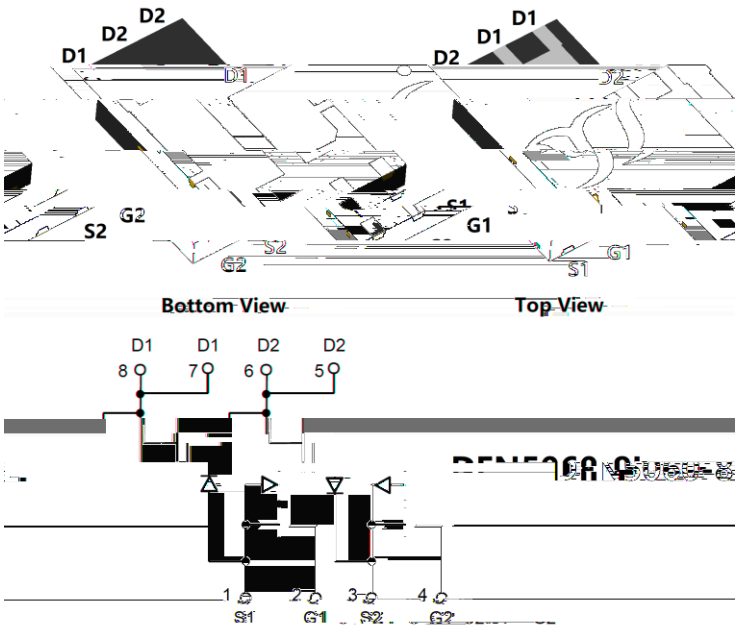
N-Channel and P-Channel Complementary MOSFET



Product Summary

NMOS

V_{DS}	60V
I_D	20A
$R_{DS(ON)}$(at V_{GS}=10V)	30m
$R_{DS(ON)}$(at V_{GS}=4.5V)	40m

PMOS

V_{DS}	-60V
I_D	-20A
$R_{DS(ON)}$(at V_{GS}=-10V)	45m
$R_{DS(ON)}$(at V_{GS}=-4.5V)	65m

100% EAS Tested

General Description

Moisture Sensitivity Level 3
Epoxy Meets UL 94 V-0 Flammability Rating
Halogen Free

Applications

Absolute Maximum Ratings (T_A=25 unless otherwise noted)

Parameter		Symbol	NMOS	PMOS	Unit
Drain-source Voltage		V_{DS}	60	-60	V
Gate-source Voltage		V_{GS}	±20	±20	V
Drain Current	T_A=25℃	I_D	4.5	-3.5	A
	T_A=100℃		2.5	-2.2	
	T_C=25℃		20	-20	
	T_C =100℃		12.5	-12.5	
Pulsed Drain Current [A]		I_{DM}	50	-50	A
Avalanche energy [B]		EAS	30	84	mJ
Total Power Dissipation [C]	T_A=25℃	P_D	1.6	1.7	W
	T_A=100℃		0.6	0.7	
	T_C=25℃		35	50	
	T_C =100℃		14	20	
Junction and Storage Temperature Range		T_J ,T_{STG}	-55 +150	-55 +150	℃

Thermal resistance

Ordering Information (Example)

PREFERED P/N	PACKING CODE	Marking	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
YJG20NP06A	F1	YJG20NP06A	5000	10000	100000	13 reel

NMOS Electrical Characteristics (T_J=25 unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Static Parameter						
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}= 0V, I_D=250	60	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=60V, V_{GS}=0V	-	-	1	
		V_{DS}=60V, V_{GS}=0V, Tj=150	-	-	100	

PMOS Electrical Characteristics (T_J=25 unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Static Parameter						
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}= 0V, I_D=-250	-60	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-60V, V_{GS}=0V	-	-	-1	
		V_{DS}=-60V, V_{GS}=0V, Tj=150	-	-	-100	
Gate-Body Leakage Current	I_{GSS}	V_{GS}= ± 20V, V_{DS}=0V	-	-	± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}= V_{GS}, I_D=-250	-1.3	-1.9	-2.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=-10V, I_D=-20A	-	35	45	m
		V_{GS}=-4.5V, I_D=-10A	-	49	65	
Diode Forward Voltage	V_{SD}	I_S=-20A, V_{GS}=0V	-	-1	-1.2	V
Gate resistance	R_G	f=1MHz, Open drain	-	12	-	
Maximum Body-Diode Continuous Current	I_S		-	-	-20	A
Dynamic Parameters						
Input Capacitance	C_{iss}	V_{DS}=-30V, V_{GS}=0V, f=1MHz	-	1060	-	pF
Output Capacitance	C_{oss}		-	400	-	
Reverse Transfer Capacitance	C_{rss}		-	20	-	
Switching Parameters						
Total Gate Charge	Q_g					

