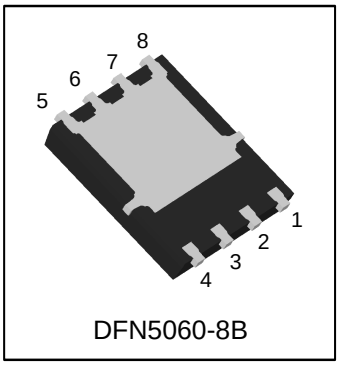
LN7612DT1WG

100V N-Channel MOSFET



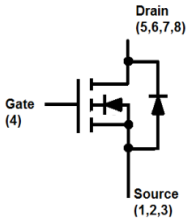
DFN5060-8B

1. FEATURES

- RDS(ON) =10.3mΩ@VGS = 10V
- Improved dv/dt capability
- Fast switching
- 100% EAS Guaranteed
- We declare that the material of product compliance with RoHS requirements and Halogen Free.

2. APPLICATIONS

- Networking
- Load Switch
- LED applications



3. DEVICE MARKING AND RESISTOR VALUES

Device	Marking	Shipping
LN7612DT1WG	LN7612	3000/Tape&Reel

4. MAXIMUM RATINGS(Ta = 25ºC)

Parameter		Symbol	Limits	Unit
Drain-to-Source Voltage		VDS	100	V
Gate-to-Source Voltage		VGS	±20	V
Continuous Drain Current	TC=25℃	ID	48	A
	TC=100℃		30	A
Pulsed Drain Current		IDM	192	A
Single Pulse Avalanche Current L=0.1mH		IAS	25	A
Single Pulse Avalanche Energy L=0.1mH		EAS	33	mJ
Power Dissipation TC =25 ℃		PD	61	W
Operating Junction and Storage Temperature Range		Tj/Tstg	-50~+150	℃

5. THERMAL CHARACTERISTICS

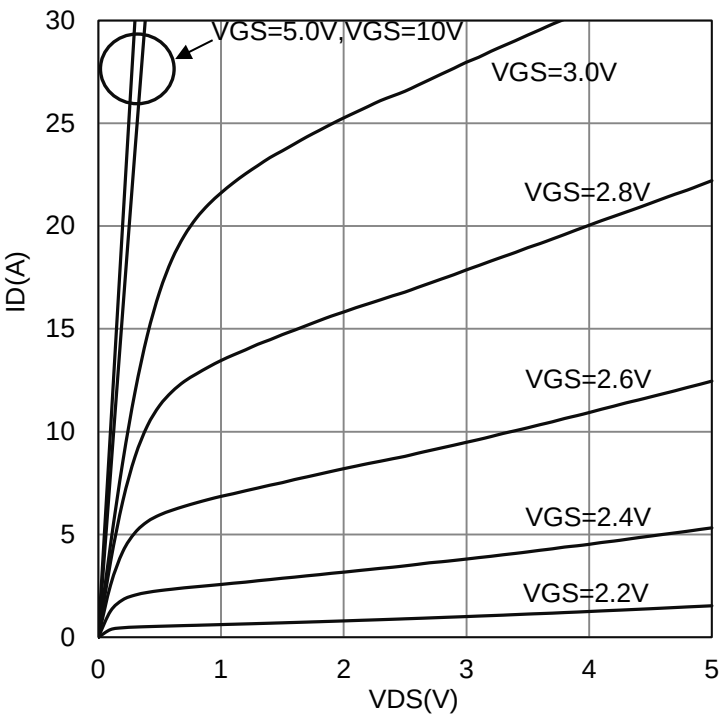
Parameter	Symbol	Max	Unit
Junction-to-Ambient	Rthja	62	℃/W
Junction-to-Case	Rthjc	2.04	

1.Repetitive Rating : Pulsed width limited by maximum junction temperature.

