Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
20V	25mΩ@4.5V	5A
	35mΩ@2.5V	
-20V	70mΩ@-4.5V	-4A
	90mΩ@-2.5V	

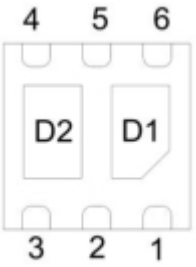
Feature

- Low On-Resistance
- Low Input Capacitance

Applications

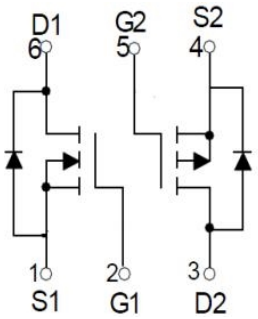
- Power Management Functions
- DC-DC Converters

Package

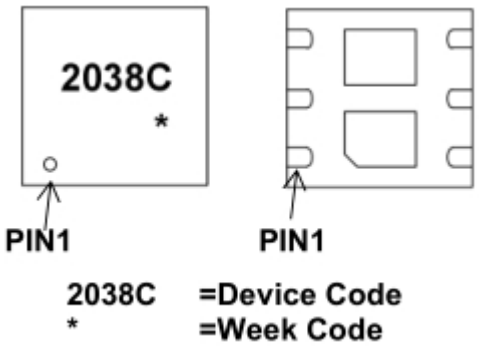


DFNWB2×2-6L-U

Circuit diagram



Marking



Absolute maximum ratings

(T_a=25℃ unless otherwise noted)

Parameter	Symbol	N-Channel	P-Channel	Unit
Drain-Source Voltage	V_{DS}	20	-20	V
Gate-Source Voltage	V_{GS}	±12	±12	V
Continuous Drain Current[1]	I_D	5	-4	A
Pulsed Drain Current	I_{DM}	25	-20	A
Storage Temperature	T_{STG}	-55 ~+150		

Notes :

1.Surface mounted on FR4 board using the minimum recommended pad size

Electrical characteristics - N-Channel Q1

(T_A=25℃, unless otherwise noted)

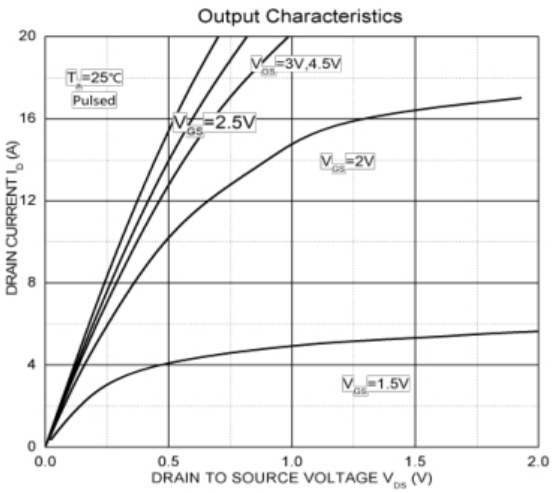
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	$BV_{(BR)DSS}$	V_{GS} = 0V, I_D =250μA	20			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =20V, V_{GS} = 0V			1	uA
Gate-body leakage current	I_{GSS}	V_{GS} =±12V, V_{DS} = 0V			±0.1	uA
Gate threshold voltage (1)	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	0.5	0.7	1	V
Drain-source on-resistance	$R_{DS(on)}$	V_{GS} =4.5V, I_D =4.5A		25	38	mΩ
		V_{GS} =2.5V, I_D =3.5A		35	60	
Diode forward voltage	V_{SD}	I_S=1.7A, V_{GS}=0V		0.7	1.3	V
Dynamic Characteristics						
Total gate charge	Q_g	V_{DS} =10V, V_{GS} =4.5V, I_D =4A		11		nC
Gate-source charge	Q_{gs}			2.3		
Gate-drain charge	Q_{gd}			2.5		
Input capacitance	C_{iss}	V_{DS}=8V, V_{GS}=0V, f=1MHz		800		pF
Output capacitance	C_{oss}			155		
Reverse transfer capacitance	C_{rss}			125		
Switching Characteristics						
Turn-on Delay Time	$T_{d(on)}$	V_{DD}=10V, V_{GS}=4V, I_D =1A, R_{GEN} =10Ω		18		nS
Turn-on Rise Time	T_r			5		
Turn-Off Delay Time	$T_{d(off)}$			43		
Turn-Off Fall Time	t_f			20		