NMOS Typical Electrical and Thermal Characteristics Diagrams

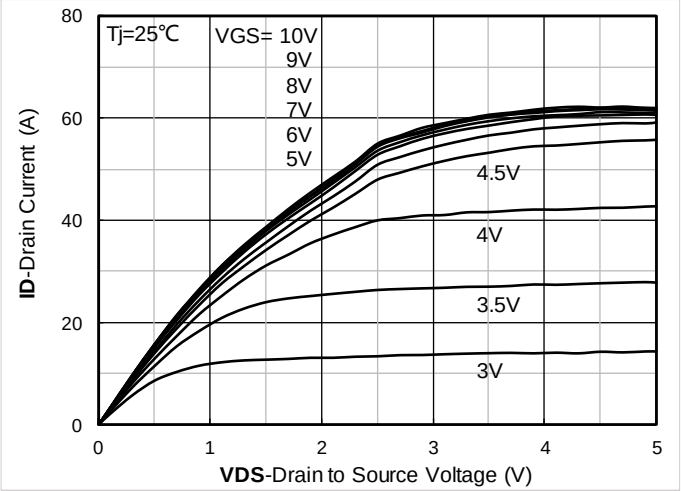


Figure 1. Output Characteristics

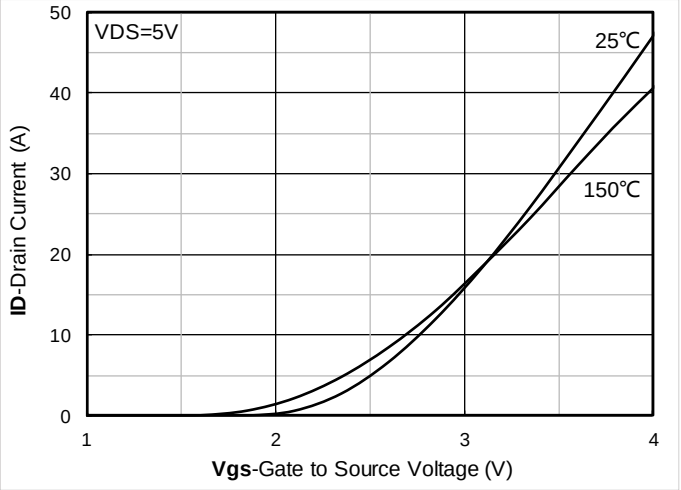


Figure 2. Transfer Characteristics

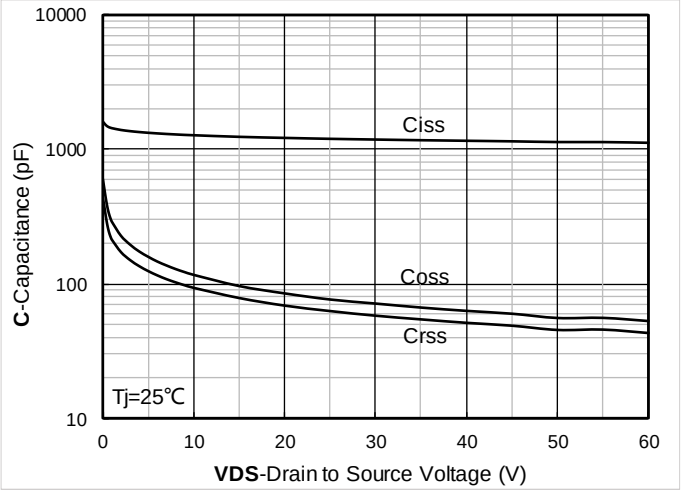


Figure 3. Capacitance Characteristics