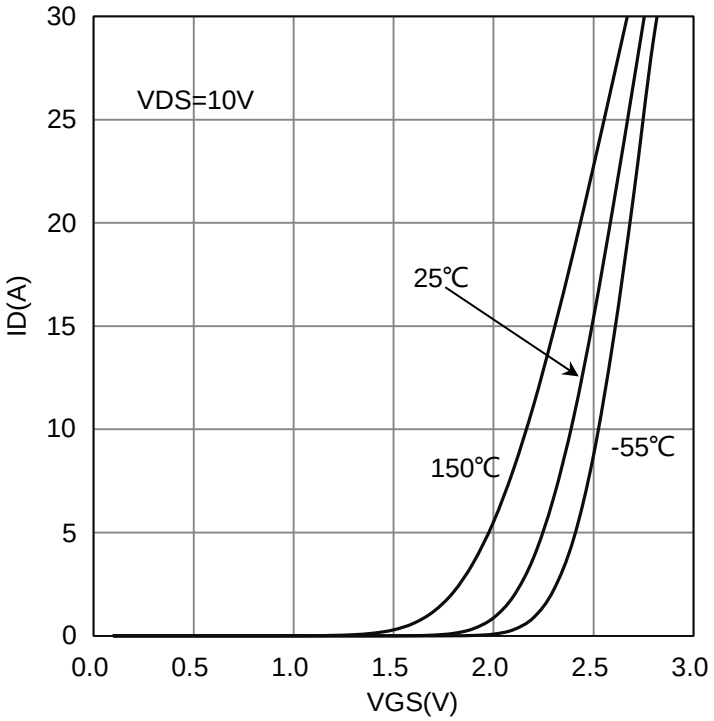
6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

Characteristic		Symbol	Min.	Typ.	Max.	Unit
Drain to Source Breakdown Voltage (VGS =0V, ID =250μA)		VDSS	100	-	-	V
Drain-to-Source Leakage Current (VDS =80V,VGS =0V,TJ =25 ℃)		IDSS	-	-	1	μA
Gate-Body leakage current (VDS =0V, VGS = ±20V)		IGSS	-	-	±100	nA
Gate Threshold Voltage (VDS = VGS , ID = 250μA)		VGS(th)	1.2	1.5	2.5	V
Drain-to-Source On-Resistance (VGS = 10 V, ID = 20 A) (VGS = 4.5 V, ID = 15 A)		RDS(ON)	- -	- -	10.3 15	mΩ
Gate Resistance		Rg	-	0.23	-	Ω
Forward Transconductance (VDS = 10V, ID = 3A)		gfs	-	10	-	S
Total Gate Charge	(VDS =50V , VGS =10V , ID =10A)	Qg	-	20	-	nC
Gate to Source Charge		Qgs	-	3.4	-	
Gate to Drain Charge		Qgd	-	4.3	-	
Turn-on Delay Time	(VDD =50V , VGS =10V , RG =6Ω,ID =1A)	td(on)	-	14.2	-	nS
Rise Time		tr	-	20.8	-	
Turn-Off Delay Time		td(off)	-	42	-	
Fall Time		tf	-	30	-	
Input Capacitance	(VGS = 0V ,VDS = 50V, f = 1MHz)	Ciss	-	1250	-	pF
Output Capacitance		Coss	-	247	-	
Reverse Transfer Capacitance		Crss	-	5.3	-	

