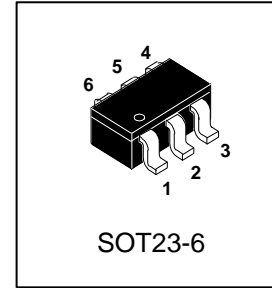


# N2605

## N-Channel 60-V (D-S) MOSFET

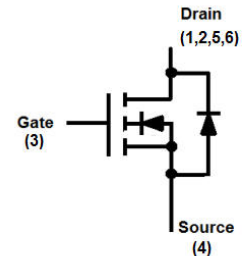
### 1. FEATURES

- Low RDS(on) trench technology.
- Low thermal impedance.
- Fast switching speed.
- We declare that the material of product are Halogen Free and compliance with RoHS requirements.



### 2. APPLICATION

- Power Routing
- DC/DC Conversion
- Motor Drives



### 3. ORDERING INFORMATION

Device	Marking	Shipping
N2605	SN5	3000/Tape&Reel

### 4. MAXIMUM RATINGS(Ta = 25°C unless otherwise stated)

Parameter	Symbol	Limits	Unit
Drain-to-Source Voltage	VDSS	60	V
Gate-to-Source Voltage	VGS	±20	V
Continuous Drain Current(Note 1)	ID	TA =25°C	5.2
		TA =70°C	3.6
Pulsed Drain Current (Note 2)	IDM	21	A
Avalanche Current (L = 0.1mH)	IAS	12	A
Avalanche Energy (L = 0.1mH)	EAS	7.2	mJ
Operating Junction and Storage Temperature Range	TJ , TSTG	-55 ~+150	°C

- 1.Surface Mounted on 1" x 1" FR4 Board.
- 2.Pulse width limited by maximum junction temperature.