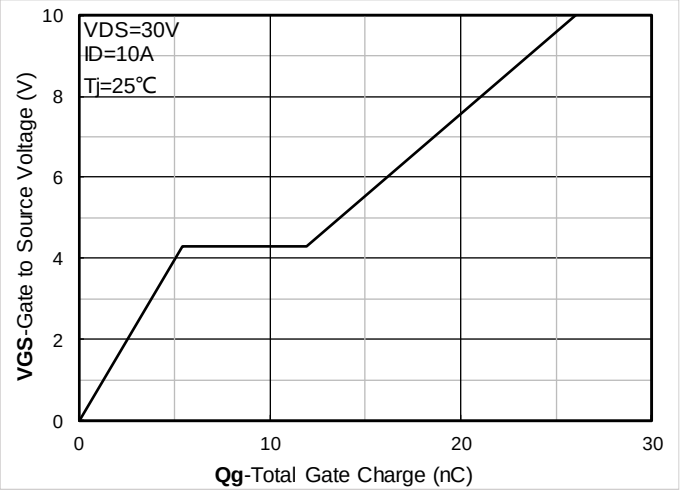


Figure 4. Gate Charge

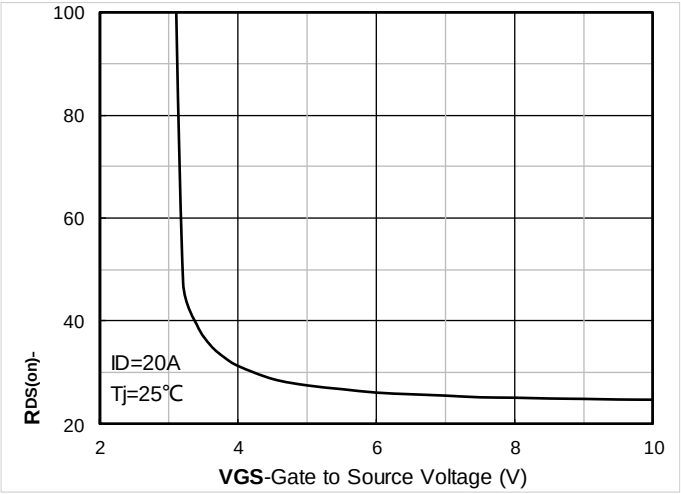


Figure 5. On-Resistance vs Gate to Source Voltage

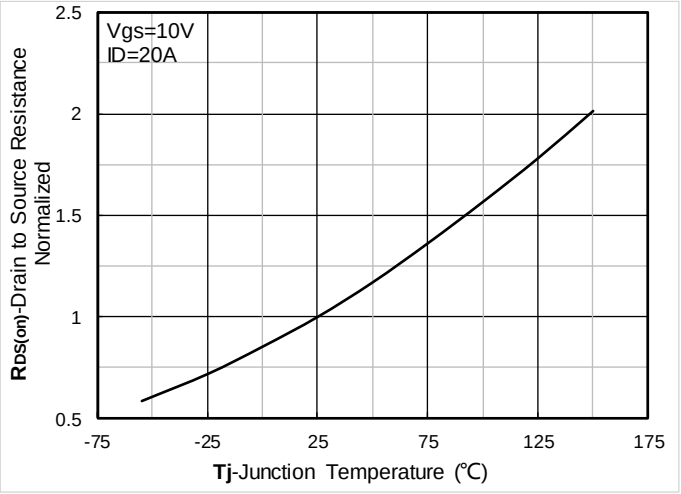


Figure 6. Normalized On-Resistan

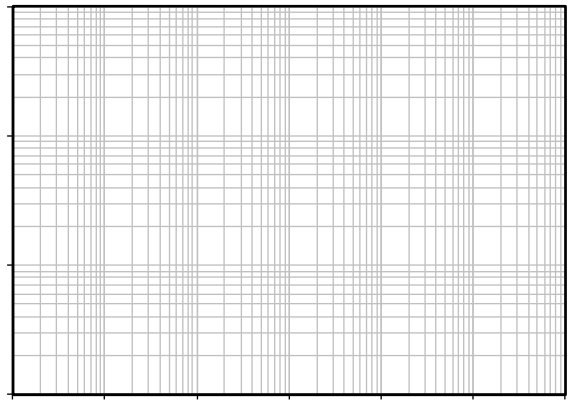


