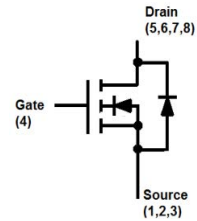
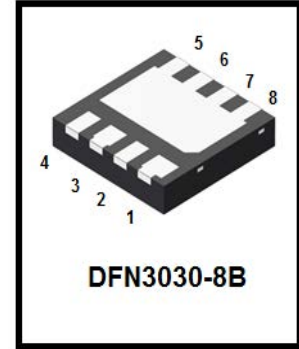


N8260D

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
N8260D	N60	3000/Tape&Reel

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)				
Parameter		Symbol	Limit	Units
Drain-Source Voltage		V_{DS}	60	V
Gate-Source Voltage		V_{GS}	± 20	
Continuous Drain Current ^a	$T_A = 25^\circ\text{C}$	I_D	9	A
	$T_A = 70^\circ\text{C}$		6.6	
Pulsed Drain Current ^b		I_{DM}	40	
Continuous Source Current (Diode Conduction) ^a		I_S	4.1	A
Power Dissipation ^a	$T_A = 25^\circ\text{C}$	P_D	3	W
	$T_A = 70^\circ\text{C}$		1.9	
Operating Junction and Storage Temperature Range		T_J, T_{stg}	-55 to 150	$^\circ\text{C}$

THERMAL RESISTANCE RATINGS				
Parameter		Symbol	Maximum	Units
Maximum Junction-to-Ambient ^a	$t \leq 10 \text{ sec}$	$R_{\theta JA}$	40	$^\circ\text{C/W}$
	Steady State		90	