### 5. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Thermal Resistance,Junction-to-Ambient (Note 3)	RθJA	125	°C/W

3. Surface Mounted on FR4 Board, t ≤ 10 sec.



**6. ELECTRICAL CHARACTERISTICS**

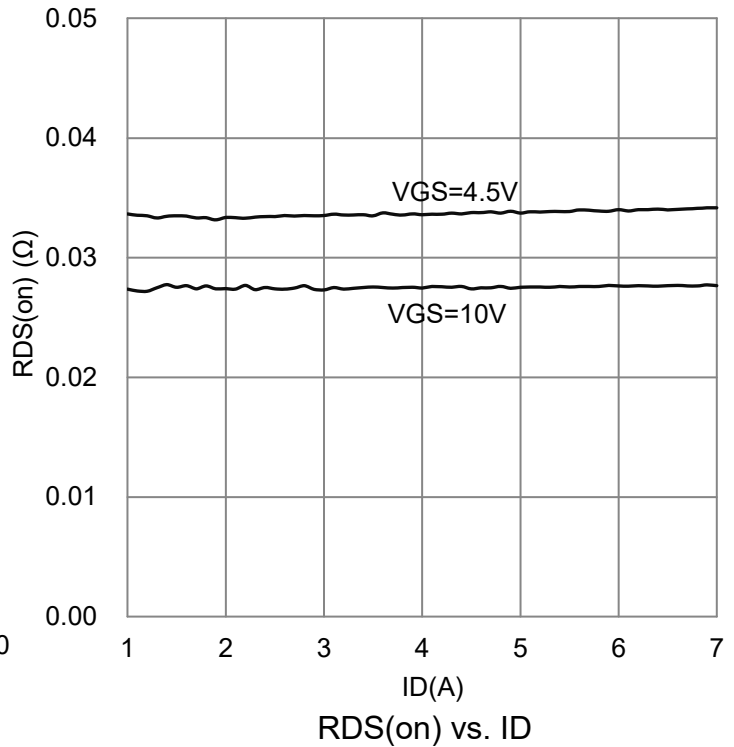
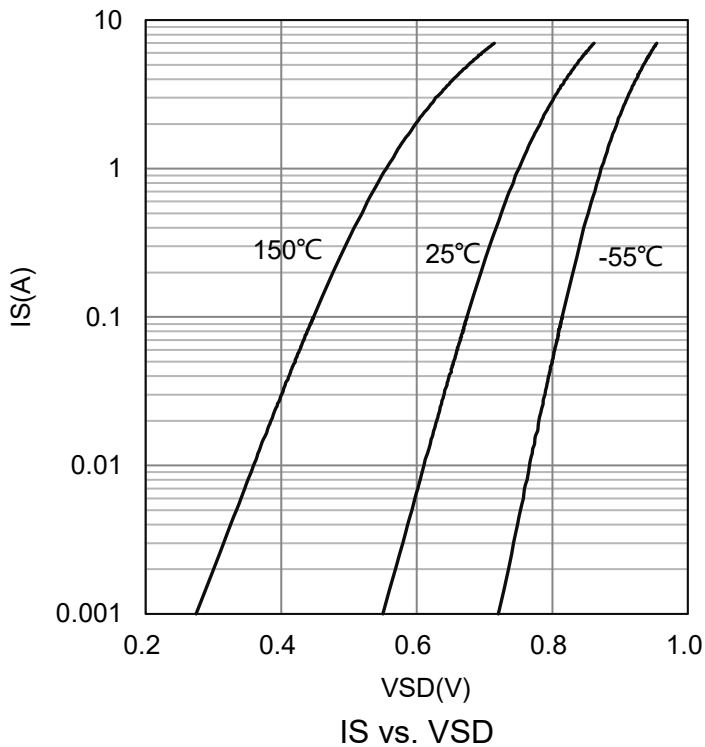
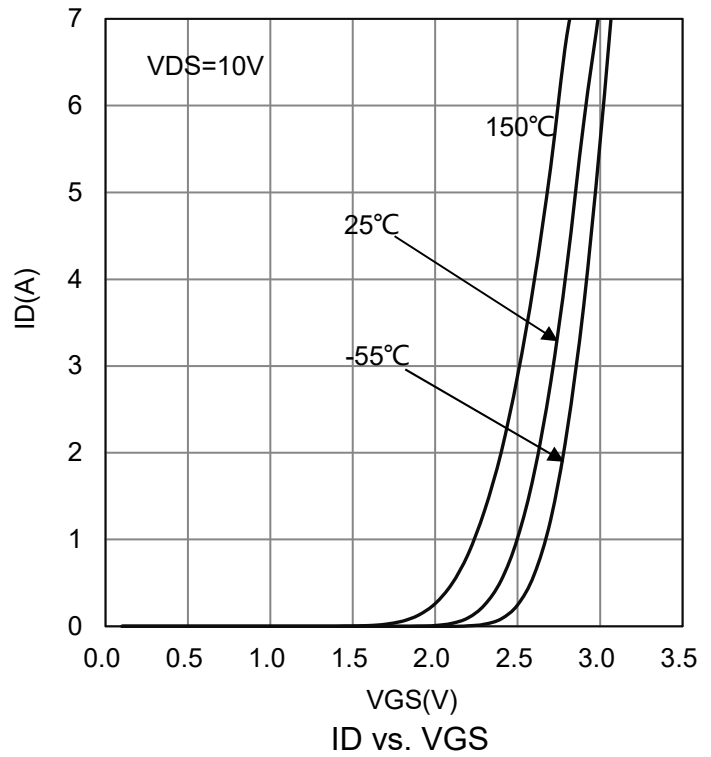
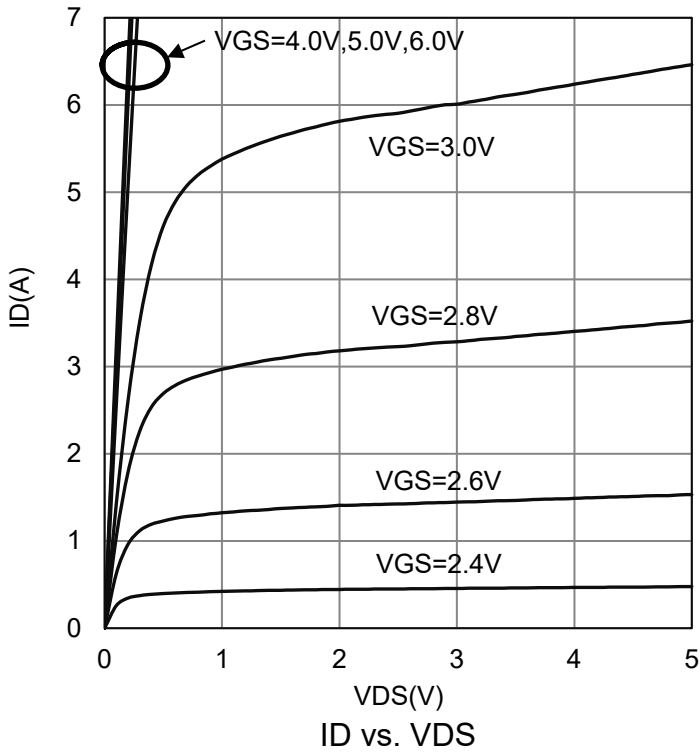
Characteristic	Symbol	Min.	Typ.	Max.	Unit
Static					
Gate-Source Threshold Voltage (VDS = VGS , ID = 250 $\mu$ A)	VGS(th)	1	-	3	V
Gate-Body Leakage (VDS = 0 V, VGS = $\pm$ 20 V)	IGSS	-	-	$\pm$ 10	$\mu$ A
Zero Gate Voltage Drain Current (VDS = 48 V, VGS = 0 V)	IDSS	-	-	1	$\mu$ A
