DESCRIPTION

The AM062NS10LPJ is available in PDFN8(5x6) package.

BVDSS	RDSON	ID
100V	6.2mΩ	70A

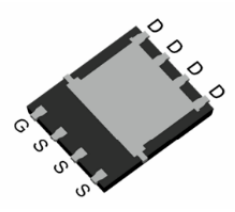
Application

- Power switching application
- Battery management
- Uninterruptible power supply

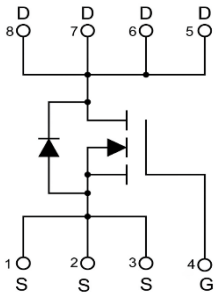
FEATURES

- V_{DS} = 100V, I_D= 70A
  $R_{DS(ON)}$ Typ = 6.2mΩ @ V_{GS} = 10V
  $R_{DS(ON)}$ Typ = 8.0mΩ @ V_{GS} = 4.5V
- Fast switching speed
- Low gate charge and Rdson
- Advanced Split Gate Trench Technology
- 100%Single Pulse avalanche energy Test

PIN DESCRIPTION



PDFN8 (5X6)



Pin#	Symbol	Function
1, 2, 3	S	Source
4	G	Gate
5,6,7,8	D	Drain

ORDERING INFORMATION

Package Type	Part Number	
PDFN8(5x6)	PJ	AM066NS10LPJ
Note	SPQ:4,000pcs/Reel	
AiT provides all RoHS products		

ABSOLUTE MAXIMUM RATINGS

T_J= 25°C, unless otherwise specified.

Parameter		Symbol	Limit	Unit
Drain-Source Voltage		V_{DS}	100	V
Gate-Source Voltage		V_{GS}	±20	V
Continuous Drain Current		I_D	70	A
Continuous Drain Current	T_C= 100°C		50	
Pulsed Drain Current		I_{DM}	280	
Single Pulse Avalanche Energy		E_{AS}	272	mJ
Power Dissipation		P_D	92	W
Operation Junction and Storage Temperature Range		T_J, T_{STG}	-55 ~ 150	°C
Thermal Resistance, Junction-case		R_{thJC}	1.36	°C/W

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

ELECTRICAL CHARACTERISTICS

T_J = 25°C, unless otherwise specified.

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Units
Off Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V, I_D=250uA	100	-	-	V
Drain- Source Leakage Current	I_{DSS}	V_{DS}=80V, V_{GS}=0V	-	-	1	μA
Gate- Source Leakage Current	I_{GSS}	V_{GS}=±20V, V_{GS}=0V	-	-	±0.1	nA
On Characteristics						
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250uA	1.0	1.7	2.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=10V, I_D=30A	-	6.2	7.8	mΩ
		V_{GS}=4.5V, I_D=25A	-	8.0	10.5	mΩ
Dynamic Characteristics						
Input Capacitance	C_{iss}	V_{GS}=0 V, V_{DS}=50 V, f=1.0MHz	-	1942	-	pF
Output Capacitance	C_{oss}		-	388	-	pF
Reverse Transfer Capacitance	C_{rss}		-	12	-	pF
Total Gate Charge	Q_g	V_{DS}=50V, I_D=50A, V_{GS}=10V	-	67	-	nC
Gate-Source Charge	Q_{gs}		-	12	-	nC
Gate-Drain Charge	Q_{gd}		-	21	-	nC
Switching Characteristics						
Turn-on Delay Time	$t_{d(on)}$	V_{GS}=50V, V_{DD}=50V, R_G=4.7Ω, I_D=50A	-	12	-	ns
Turn-on Rise Time	t_r		-	11	-	ns
Turn-off Delay Time	$t_{d(off)}$		-	42	-	ns
Turn-off Fall Time	t_f		-	6	-	ns
Drain-Source Diode Characteristics						
Diode Forward Voltage	V_{SD}	V_{GS}=0V, I_S=1A	-	-	1.2	V
Diode Forward Current	I_S	-	-	-	70	A
Reverse Recovery Time	T_{rr}	V_{GS}=0V, I_S=20A, di/dt=100 A/μs	-	59	-	nS
Reverse Recovery Charge	Q_{rr}		-	88	-	nC