Notes

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



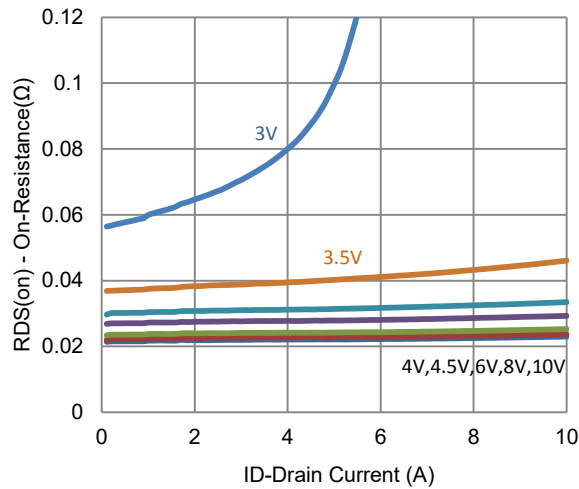
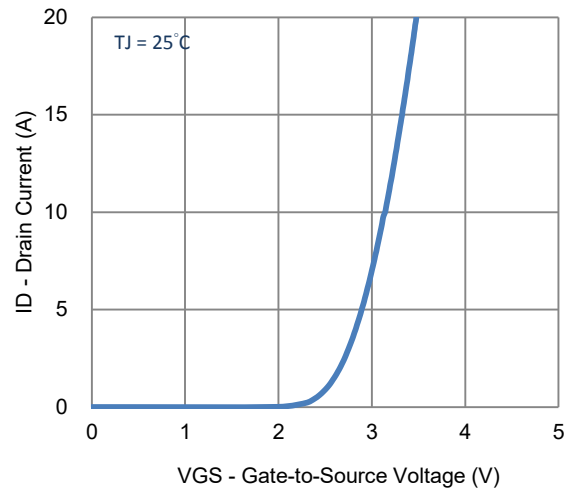
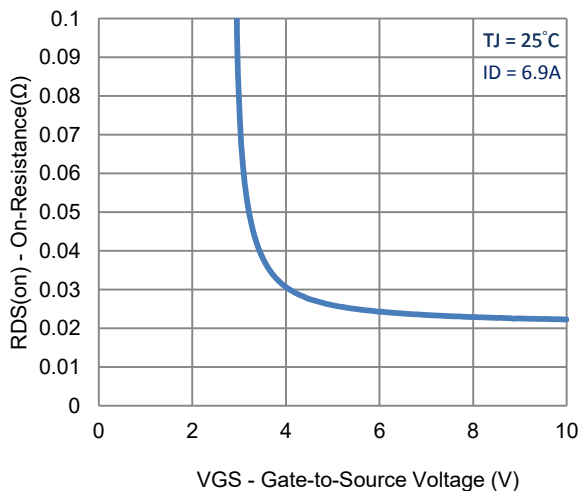
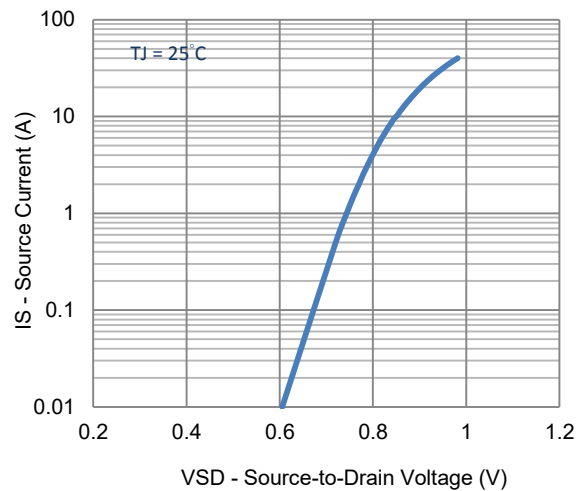
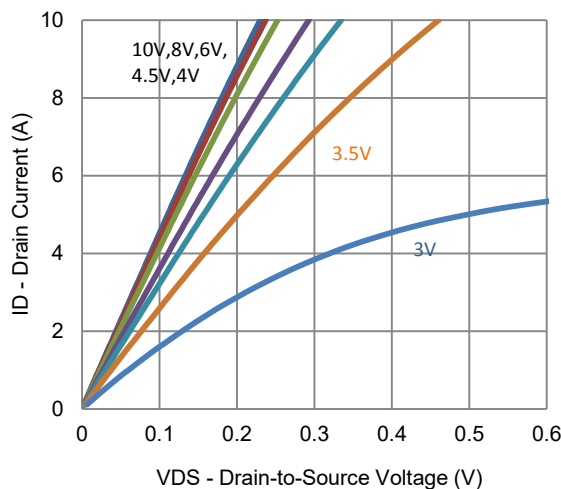
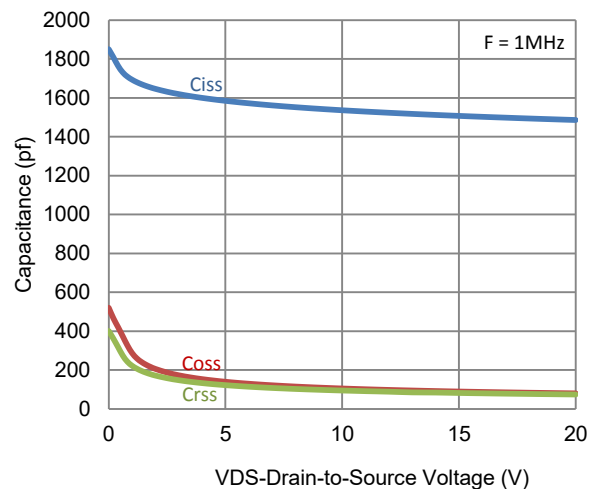
Electrical Characteristics