Drain-Source On-Resistance(Note 4) (VGS = 10 V, ID =5.2 A) (VGS = 4.5 V, ID = 4 A)	RDS(on)	- -	27 35	35 45	m $\Omega$
Dynamic(Note 5)					
Total Gate Charge	(VDS = 30 V, VGS = 4.5 V, ID = 5A)	Qg	-	10	nC
Gate-Source Charge		Qgs	-	3.5	
Gate-Drain Charge		Qgd	-	3	
Turn-On Delay Time	(VDS = 30V, RL=6 $\Omega$ ,ID =5A,VGEN = 10 V, RGEN = 6 $\Omega$ )	td(on)	-	9	ns
Rise Time		tr	-	12	
Turn-Off Delay Time		td(off)	-	45	
Fall Time		tf	-	18	
Input Capacitance	(VDS = 15 V, VGS = 0 V, f = 1 MHz)	Ciss	-	1302	pF
Output Capacitance		Coss	-	65	
Reverse Transfer Capacitance		Crss	-	51.5	
Gate Resistance (VDS=0V,VGS=0V,f=1.0MHz)	Rg	-	0.24	-	$\Omega$
Diode Forward Voltage(Note 3) (IF = IS , VGS = 0V)	VSD	-	-	1.2	V
Continuous Current	IS	-	-	3.2	A
Pulsed Current	ISM	-	-	13	A