Note:
The EAS Test condition is VDD=50V, VGS=10V, L=0.5mH, Rg=25Ω

TYPICAL PERFORMANCE CHARACTERISTICS

Fig 1. Output Characteristics

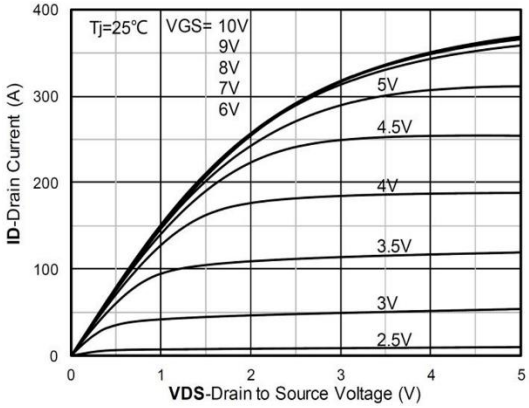


Fig 2. Transfer Characteristics

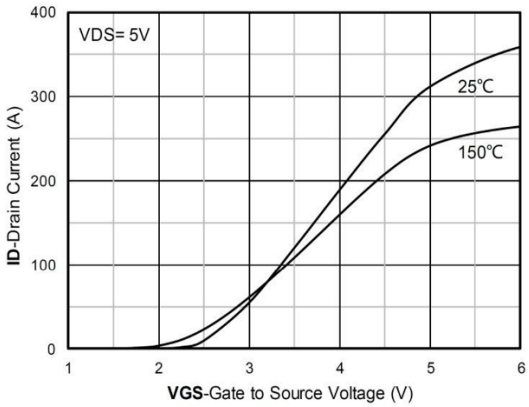


Fig 3. Capacitance Characteristics

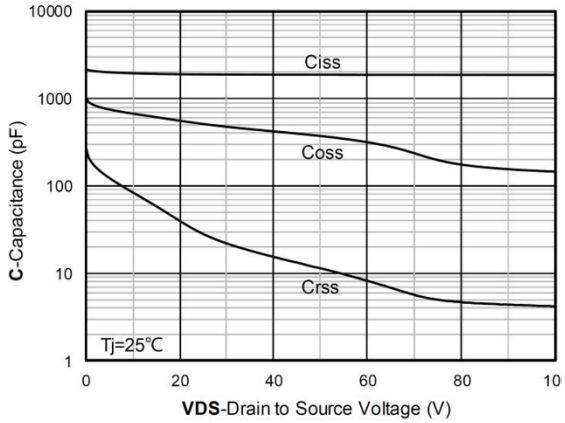


Fig 4. Gate Charge

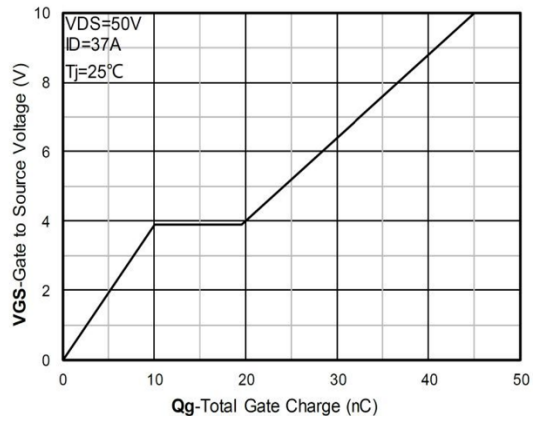


Fig 5. On-Resistance vs Gate to Source Voltage

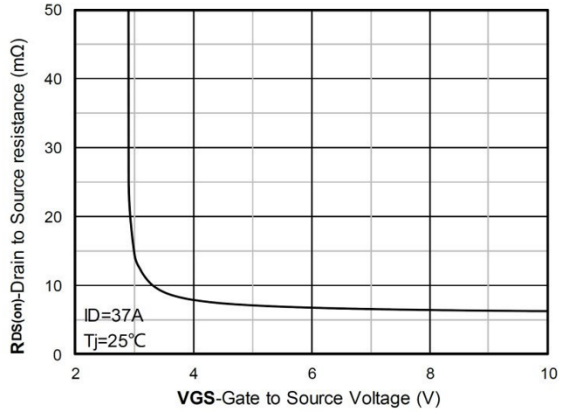


Fig 6. Normalized On-Resistance