Figure 13. Maximum Transient Thermal Impedance

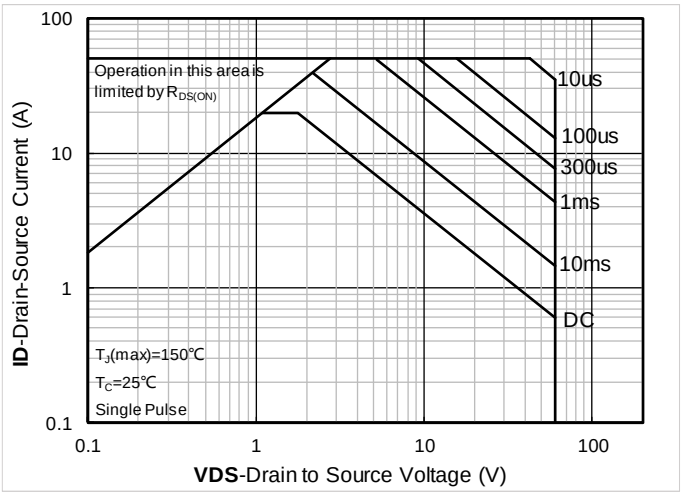


Figure 14. Safe Operation Area

PMOS Typical Electrical and Thermal Characteristics Diagrams

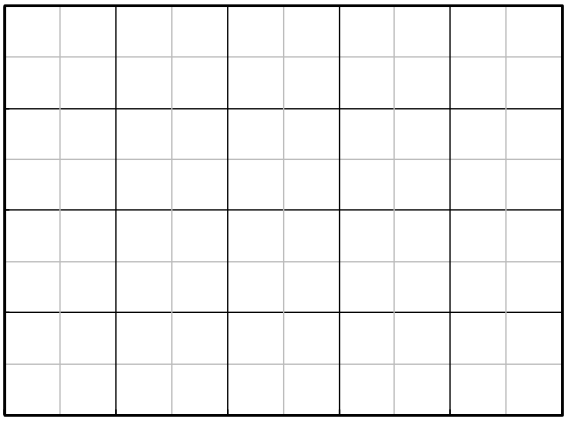


Figure 1. Output Characteristics

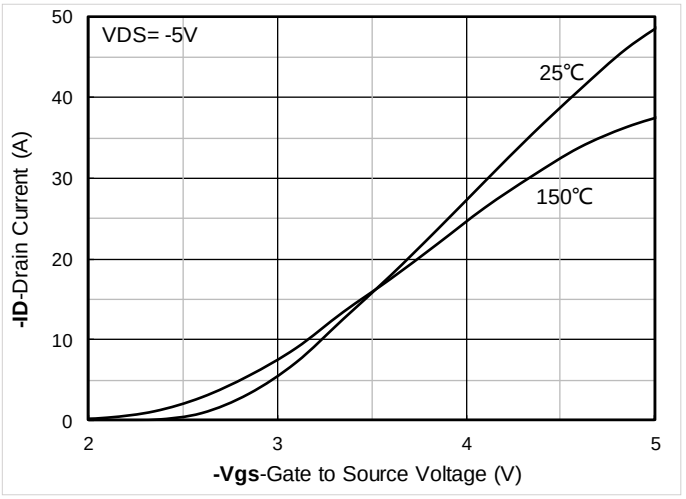


