

Product Summary

V _{(BR)DSS}	R _{DS(on)TYP}	I _D
30V	8mΩ@10V	30A
	11mΩ@4.5V	

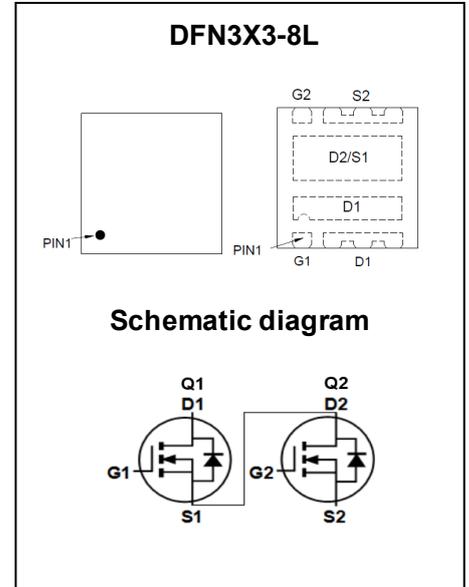
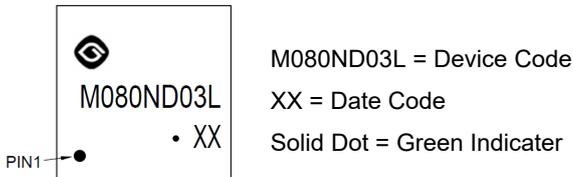
Feature

- Trench Technology Power MOSFET
- Low R_{DS(ON)}
- Low Gate Charge

Application

- Load Switch
- DC/DC Converter

MARKING:



ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain - Source Voltage	V _{DS}	30	V
Gate - Source Voltage	V _{GS}	±20	V
Continuous Drain Current ^{1,5}	T _C = 25°C	I _D	30
	T _C = 100°C	I _D	20
Pulsed Drain Current ²	I _{DM}	120	A
Power Dissipation ^{4,5}	T _C = 25°C	P _D	17
Thermal Resistance from Junction to Ambient ⁵	R _{θJA}	80	°C/W
Thermal Resistance from Junction to Case	R _{θJC}	7.2	°C/W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{STG}	-55~ +150	°C

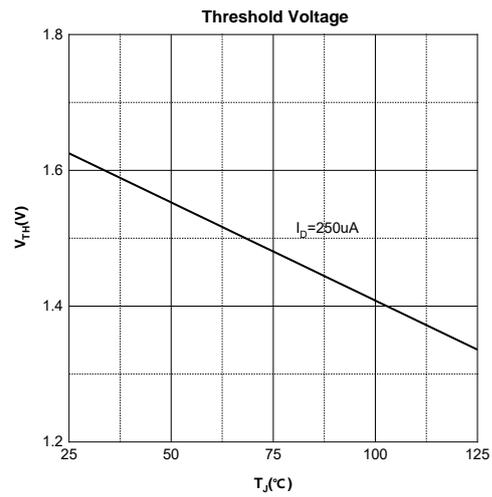
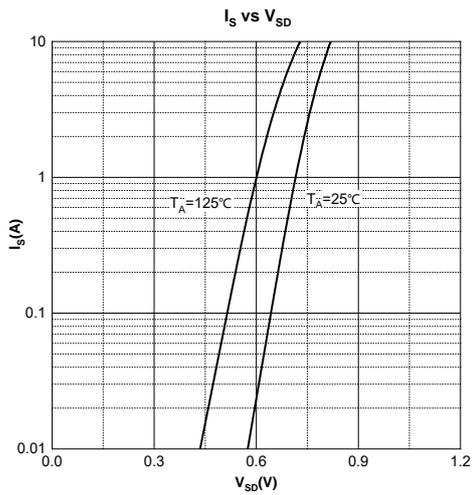
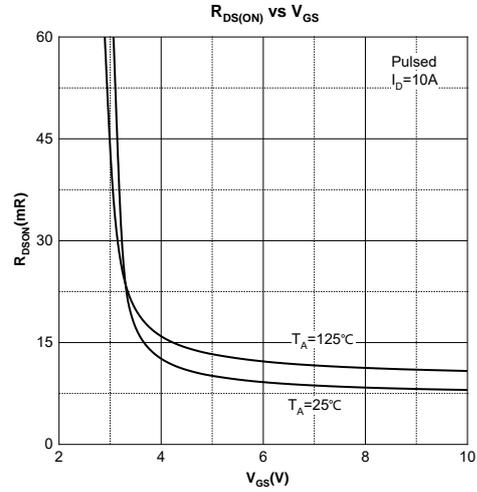
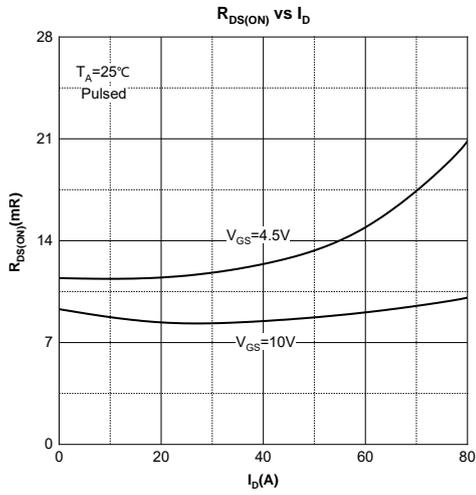
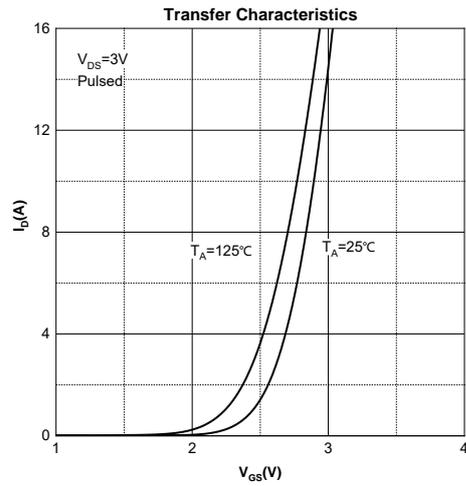
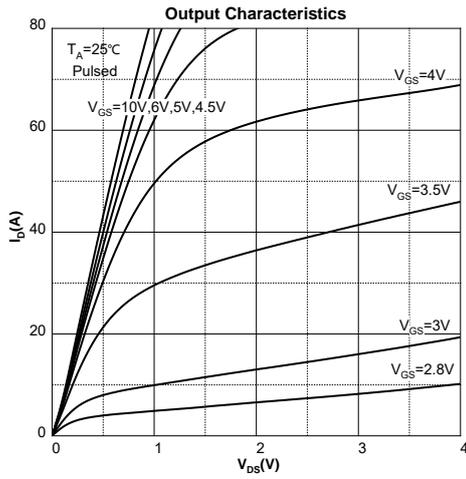
MOSFET ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Off Characteristics						
Drain - Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	30			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 30V, V_{GS} = 0V$			1	μA
Gate - Body Leakage Current	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$			± 100	nA
On Characteristics³						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1	1.6	3	V
Drain-source On-resistance	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 10A$		8	13	m Ω
		$V_{GS} = 4.5V, I_D = 10A$		11	18	
Dynamic Characteristics						
Input Capacitance	C_{iss}	$V_{DS} = 15V, V_{GS} = 0V, f = 1MHz$		1209		pF
Output Capacitance	C_{oss}			152		
Reverse Transfer Capacitance	C_{rss}			118		
Gate Resistance	R_g	$V_{DS} = 0V, V_{GS} = 0V, f = 1MHz$		2.6		Ω
Switching Characteristics						
Total Gate Charge	Q_g	$V_{DS} = 15V, V_{GS} = 10V, I_D = 10A$		24		nC
Gate-source Charge	Q_{gs}			3.5		
Gate-drain Charge	Q_{gd}			4.9		
Turn-on Delay Time	$t_{d(on)}$	$V_{DD} = 15V, V_{GS} = 10V, R_L = 1.8\Omega, R_G = 1.8\Omega$		9		ns
Turn-on Rise Time	t_r			7		
Turn-off Delay Time	$t_{d(off)}$			26		
Turn-off Fall Time	t_f			5		
Source - Drain Diode Characteristics						
Diode Forward Voltage ³	V_{SD}	$V_{GS} = 0V, I_S = 10A$			1.2	V