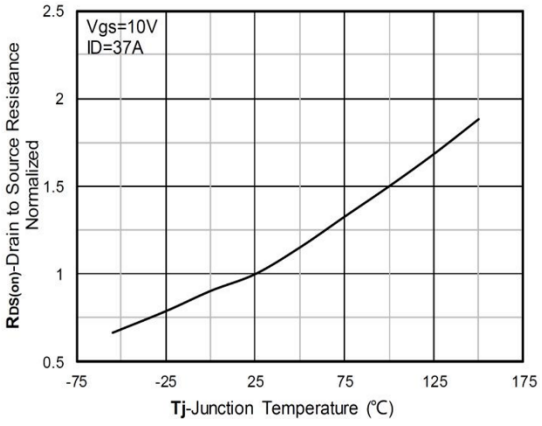


Fig 7. $R_{DS(on)}$ VS Drain Current

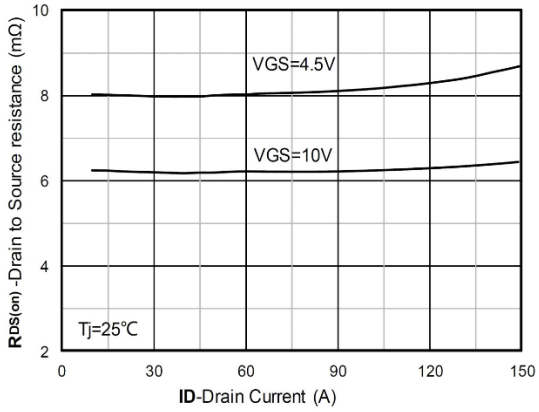


Fig 8. Forward characteristics of reverse diode

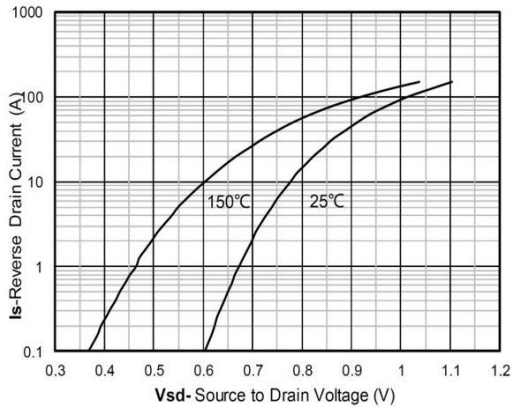


Fig 9. Normalized breakdown voltage

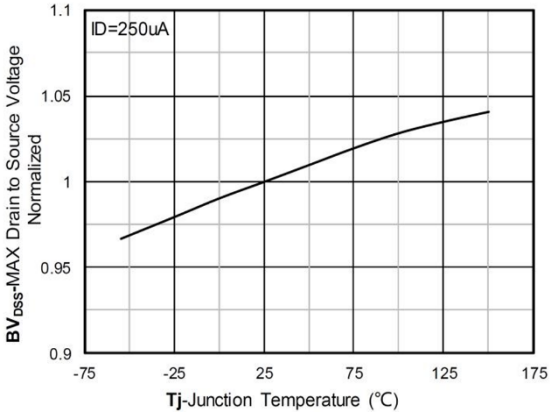


Fig 10. Normalized Threshold voltage

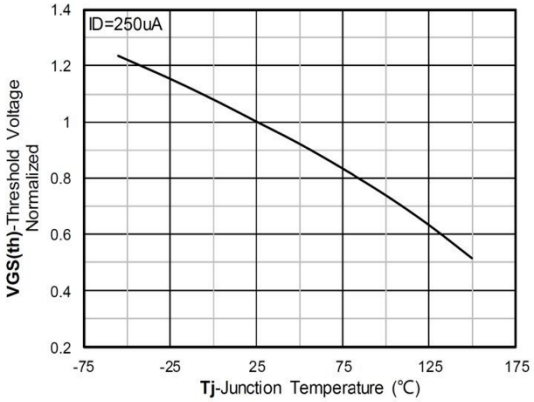


Fig 11. Current dissipation

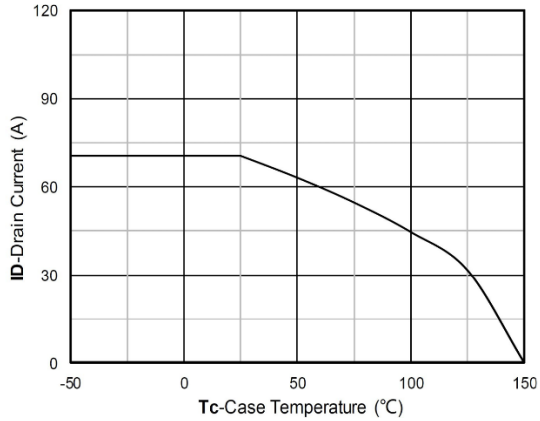


Fig 12. Power dissipation

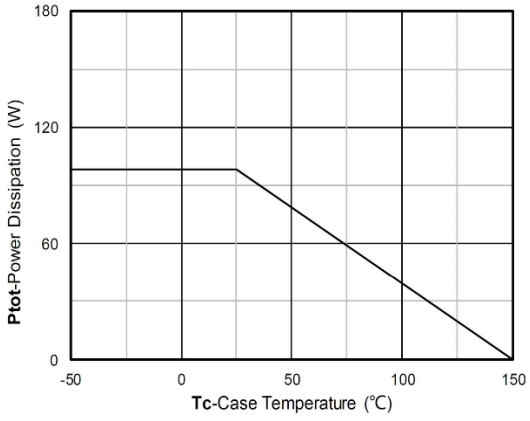


