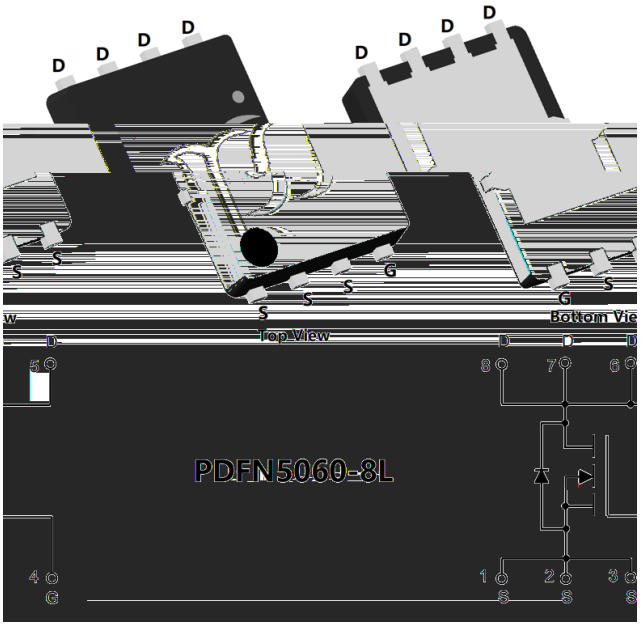
N-Channel Enhancement Mode Field Effect Transistor



Product Summary

V_{DS}	40V
I_D	180A
$R_{DS(ON)}$(at V_{GS}=10V)	1.7m

100% EAS Tested
100% V_{DS} Tested

General Description

Excellent package for heat dissipation
High density cell design for low $R_{DS(ON)}$
Moisture Sensitivity Level 1
Epoxy Meets UL 94 V-0 Flammability Rating
Halogen Free
-Q101 qualified

Applications

Power switching application
Uninterruptible power supply
DC-DC convertor

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Absolute Maximum Ratings (T_A=25 unless otherwise noted)

Parameter		Symbol	Limit	Unit
Drain-source Voltage		V_{DS}	40	V
Gate-source Voltage		V_{GS}	±20	V
Drain Current	T_C=25℃	I_D	180	A
	T_C =100℃		126	
	T_A=25℃		30	
	T_A =100℃		22	
Pulsed Drain Current [A]		I_{DM}	500	A
Avalanche energy [B]		EAS	270	mJ
Total Power Dissipation [C]	T_C=25℃	P_D	187	W
	T_C =100℃		93	
	T_A=25℃		3	
	T_A =100℃		1.5	
Junction and Storage Temperature Range		T_J ,T_{STG}	-55 +175	℃

Thermal resistance

Parameter		Symbol	Typ	Max	Units
Thermal Resistance Junction-to-Ambient [D]	Steady-State	R	40	50	℃/W
Thermal Resistance Junction-to-Case	Steady-State	R	0.65	0.8	

Ordering Information (Example)

PREFERED P/N	PACKING CODE	Marking	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
YJG180G04HJRQ	F1	180G04HJR	5000	10000	100000	13 reel

RECOMMEND
YJG1D7G04HRQ
FOR NEW DESIGN

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RECOMMEND
YJG1D7G04HRQ
FOR NEW DESIGN

