSFET technology
- Excellent package for heat dissipation
- High density cell design for low $R_{DS(ON)}$

Application

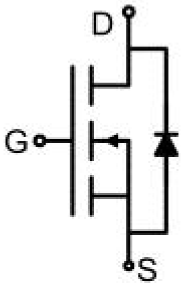
- DC-DC converter
- Power switching application
- Industrial and motor drive application

Package

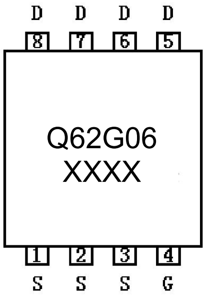


DFN3.3*3.3-8L

Circuit diagram



Marking



Absolute maximum ratings (T_A=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current (T_C =25℃)	I_D	62	A
Continuous Drain Current (T_C =100℃)	I_D (100℃)	39	A
Pulsed Drain Current[1)]	I_{DM}	186	A
Single Pulse Avalanche Energy[2)]	E_{AS}	162	mJ
Power Dissipation[3)] (T_C =25℃)	P_D	45	W
Thermal Resistance Junction to Case	$R_{\theta JC}$	2.8	℃/W
Operating Junction Temperature	T_J	-55 ~ +150	℃
Storage Temperature	T_{STG}	-55 ~ +150	℃

Electrical characteristics (T_J=25 °C, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} =0V, I_D =250μA	60			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =60V, V_{GS} =0V			1	μA
Gate-body leakage current	I_{GSS}	V_{DS} = 0V, V_{GS} =±20V			±100	nA
Gate threshold voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	1.2	1.7	2.5	V
Drain-source on-resistance	$R_{DS(on)}$	V_{GS} =10V, I_D =20A		5.8	7.5	mΩ
		V_{GS} =4.5V, I_D =10A		7.3	10	
Dynamic characteristics[4)]						
Input Capacitance	C_{iss}	V_{DS} =35V, V_{GS} =0V, f =1MHz		2000		pF
Output Capacitance	C_{oss}			390		
Reverse Transfer Capacitance	C_{rss}			13		
Total Gate Charge	Q_g	V_{DS} =30V, V_{GS} =10V, I_D =20A		34		nC
Gate-Source Charge	Q_{gs}			7.8		
Gate-Drain Charge	Q_{gd}			5.2		
Turn-on delay time	$t_{d(on)}$	V_{DS} =30V, V_{GS} =10V, I_D =12A R_G =3Ω		10		nS
Turn-on rise time	t_r			36		
Turn-off delay time	$t_{d(off)}$			30		
Turn-off fall time	t_f			57		
Source-Drain Diode characteristics						
Diode Forward Current	I_S				62	A
Diode Forward voltage	V_{SD}	V_{GS} =0V, I_S =20A			1.3	V
Reverse Recovery Time	T_{rr}	I_F =20A, di/dt =-200A/μs		27		nS
Reverse Recovery Charge	Q_{rr}			36		nC

Notes:

1) Repetitive rating; pulse width limited by max. junction temperature.

2) T_J=25℃, V_{DD}=50V, R_G=25Ω, L=1mH, I_{AS}=18A.

3) P_d is based on max. junction temperature, using junction-case thermal resistance.

4) Guaranteed by design, not subject to production testing.