Figure 2. Transfer Characteristics

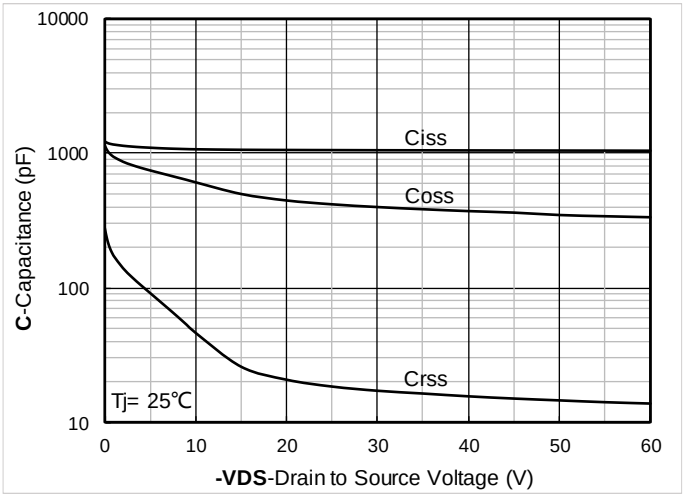


Figure 3. Capacitance Characteristics

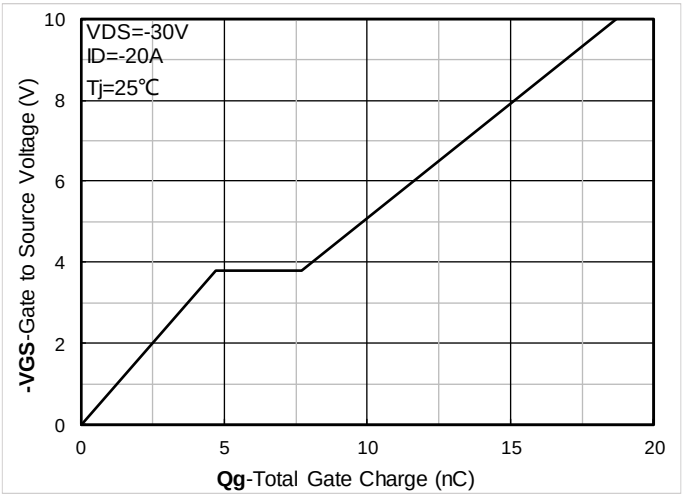


Figure 4. Gate Charge

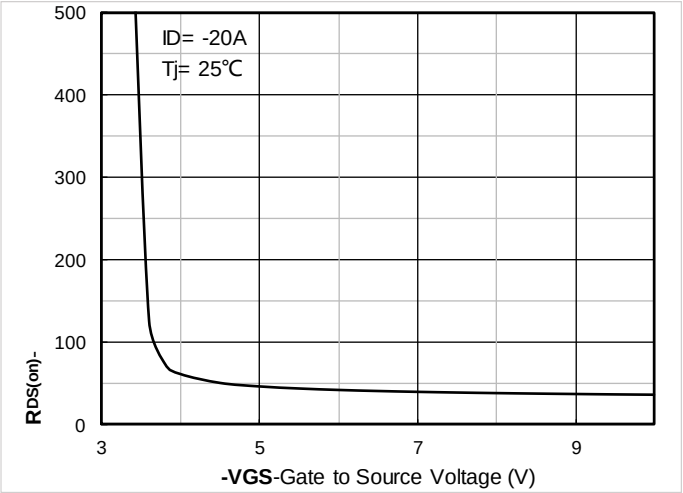


Figure 5. On-Resistance vs Gate to Source Voltage

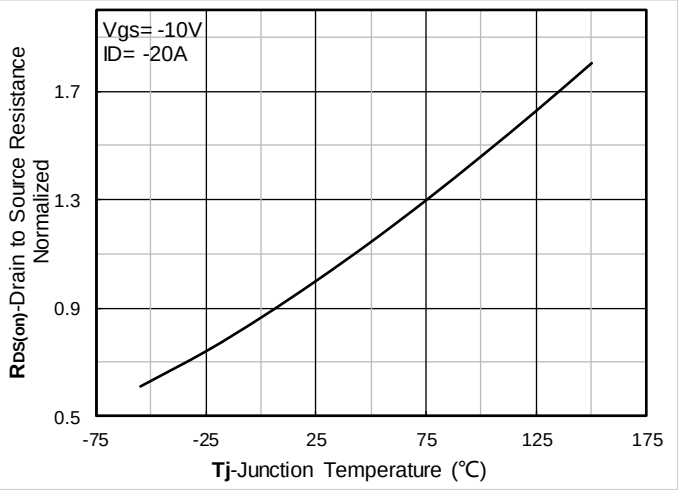