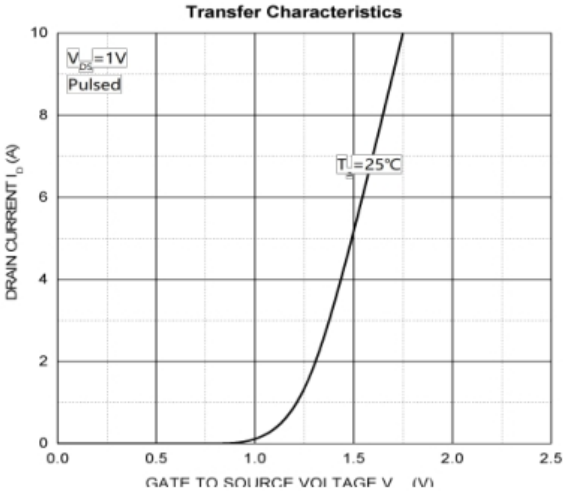
Electrical characteristics - P-Channel Q2

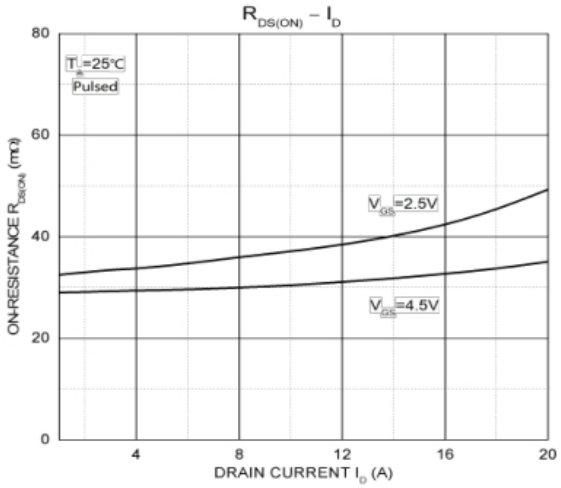
(T_A=25℃, unless otherwise noted)

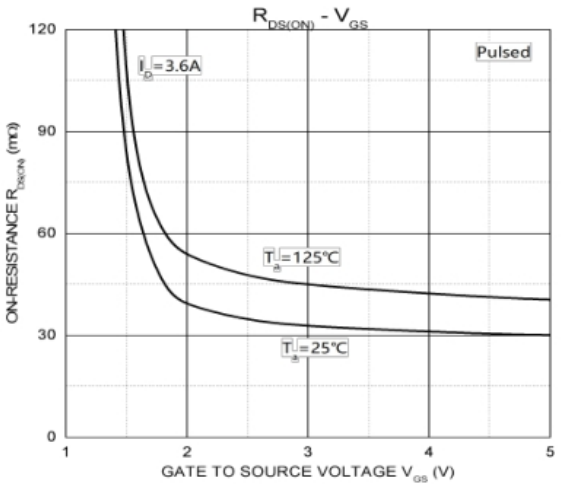
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	$BV_{(BR)DSS}$	V_{GS} = 0V, I_D =-250μA	-20			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =-16V, V_{GS} = 0V			-1	uA
Gate-body leakage current	I_{GSS}	V_{GS} =±12V, V_{DS} = 0V			±100	uA
Gate threshold voltage (1)	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =-250μA	-0.5	-0.7	-1	V
Drain-source on-resistance (1)	$R_{DS(on)}$	V_{GS} =-4.5V, I_D =-0.5A		70	90	Ω
		V_{GS} =-2.5V, I_D =-0.5A		90	110	
Dynamic Characteristics2)						
Input capacitance	C_{iss}	V_{DS}=-10V, V_{GS}=0V, f=1MHz		405		pF
Output capacitance	C_{oss}			75		
Reverse transfer capacitance	C_{rss}			55		
Gate resistance	R_g	f =1MHz		6		Ω
Total gate charge	Q_g	V_{DS} =-10V, V_{GS} =-2.5V, I_D =-3A		3.3	12	nC
Gate-source charge	Q_{gs}			0.7		
Gate-drain charge	Q_{gd}			1.3		
Turn-on Delay Time	$T_{d(on)}$	V_{DS}=-10V, V_{GEN}=-4.5V, I_D =-1A, R_{GEN} =1Ω, R_L=10Ω		11		nS
Turn-on Rise Time	T_r			35		
Turn-Off Delay Time	$T_{d(off)}$			30		
Turn-Off Fall Time	t_f			10		
Source-Drain Diode Characteristics						
Diode Forward voltage	V_{SD}	I_S=-1.25A, V_{GS} = 0V		-0.7	-1.3	V