Typical Characteristics

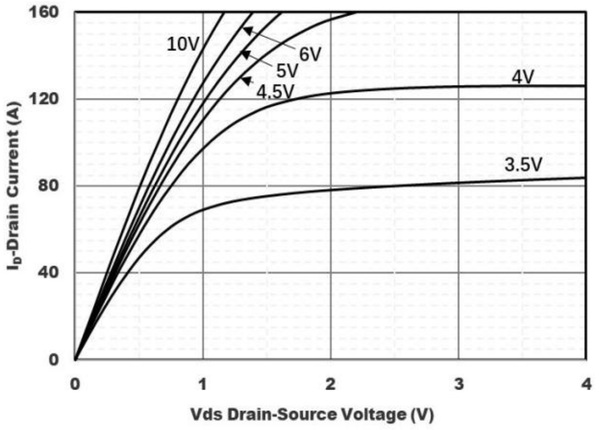


Figure1. Output Characteristics

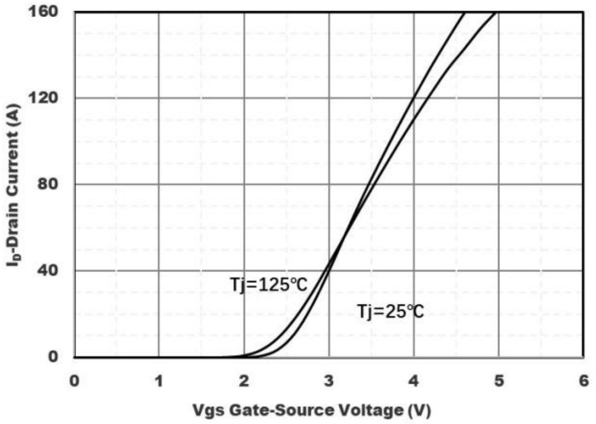


Figure2. Transfer Characteristics

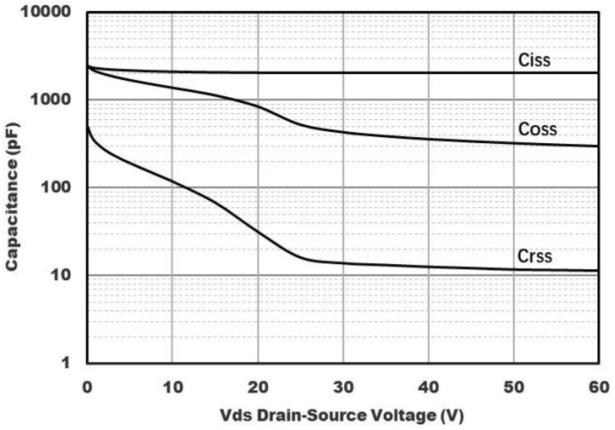


Figure3. Capacitance Characteristics

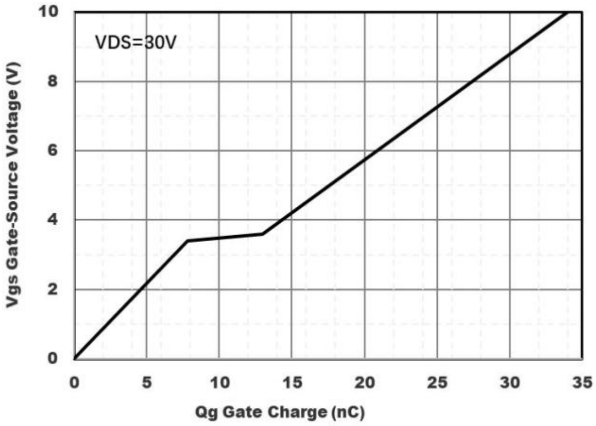


Figure4. Gate Charge

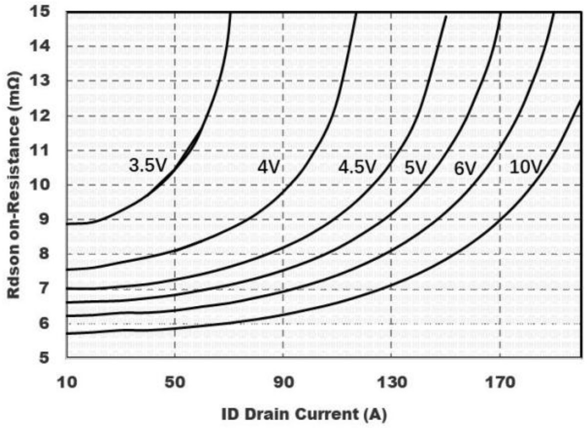


Figure5. Drain-Source on Resistance

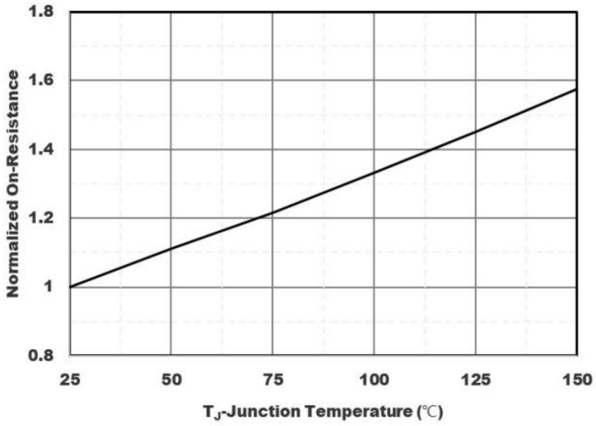


Figure6. Normalized On-Resistance

Typical Characteristics

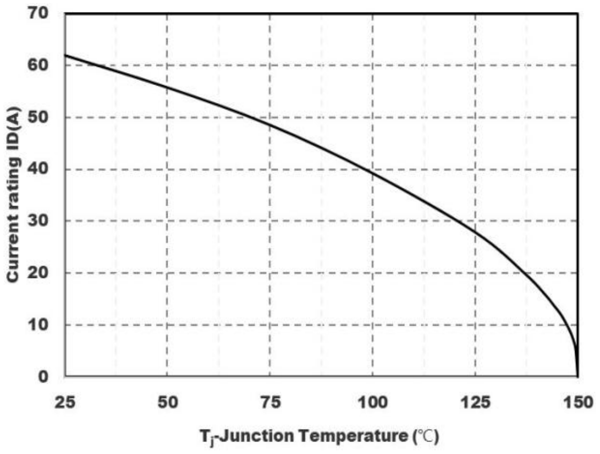


Figure7. Drain current

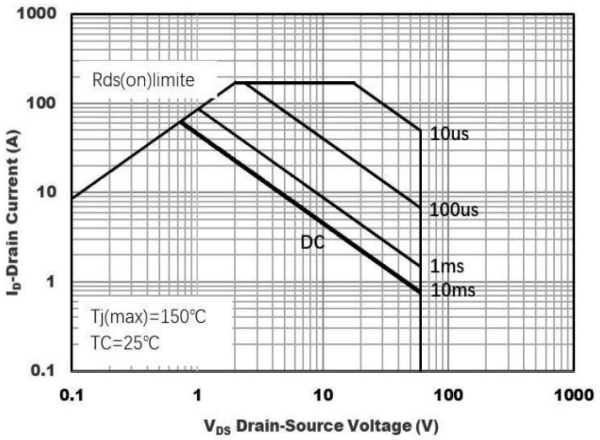


Figure8. Safe Operation Area