4.Pulse test: PW  $\leq$  300us duty cycle  $\leq$  2%.

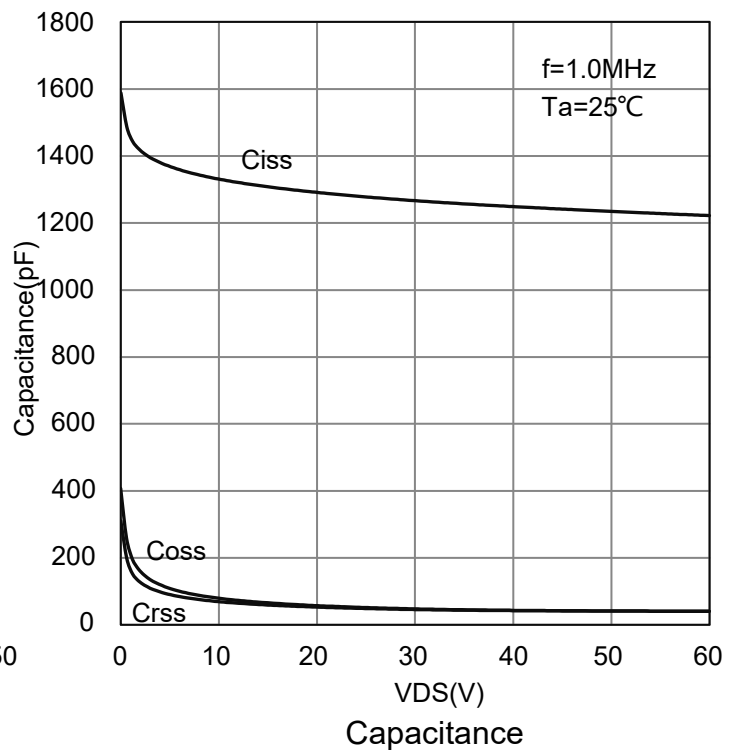
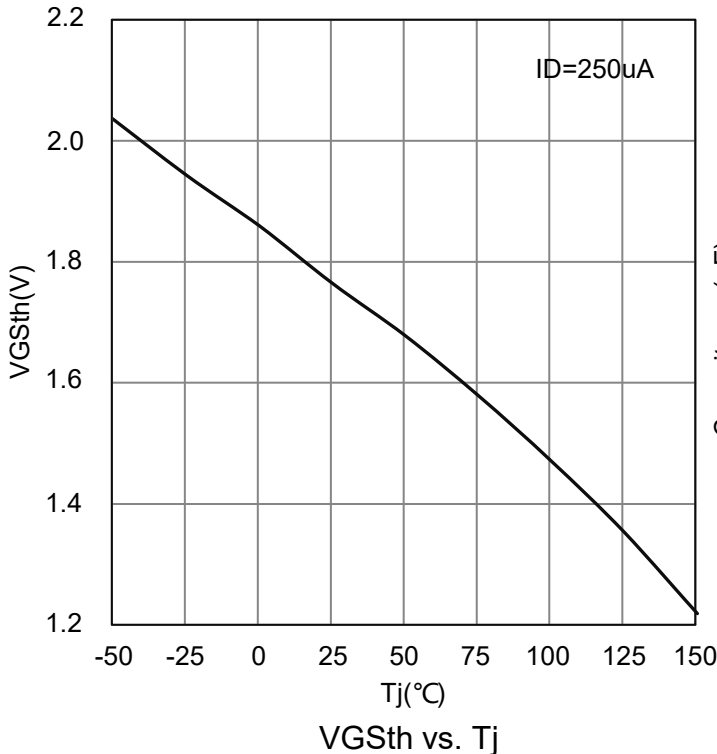
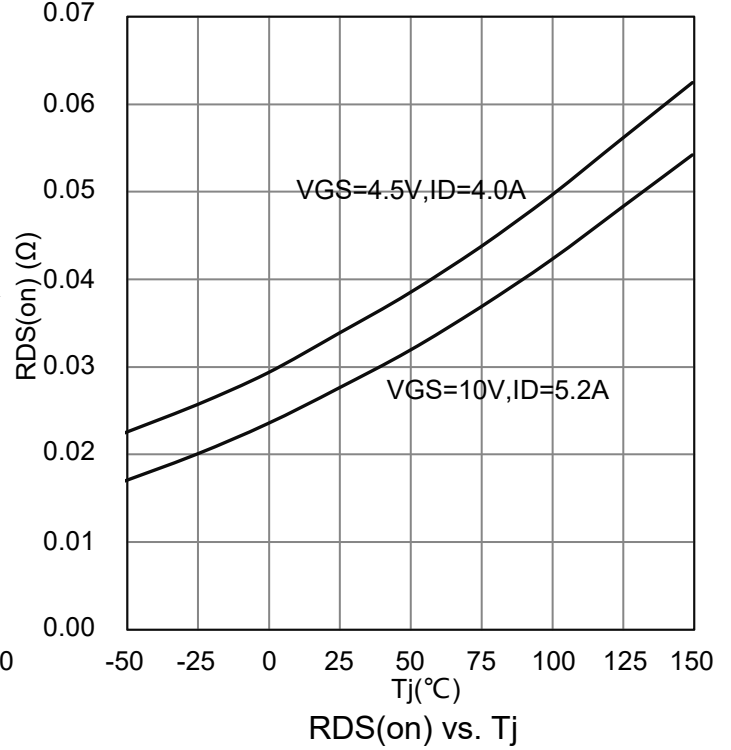
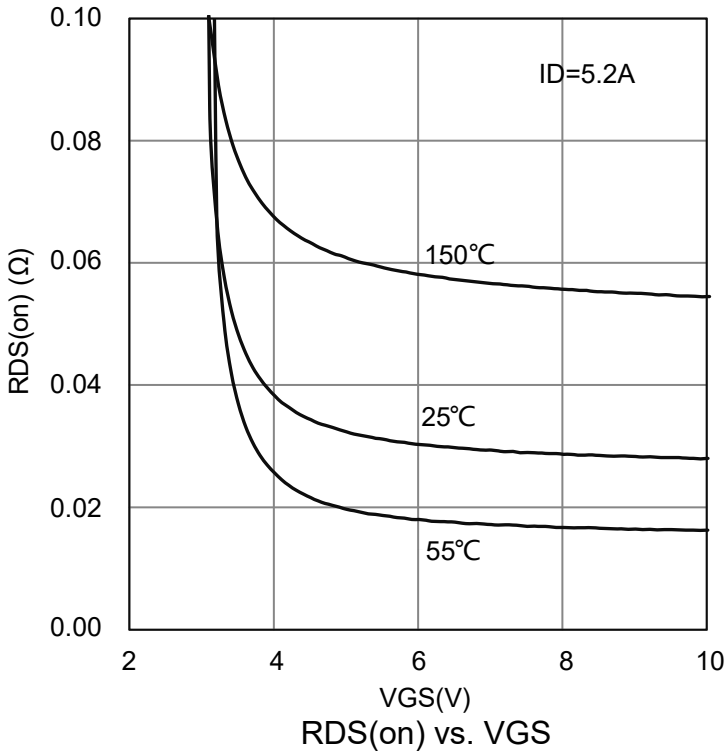
5.Guaranteed by design, not subject to production testing.