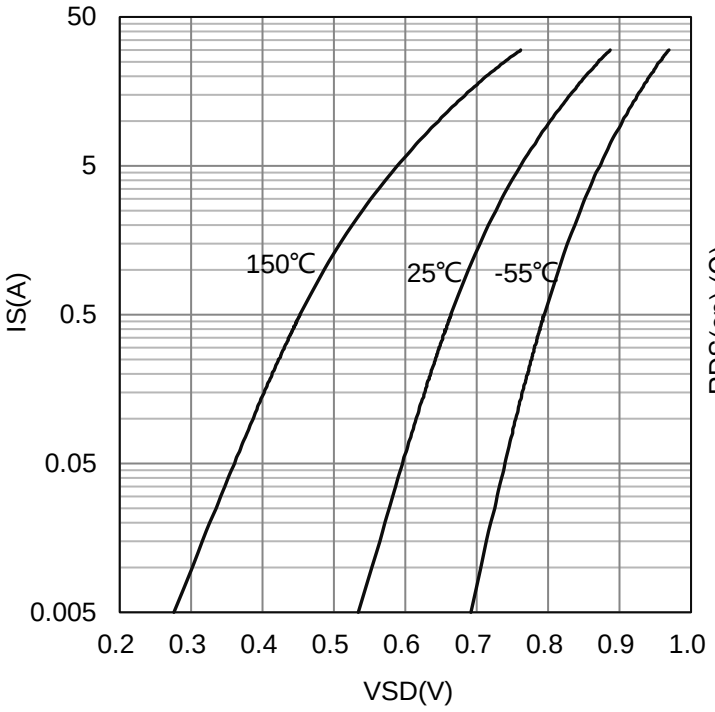
7.ELECTRICAL CHARACTERISTICS CURVES



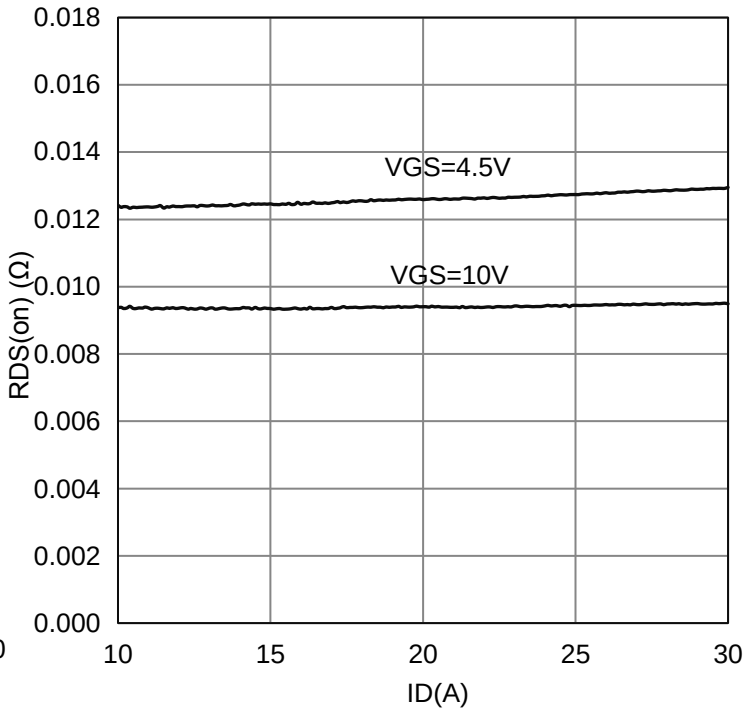
ID vs. VDS



ID vs. VGS

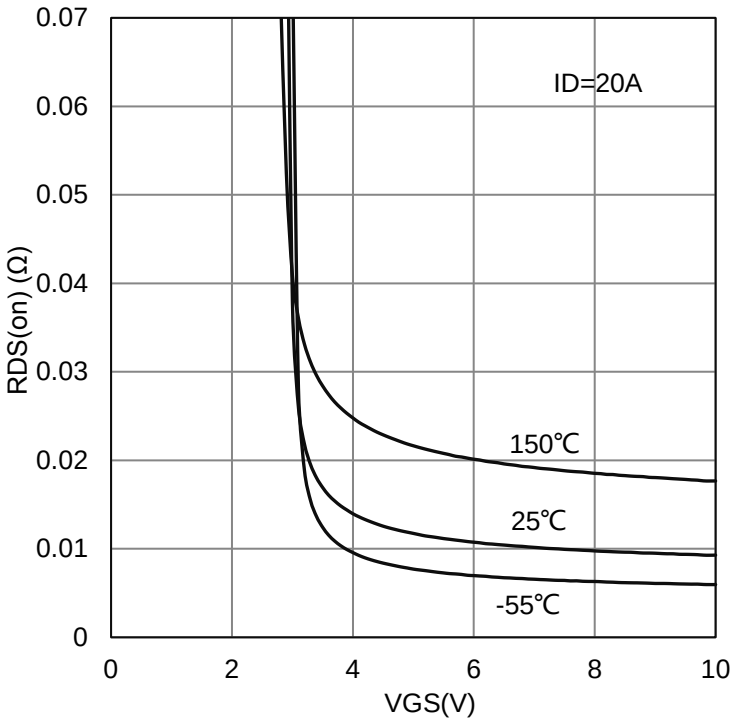