Figure 6. Normalized On-Resistance

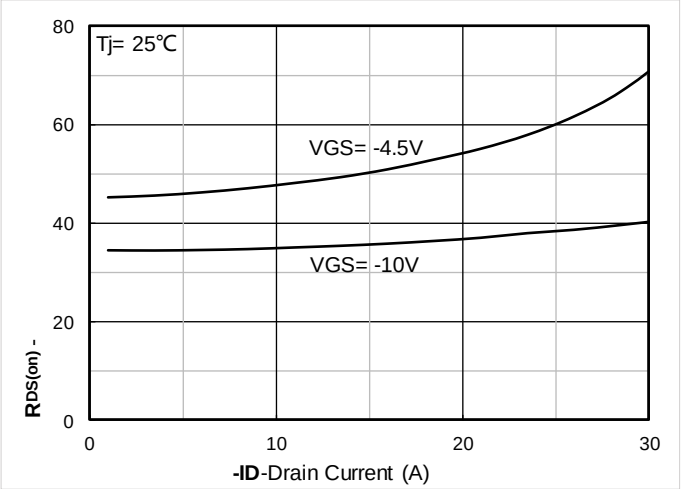


Figure 7. $R_{DS(on)}$ VS Drain Current

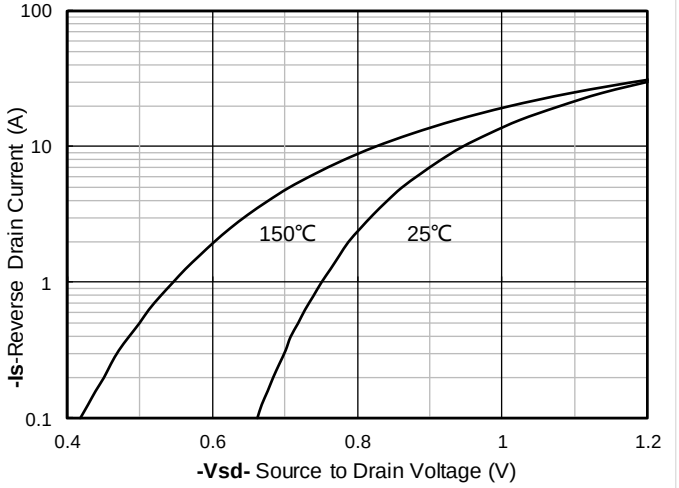


Figure 8. Forward characteristics of reverse diode

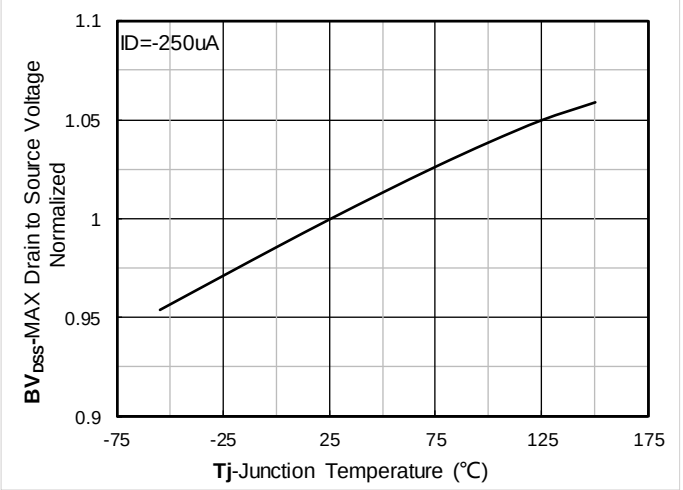


Figure 9. Normalized breakdown voltage