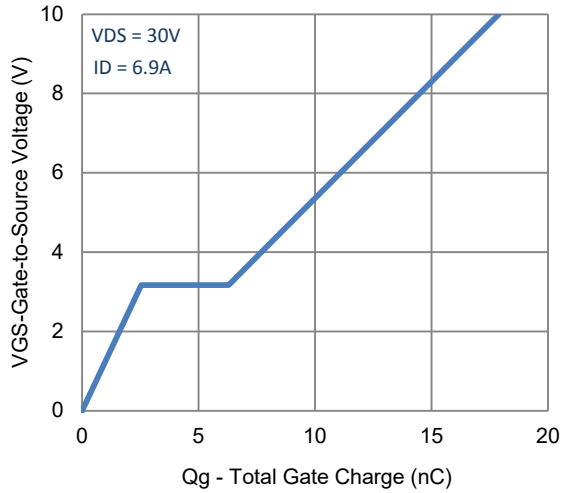
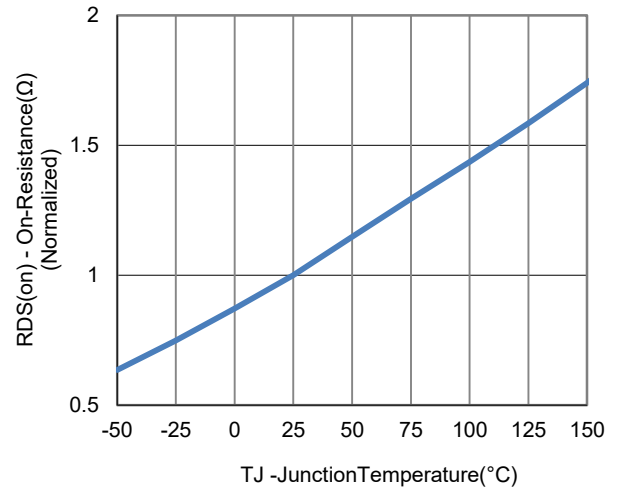
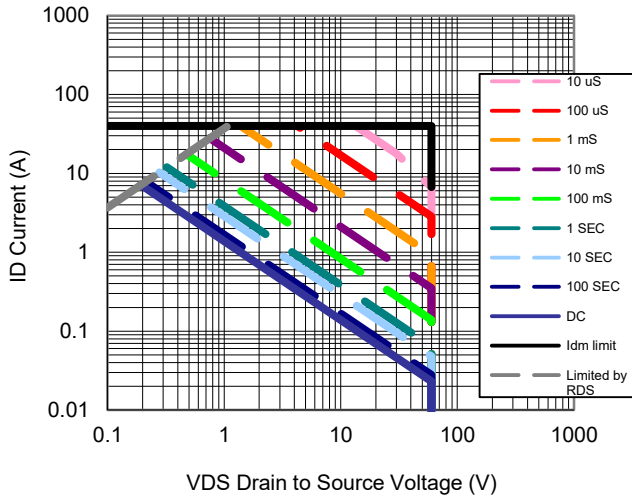
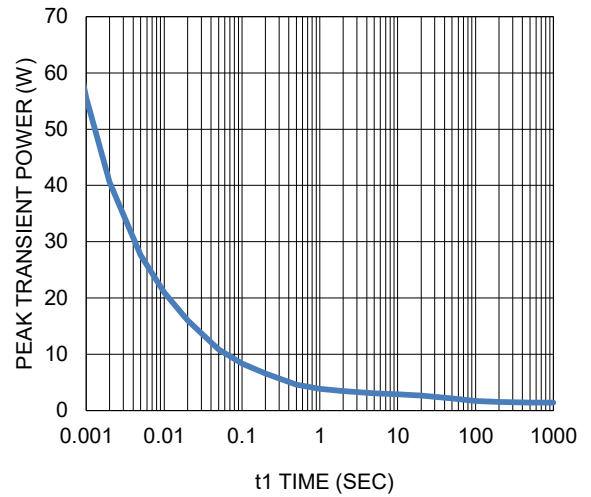
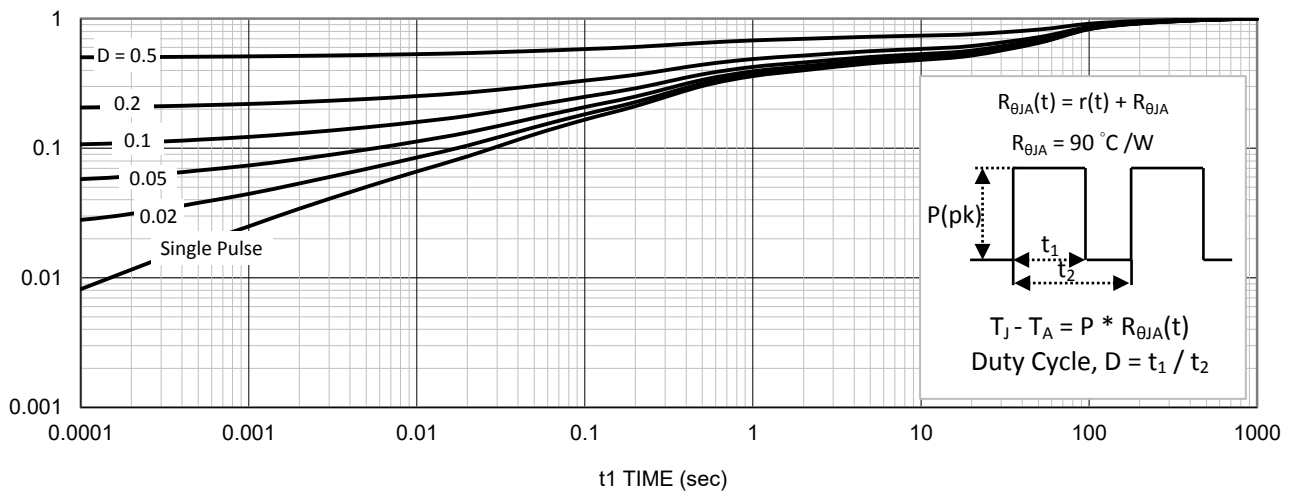
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Static						
Gate-Source Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250 \mu A$	1			V
Gate-Body Leakage	I_{GSS}	$V_{DS} = 0 V, V_{GS} = \pm 20 V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 48 V, V_{GS} = 0 V$			1	uA
		$V_{DS} = 48 V, V_{GS} = 0 V, T_J = 55^\circ C$			25	
On-State Drain Current ^a	$I_{D(on)}$	$V_{DS} = 5 V, V_{GS} = 10 V$	13			A
Drain-Source On-Resistance ^a	$r_{DS(on)}$	$V_{GS} = 10 V, I_D = 6.9 A$			27	mΩ
		$V_{GS} = 4.5 V, I_D = 5.6 A$			33	
Forward Transconductance ^a	g_{fs}	$V_{DS} = 15 V, I_D = 6.9 A$		14		S
Diode Forward Voltage ^a	V_{SD}	$I_S = 2.1 A, V_{GS} = 0 V$		0.78		V
Dynamic ^b						
Total Gate Charge	Q_g	$V_{DS} = 30 V, V_{GS} = 4.5 V,$ $I_D = 6.9 A$		8.6		nC
Gate-Source Charge	Q_{gs}			2.5		
Gate-Drain Charge	Q_{gd}			3.7		
Turn-On Delay Time	$t_{d(on)}$	$V_{DS} = 30 V, R_L = 4.4 \Omega,$ $I_D = 6.9 A,$ $V_{GEN} = 10 V, R_{GEN} = 6 \Omega$		5		ns
Rise Time	t_r			6		
Turn-Off Delay Time	$t_{d(off)}$			31		
Fall Time	t_f			9		
Input Capacitance	C_{iss}	$V_{DS} = 15 V, V_{GS} = 0 V, f = 1 Mhz$		1507		pF
Output Capacitance	C_{oss}			89		
Reverse Transfer Capacitance	C_{rss}			82		