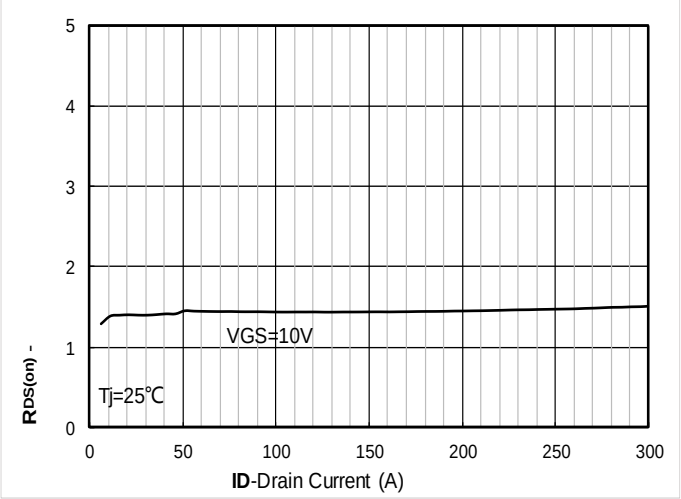


Figure 7. $R_{DS(on)}$ VS Drain Current

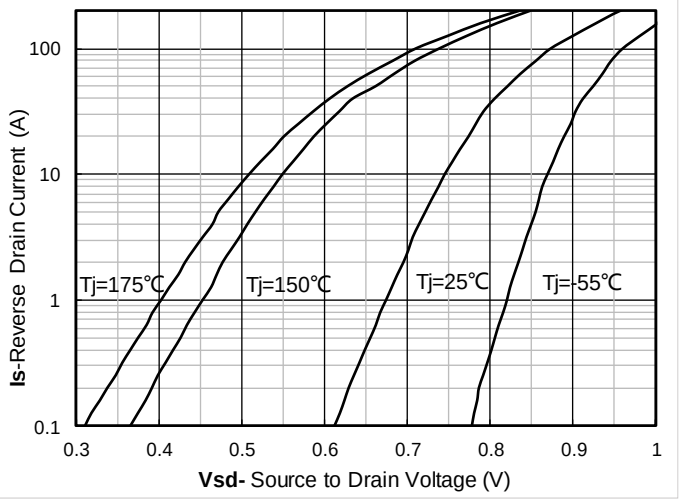


Figure 8. Forward characteristics of reverse diode

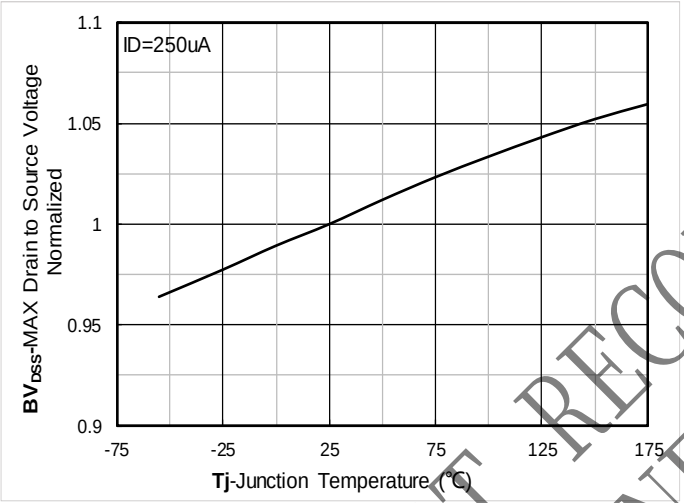


Figure 9. Normalized breakdown voltage

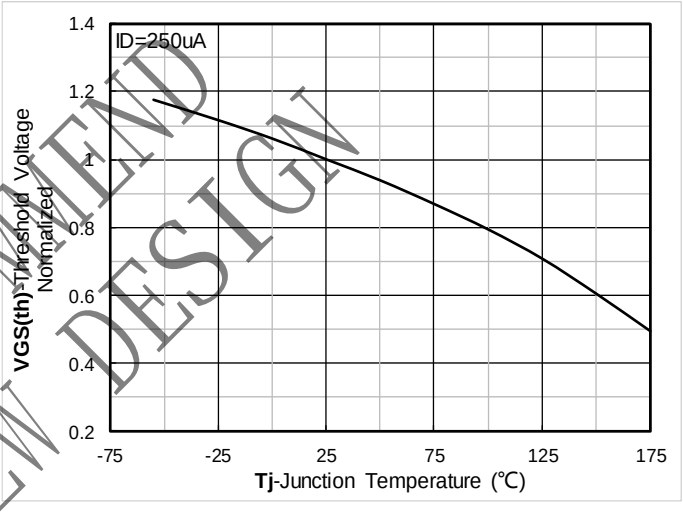


Figure 10. Normalized Threshold voltage

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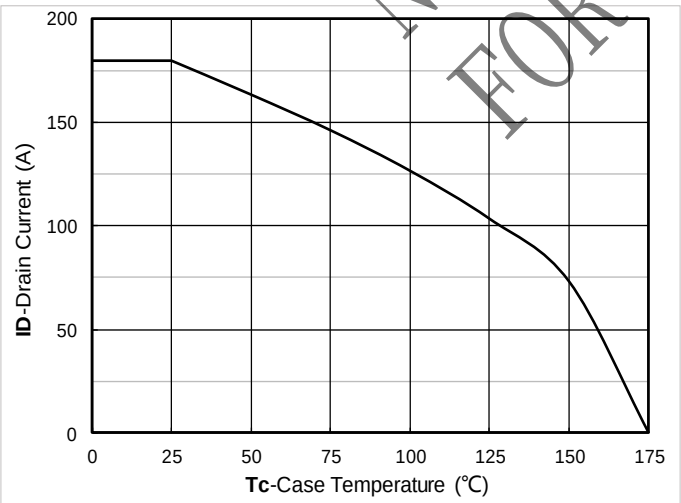