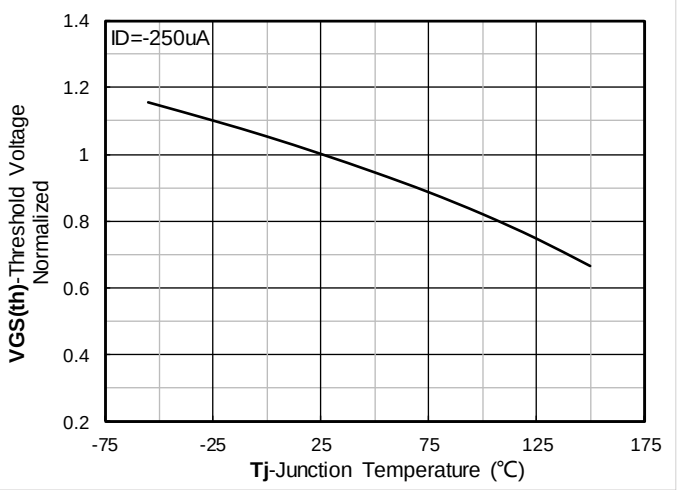


Figure 10. Normalized Threshold voltage

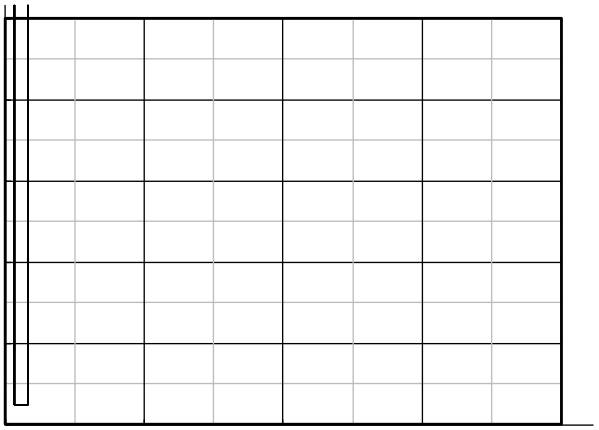


Figure 11. Current dissipation

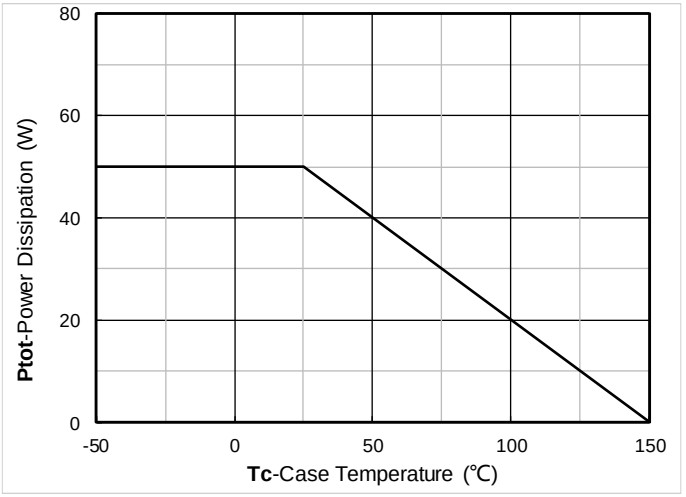


Figure 12. Power dissipation

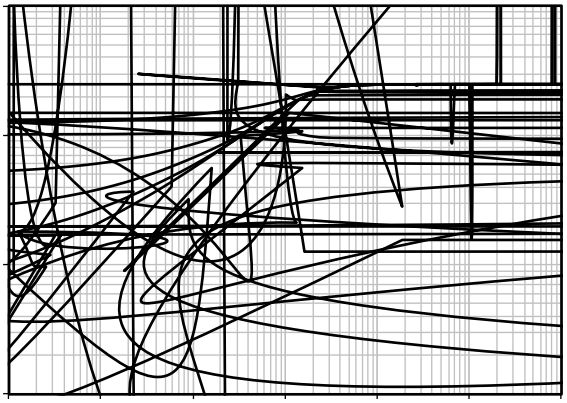