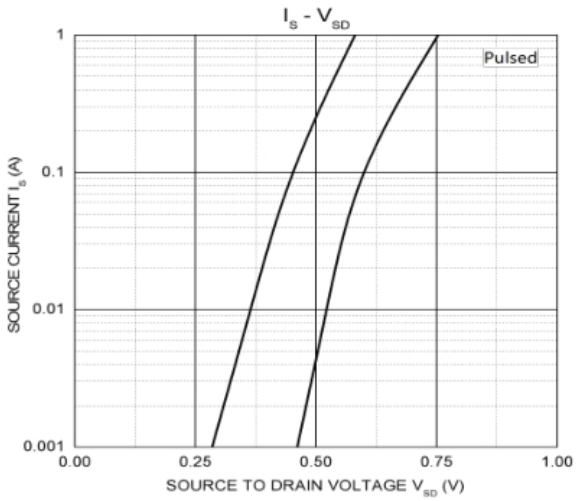
Typical Characteristics - N-Channel Q1

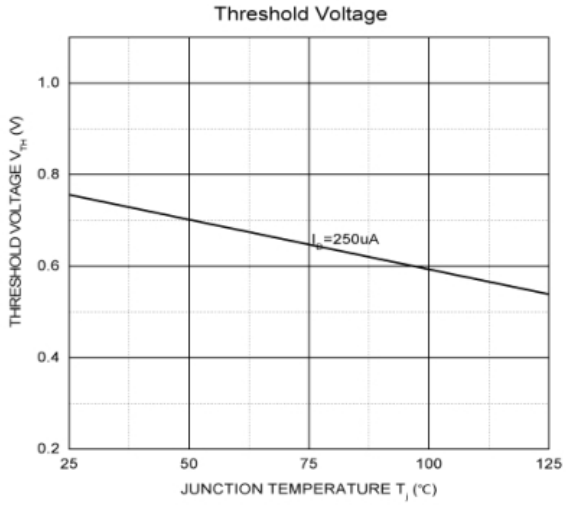




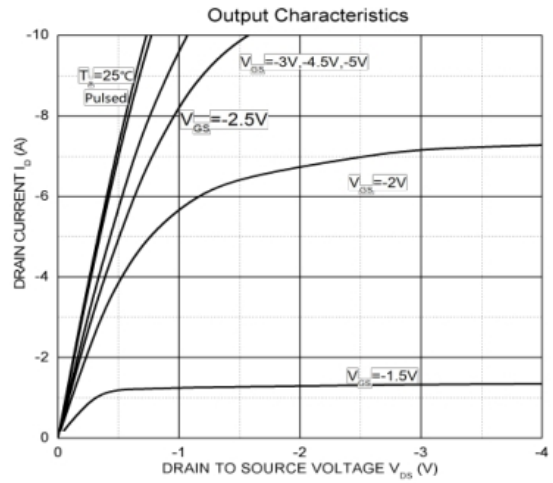


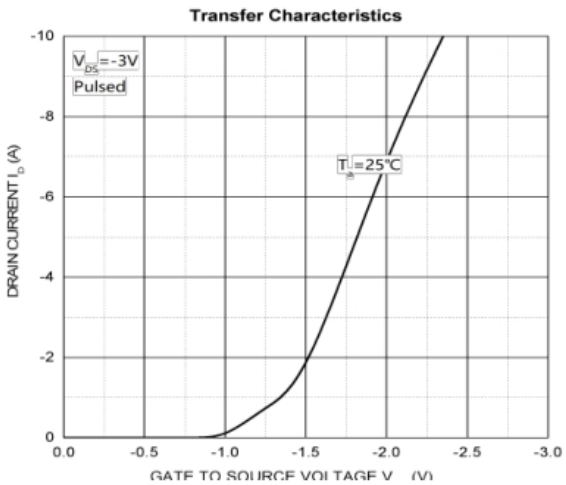


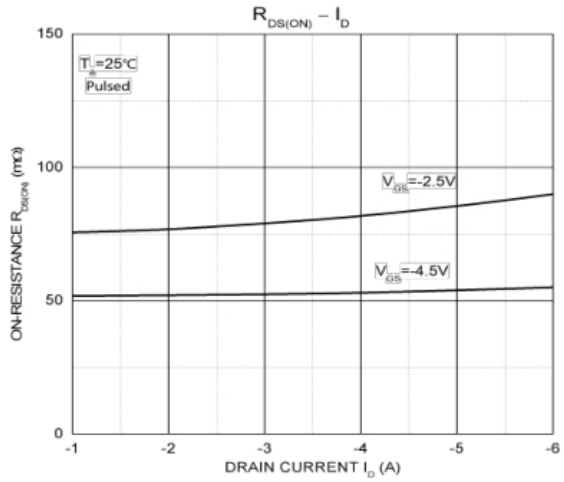