IS vs. VSD

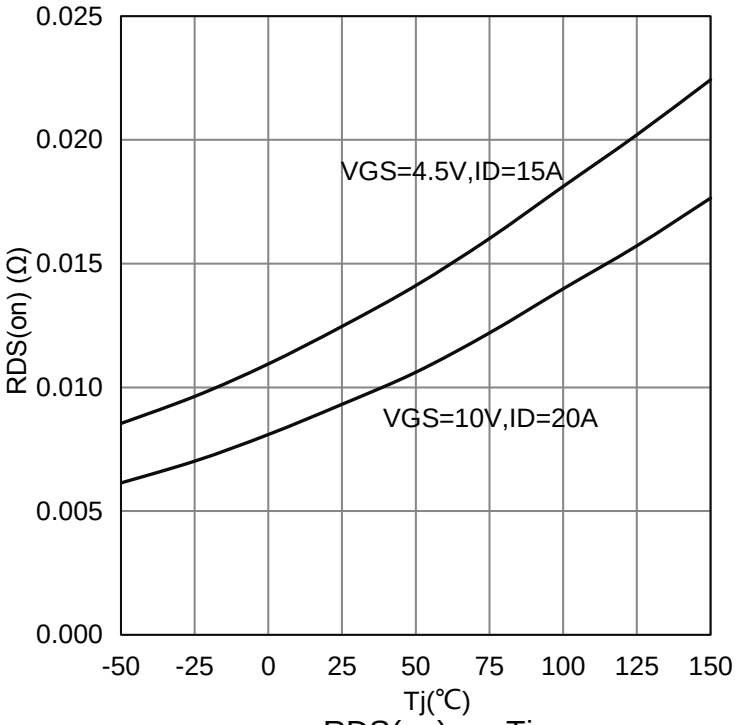


RDS(on) vs. ID

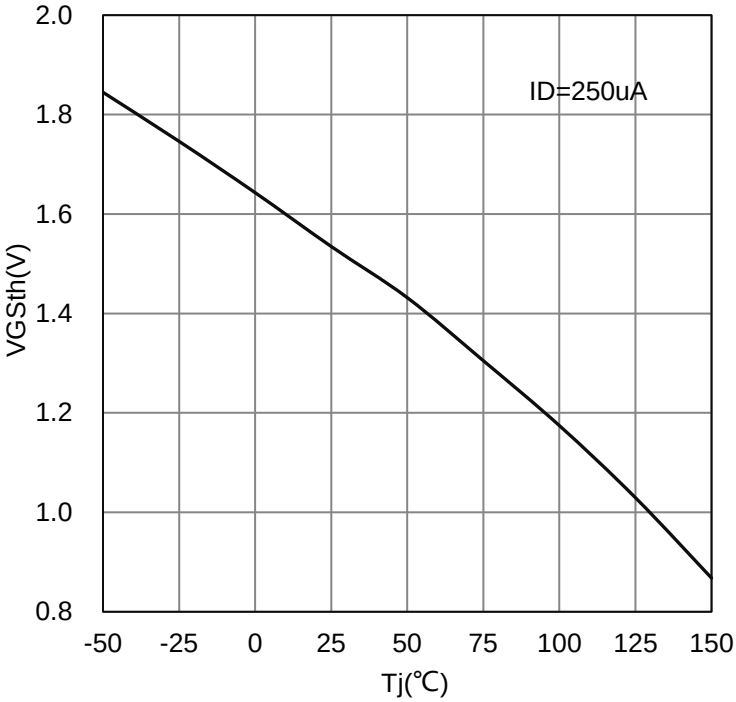
7.ELECTRICAL CHARACTERISTICS CURVES(Con.)