Fig 13. Maximum Transient Thermal Impedance

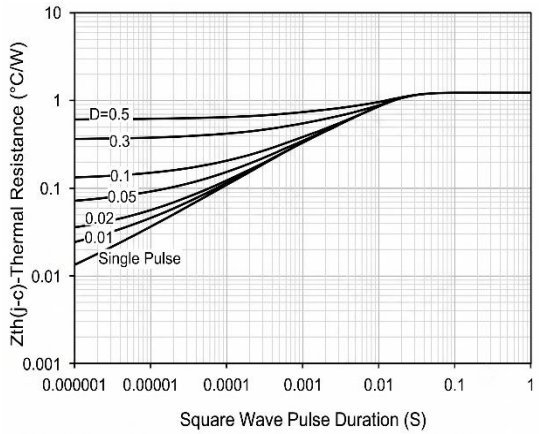
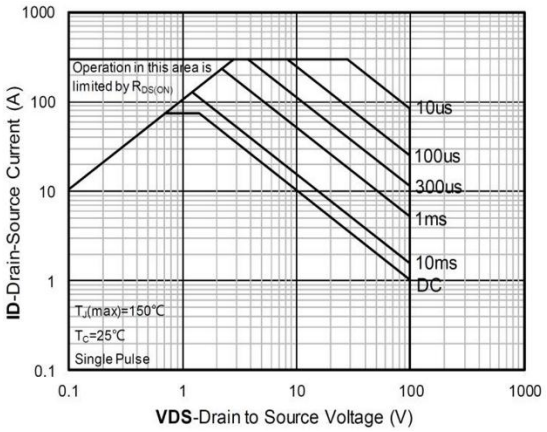
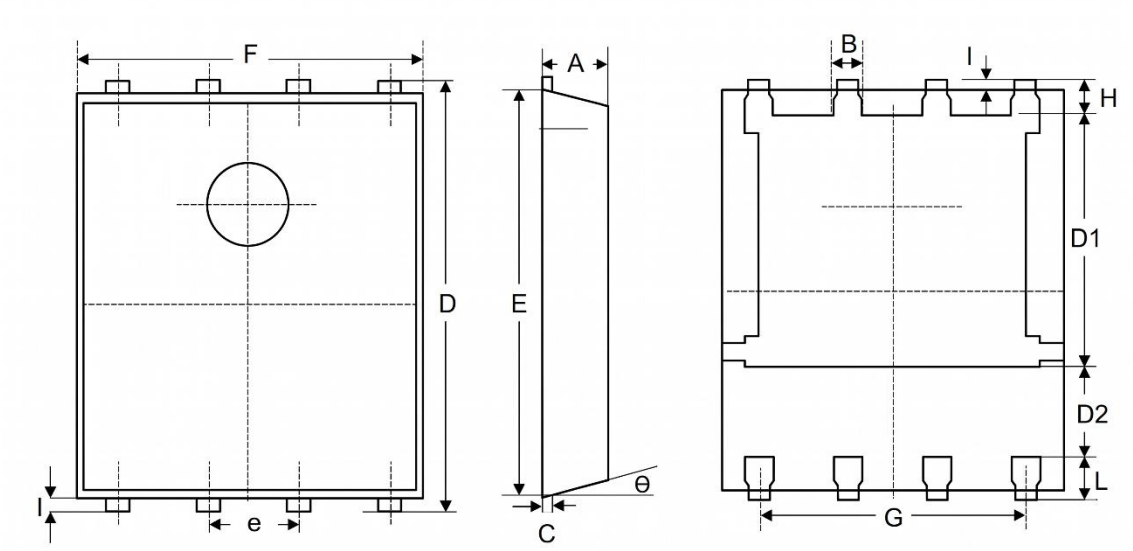


Fig 14. Safe Operation Area



PACKAGE INFORMATION

Dimension in PDFN8(5x6) (Unit: mm):



Symbol	Millimeters	
	Min	Max
A	0.900	1.100
B	0.330	0.510
C	0.200	0.300
D	5.900	6.100
D1	3.380	3.780
D2	1.100	-
E	5.700	5.800
e	1.270 BSC	
F	4.800	5.000
G	0.361	0.396
H	0.410	0.610
I	0.060	0.200
L	0.510	0.710
θ	0°	12°

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