Figure 11. Current dissipation

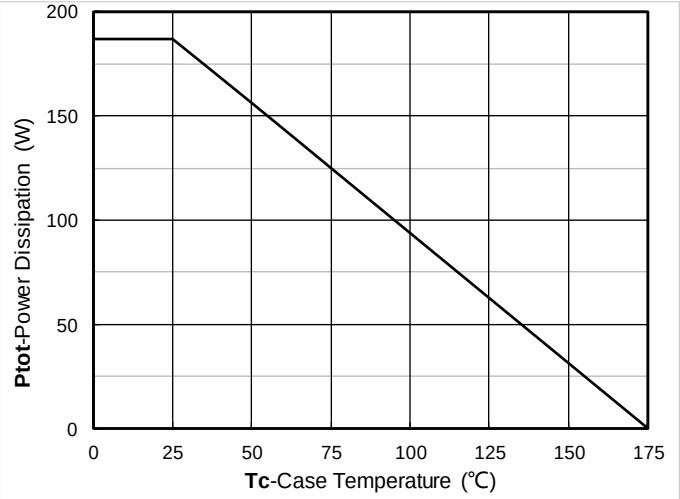


Figure 12. Power dissipation

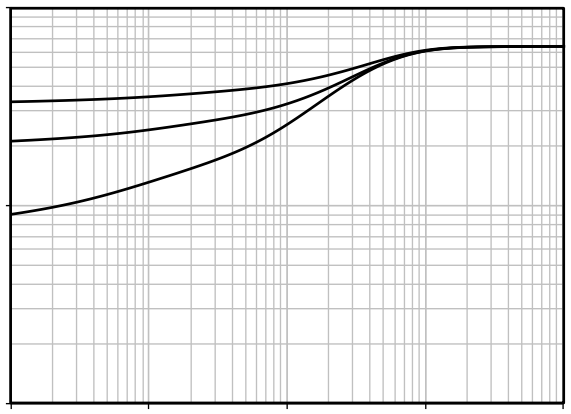


Figure 13. Maximum Transient Thermal Impedance

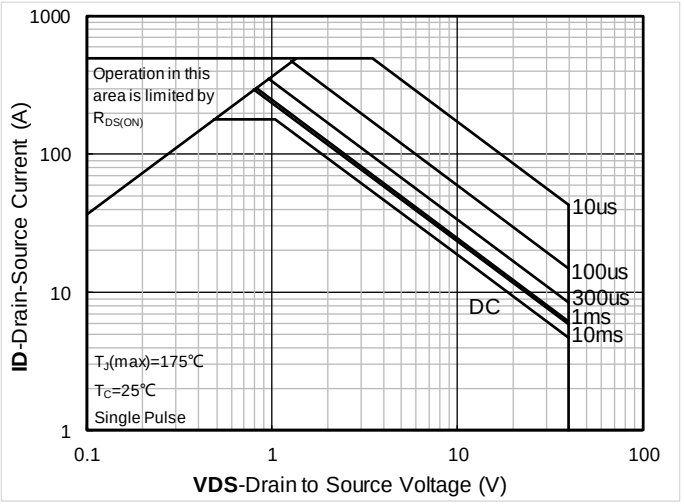


Figure 14. Safe Operation Area