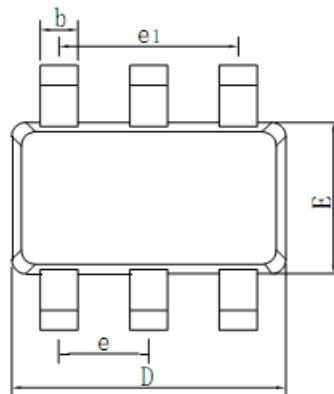
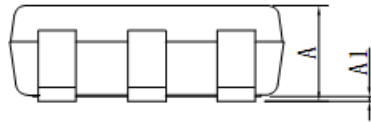
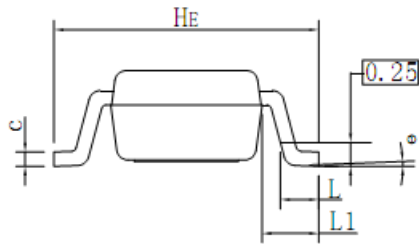


7.ELECTRICAL CHARACTERISTICS CURVES

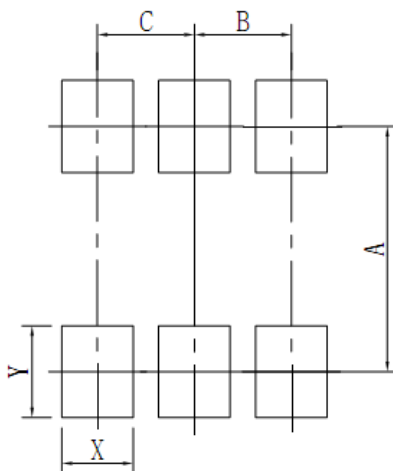


7.ELECTRICAL CHARACTERISTICS CURVES(Con.)



**8. OUTLINE AND DIMENSIONS**
**SOT23-6**


SOT23-6			
DIM	MIN	NOR	MAX
A	0.90	1.00	1.10
A1	0.01	0.06	0.10
b	0.25	0.40	0.50
c	0.10	0.17	0.26
D	2.80	2.90	3.10
E	1.30	1.60	1.70
e	0.85	0.95	1.05
e1	1.80	1.90	2.00
L	0.20	0.40	0.60
L1	0.60REF		
HE	2.50	2.80	3.00
θ	0°	-	10°

**9. SOLDERING FOOTPRINT**


SOT23-6	
DIM	(mm)
X	0.70
Y	0.90
A	2.40
B	0.95
C	0.95