Figure 13. Maximum Transient Thermal Impedance

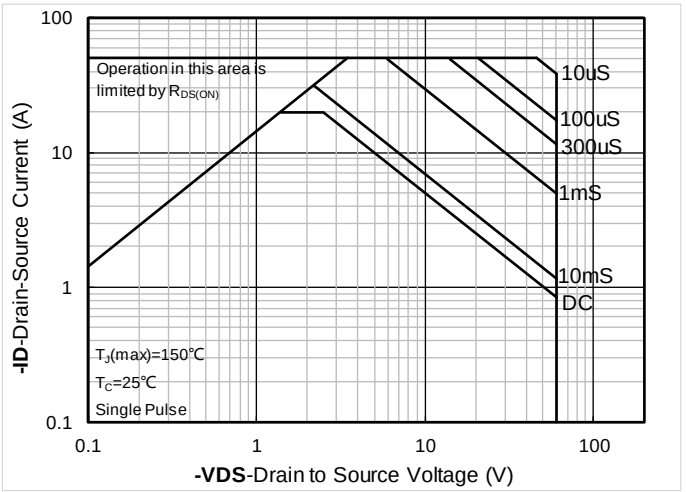
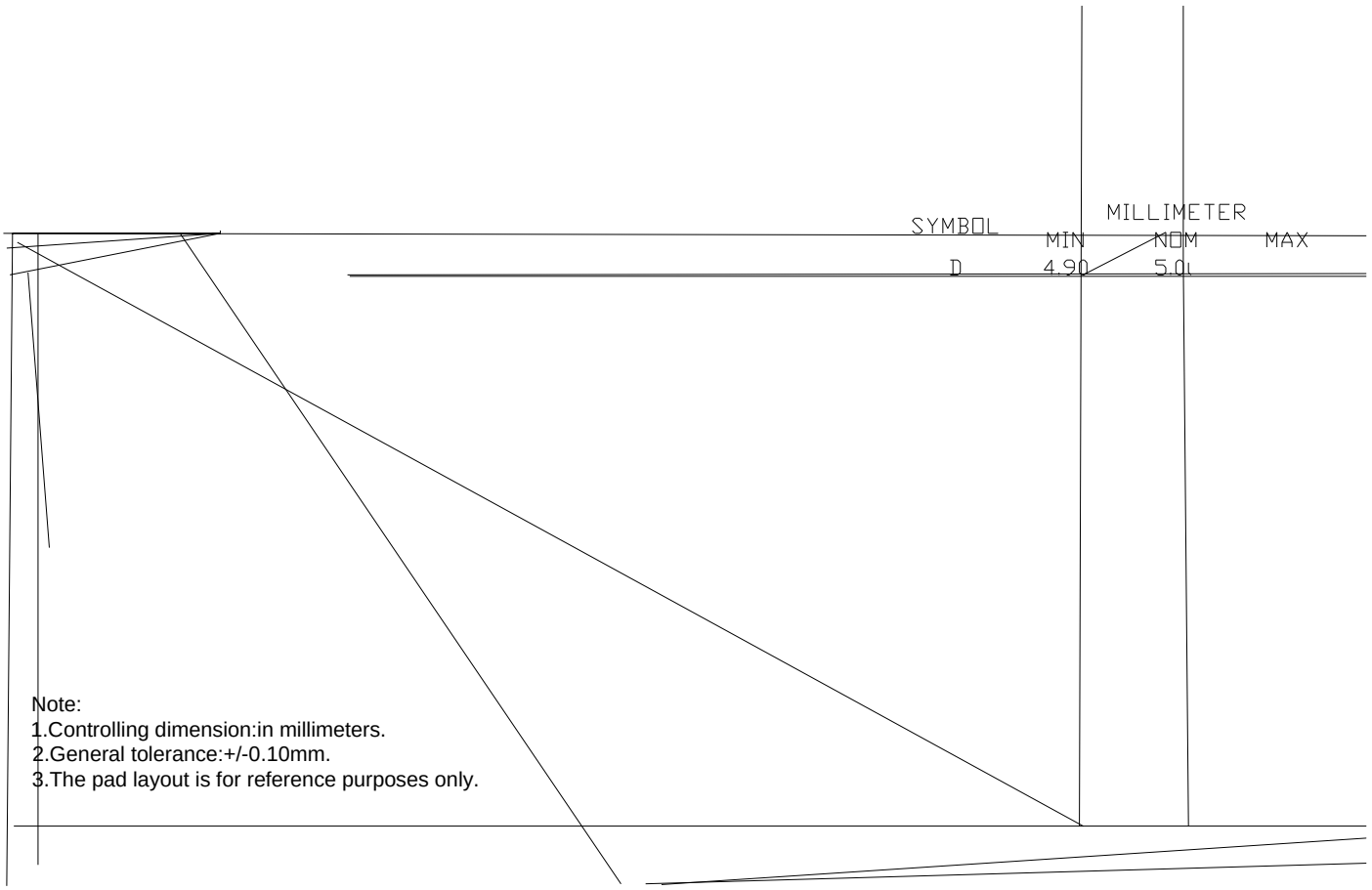


Figure 14. Safe Operation Area

DFN5060-8L Package information



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

Disclaimer

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