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Test Circuits & Waveforms

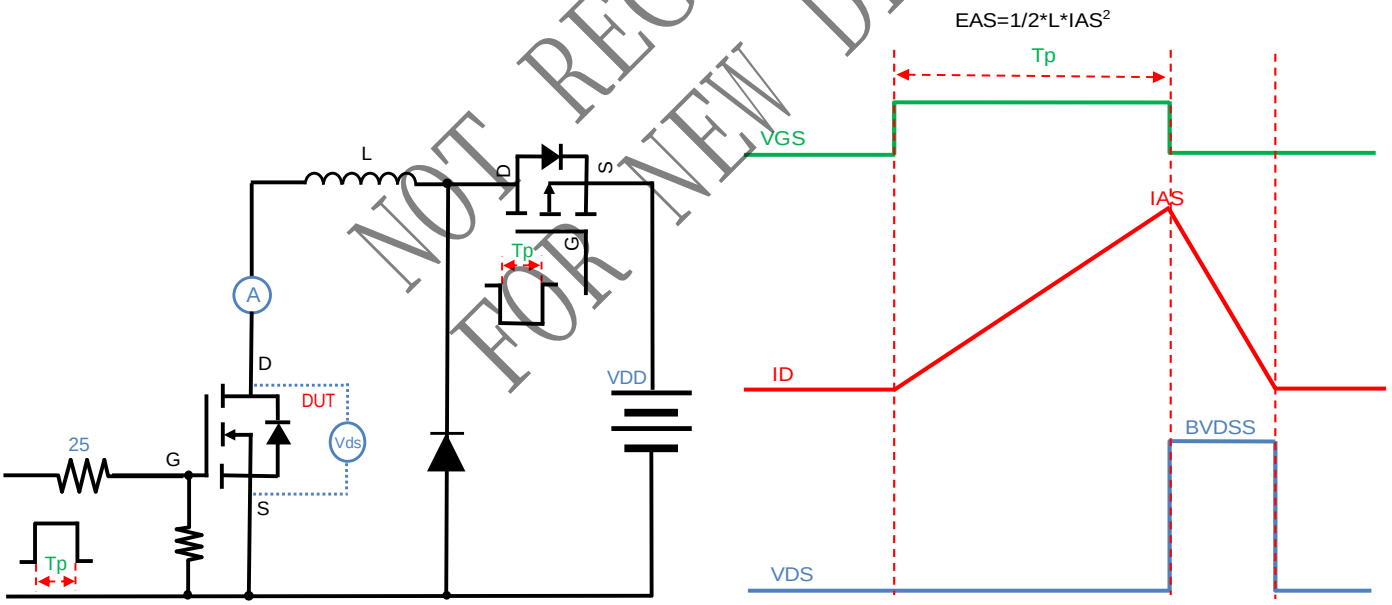
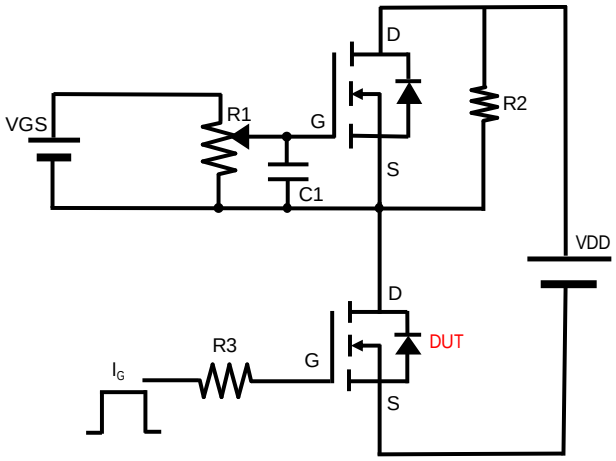
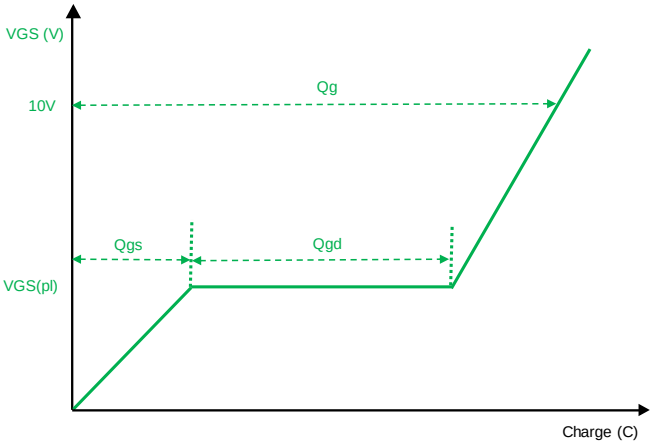
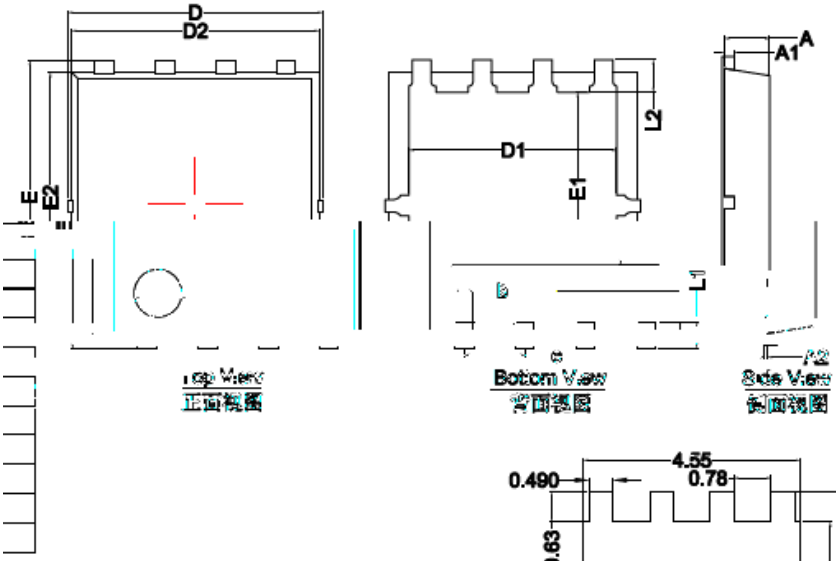