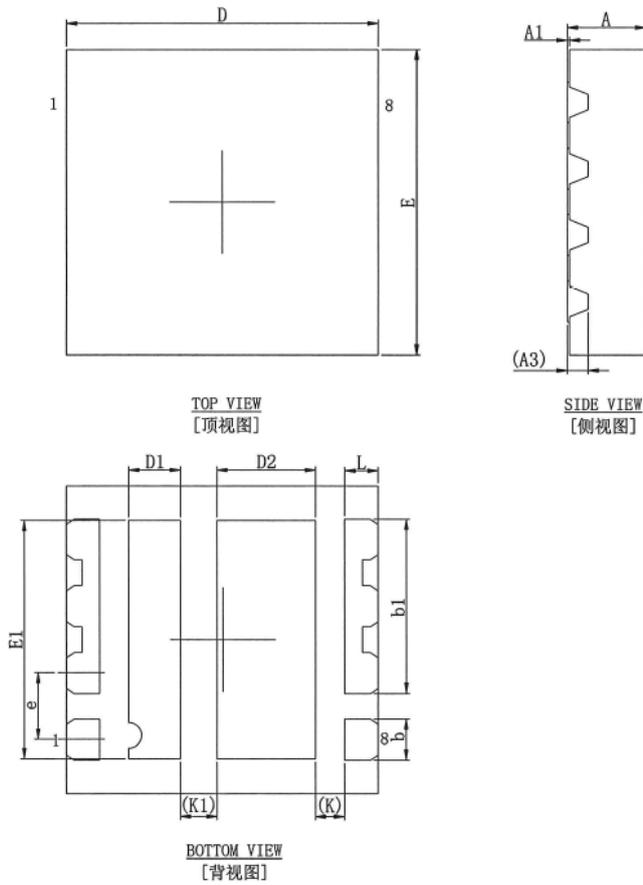
Notes :

- 1.The maximum current rating is limited by package.
- 2.Pulse Test : Pulse Width $\leq 10\mu s$, duty cycle $\leq 1\%$.
- 3.Pulse Test : Pulse Width $\leq 300\mu s$, duty cycle $\leq 2\%$.
- 4.The power dissipation P_D is limited by $T_{J(MAX)} = 150^\circ\text{C}$.
- 5.Device mounted on $1in^2$ FR-4 board with 2oz. Copper, in a still air environment with $T_A = 25^\circ\text{C}$.

Typical Characteristics



DFN3X3-8L Package Information



SYMBOL	MIN	NOM	MAX
A	0.700	0.750	0.800
A1	0.000	0.020	0.050
A3	0.203 REF		
b	0.350	0.400	0.450
b1	1.600	1.700	1.800
D	2.900	3.000	3.100
E	2.900	3.000	3.100
e	0.650 BSC		
D1	0.400	0.500	0.600
D2	0.850	0.950	1.050
E1	2.225	2.325	2.425
L	0.220	0.320	0.420
K	0.280 REF		
K1	0.350 REF		