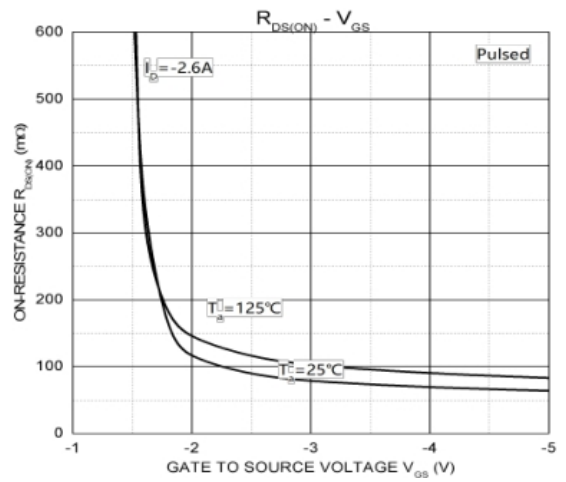


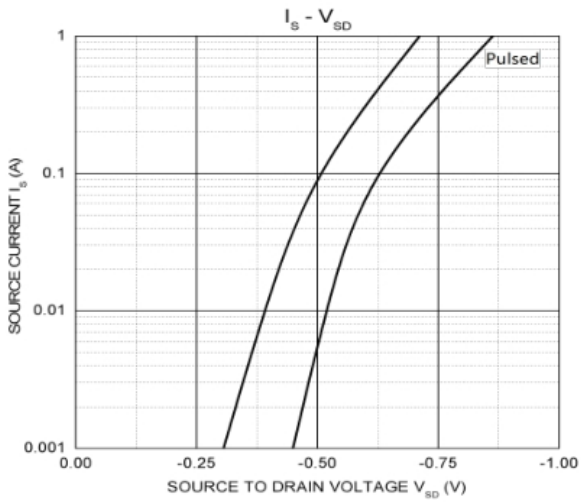
Typical Characteristics - P-Channel Q2

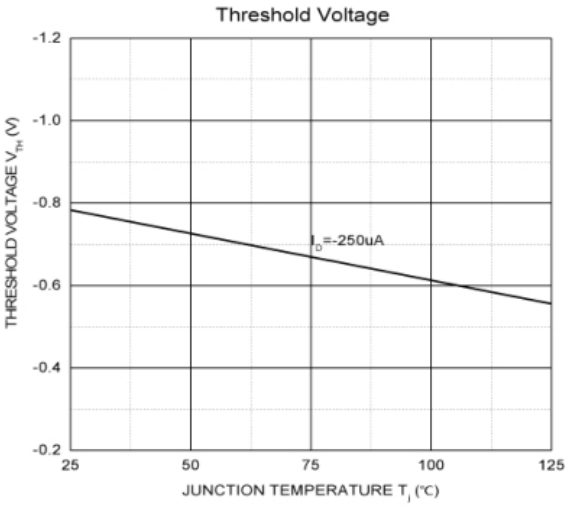




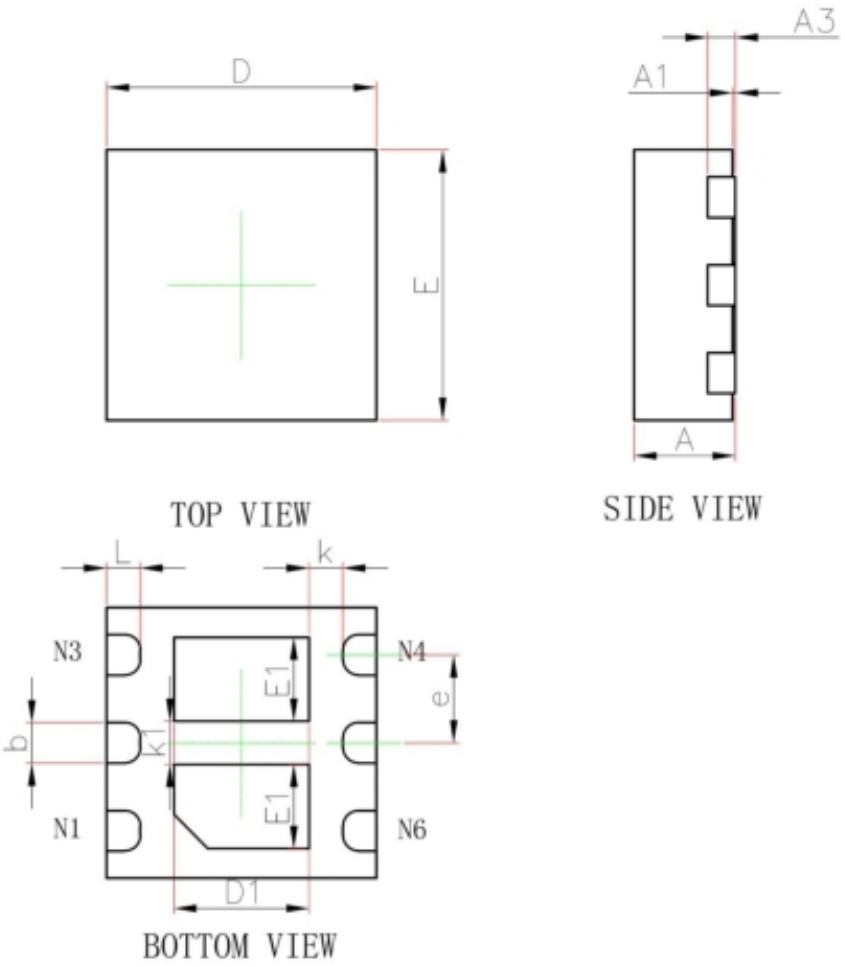








DFNWB2*2-6L-U Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.800	0.028	0.031
A1	0.000	0.050	0.000	0.002
A3	0.203REF.		0.008REF.	
D	1.900	2.100	0.075	0.083
E	1.900	2.100	0.075	0.083
D1	0.900	1.100	0.035	0.043
E1	0.520	0.720	0.020	0.028
b	0.250	0.350	0.010	0.014
e	0.650 TYP.		0.026 TYP.	
k	0.200MIN.		0.008MIN.	
L	0.200	0.300	0.008	0.012