Figure A. Unclamped Inductive Switching (UIS) Test Circuit & Waveform

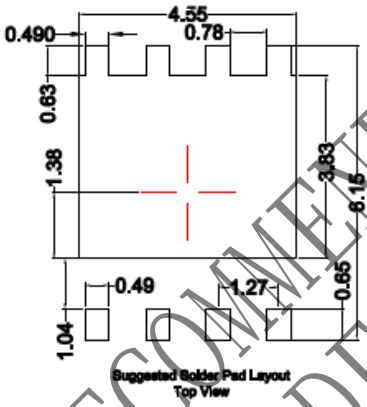

VGS
R1
G
C1
D
S
R2
VDD
D
R3
G
DUT
I_G
S


VGS (V)
10V
Qg
Qgs
Qgd
VGS(pl)
Charge (C)

PDFN5060-8L-0.95MM Package information



SYMBOL	MILLIMETER		
	MIN	NOM	MAX
D	5.15	5.35	5.55
E	5.95	6.05	6.15
A	0.95	0.95	1.05
A1		0.203 BSC	
A2			0.05
D1	4.23	4.33	4.45
E1	3.525	3.625	3.725
D2		5.20	
E2		6.55	
L1	0.45	0.55	0.65
L2		0.68 BSC	
b	0.3	0.4	0.5
e		1.27 BSC	



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:±0.10mm.
3.The pad layout is for reference purposes only.

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