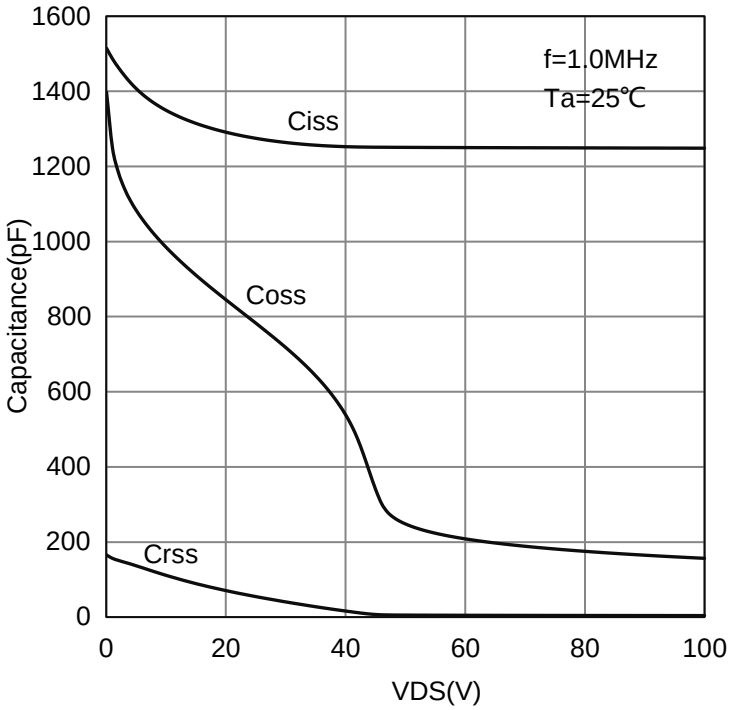
RDS(on) vs. VGS



RDS(on) vs. Tj



VGSth vs. Tj



Capacitance

8.OUTLINE AND DIMENSIONS

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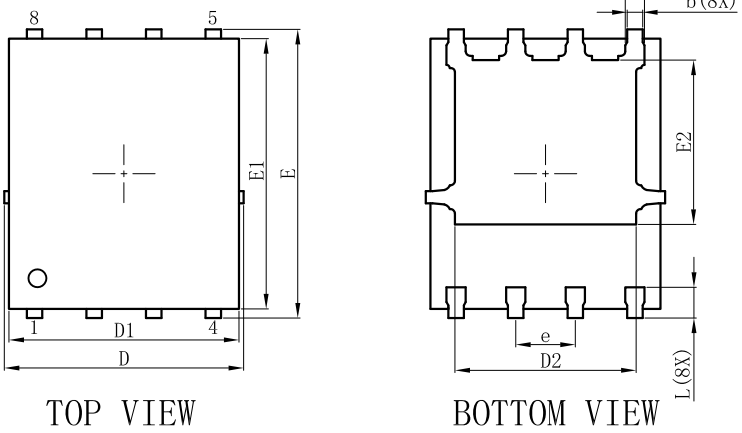
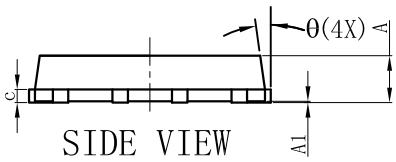


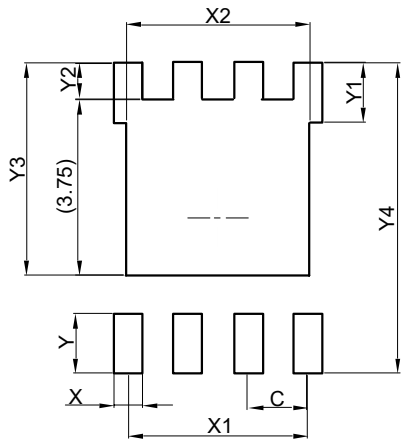
DFN5060-8B			
DIM	MIN	NOR	MAX
A	0.90	1.00	1.10
A1	0.00	0.02	0.05
E	6.00	6.15	6.30
E1	5.66	5.76	5.86
E2	3.40	3.50	3.60
D	4.95	5.10	5.25
D1	4.80	4.90	5.00
D2	3.76	3.86	3.96
b	0.30	0.35	0.40
B	0.36	0.41	0.46
L	0.56	0.66	0.76
e	1.27BSC		
c	0.254REF.		
θ	0°	-	12°
All Dimensions in mm			



GENERAL NOTES

1. Top package surface finish Ra0.4±0.2um
2. Bottom package surface finish Ra0.7±0.2um
3. Side package surface finish Ra0.4±0.2um
4. Protrusion or Gate Burrs shall not exceed 0.05mm per side.
5. Offcenter Max0.038mm; Mismatch Max 0.038mm.

9.SOLDERING FOOTPRINT



DFN5060-8B	
DIM	(mm)
C	1.27
X	0.61
X1	3.81
X2	3.91
Y	1.27
Y1	1.27
Y2	0.77
Y3	4.52
Y4	6.61