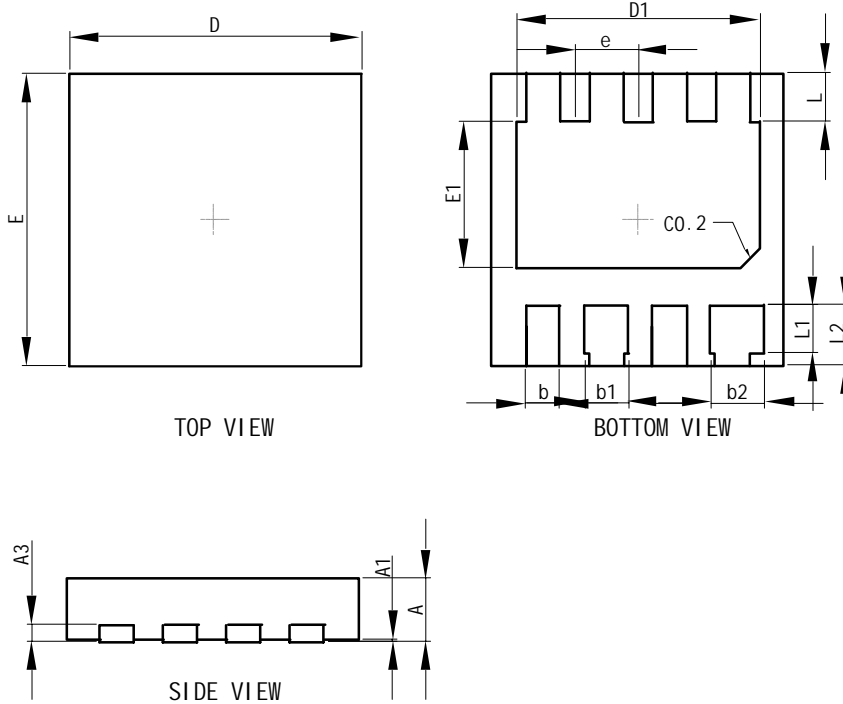
Notes

- a. Pulse test: PW ≤ 300us duty cycle ≤ 2%.
- b. Guaranteed by design, not subject to production testing.

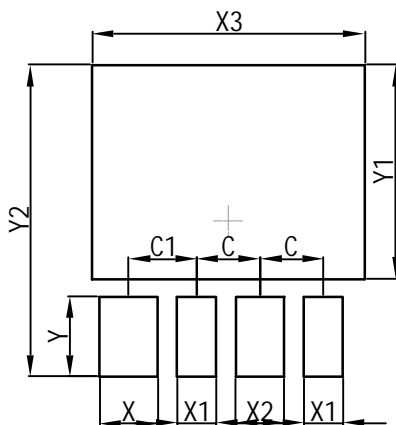


Typical Electrical Characteristics

1. On-Resistance vs. Drain Current

2. Transfer Characteristics

3. On-Resistance vs. Gate-to-Source Voltage

4. Drain-to-Source Forward Voltage

5. Output Characteristics

6. Capacitance


Typical Electrical Characteristics

7. Gate Charge

8. Normalized On-Resistance Vs Junction Temperature

9. Safe Operating Area

10. Single Pulse Maximum Power Dissipation

11. Normalized Thermal Transient Junction to Ambient


OUTLINE AND DIMENSIONS


DFN3030-8B			
Dim	Min	Nor	Max
A	0.60	0.65	0.70
A1	0.00	0.03	0.05
b	0.30	0.35	0.40
b1	0.40	0.45	0.50
b2	0.50	0.55	0.60
D	2.95	3.00	3.05
E	2.95	3.00	3.05
D1	2.45	2.50	2.55
E1	1.45	1.50	1.55
e	0.65BSC		
L	0.45	0.50	0.55
L1	0.44	0.49	0.54
L2	0.57	0.62	0.67
A3	0.152REF.		
All Dimensions in mm			

SOLDERING FOOTPRINT


DFN3030-8B	
Dim	(mm)
C	0.65
C1	0.70
X	0.60
X1	0.40
X2	0.50
X3	2.80
Y1	2.20
Y2	3.20
Y	0.82