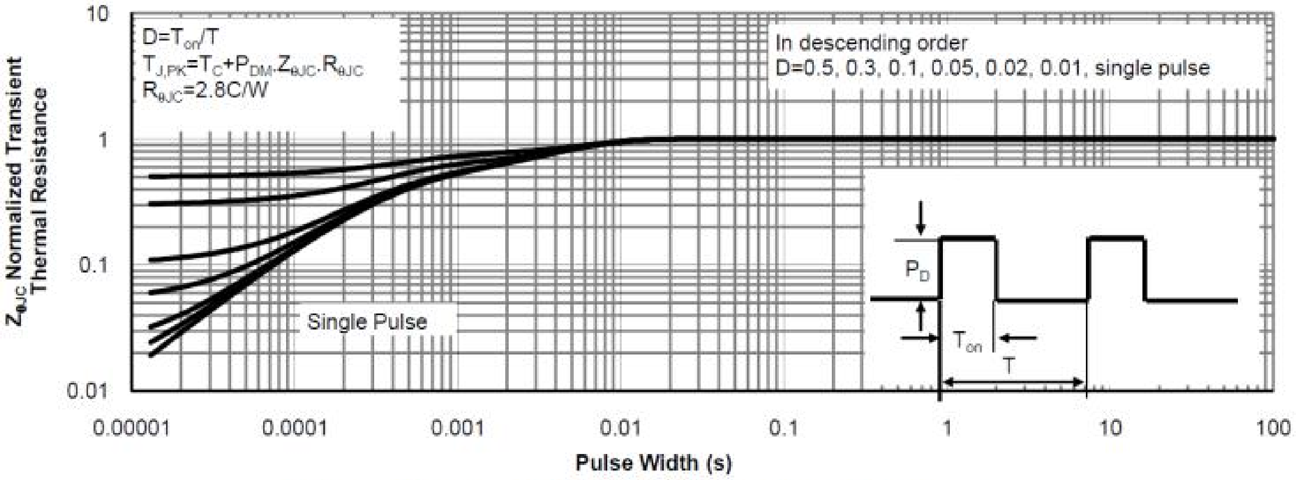
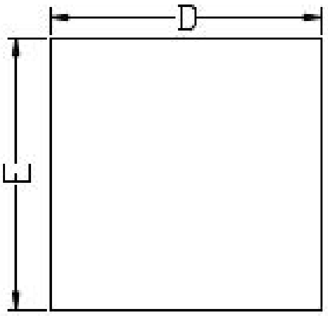
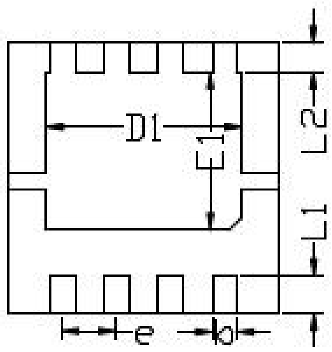
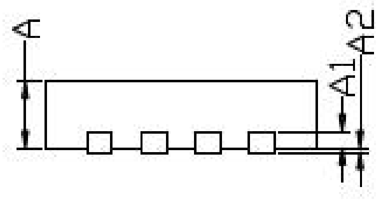


Figure8. Normalized Maximum Transient Thermal Impedance

DFN3.3*3.3-8L Package Information







Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	**Max.**	**Min.**	**Max.**
A	0.700	0.900	0.027	0.035
A1	0.200BSC		0.008BSC	
A2	0.000	0.100	0.000	0.004
b	0.200	0.400	0.008	0.016
D	3.150	3.350	0.124	0.132
D1	2.200	2.500	0.086	0.098
E	3.150	3.350	0.124	0.132
E1	1.800	2.000	0.071	0.079
e	0.650 BSC		0.026 BSC	
L1	0.350	0.550	0.013	0.022
L2	0.350 BSC		0.014BSC	