

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
-20V	36mΩ@-4.5V	-6.2A
	49mΩ@-2.5V	
	69mΩ@-1.8V	

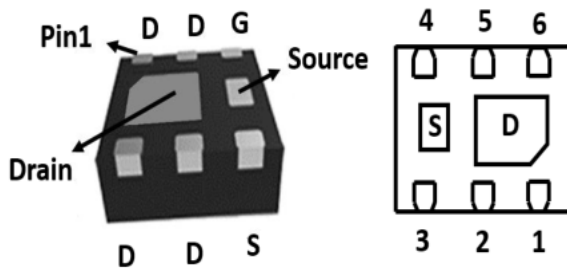
Feature

- Advanced trench process technology
- High density cell design for ultra low on-resistance
- High Speed switching
- ESD Protected Up to 2.0KV (HBM)

Application

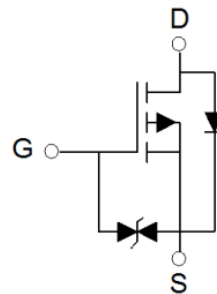
- Battery protectio
- Load switch
- Power management

Package

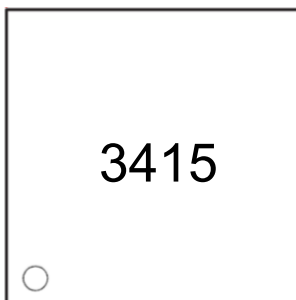


DFN2*2-6L

Circuit diagram



Marking



Absolute maximum ratings (Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-20	V
Gate-Source Voltage	V_{GS}	±12	V
Continuous Drain Current	I_D	-6.2	A
Pulsed Drain Current	I_{DM}	-23	A
Power Dissipation	P_D	2.2	W
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-55 ~ +150	°C

Electrical characteristics (T_A=25 °C, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-20			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = -20V, V_{GS} = 0V$			-1	μA
Gate-body leakage current	I_{GSS}	$V_{GS} = \pm 12V, V_{DS} = 0V$			±15	μA
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-0.35		-1.0	V
Drain-source on-resistance ¹⁾	$R_{DS(on)}$	$V_{GS} = -4.5V, I_D = -5.6A$			36	mΩ
		$V_{GS} = -2.5V, I_D = -4.3A$			49	
		$V_{GS} = -1.8V, I_D = -3.0A$			69	
Dynamic characteristics²⁾						
Input Capacitance	C_{iss}	$V_{DS} = -10V, V_{GS} = 0V, f = 1MHz$		940		pF
Output Capacitance	C_{oss}			219		
Reverse Transfer Capacitance	C_{rss}			116		
Total Gate Charge	Q_g	$V_{DS} = -10V, V_{GS} = -4.5V, I_D = -4A$		7.2		nC
Gate-Source Charge	Q_{gs}			1.2		
Gate-Drain Charge	Q_{gd}			1.6		
Turn-on delay time	$t_{d(on)}$	$V_{DD} = -10V, V_{GS} = -4.5V, R_L = 2.5\Omega, R_{GEN} = 3\Omega$		15		nS
Turn-on rise time	t_r			63		
Turn-off delay time	$t_{d(off)}$			21		
Turn-off fall time	t_f			12		
Source-Drain Diode characteristics						
Diode Forward Current ¹⁾	I_S				-5.6	A
Diode Forward voltage	V_{DS}	$V_{GS} = 0V, I_S = -6.2A$			-1.2	V

Notes:

- 1) Pulse Test: Pulse Width < 300μs, Duty Cycle ≤2%.
- 2) Guaranteed by design, not subject to production testing.

Typical Characteristics

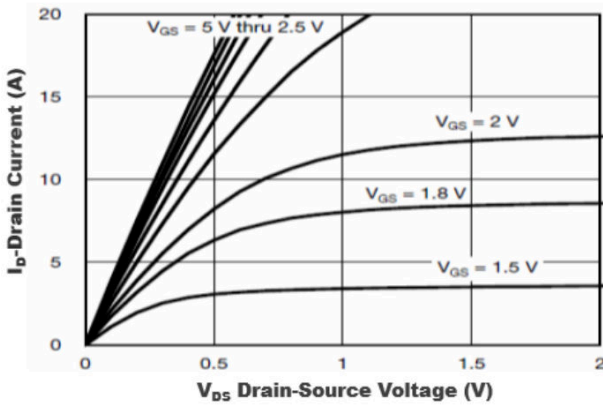


Figure1. Output Characteristics

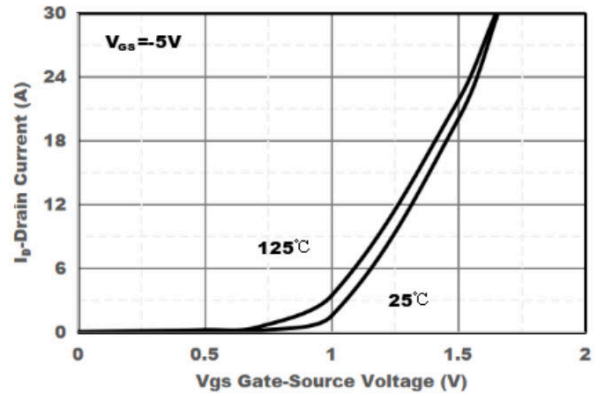


Figure2. Transfer Characteristics

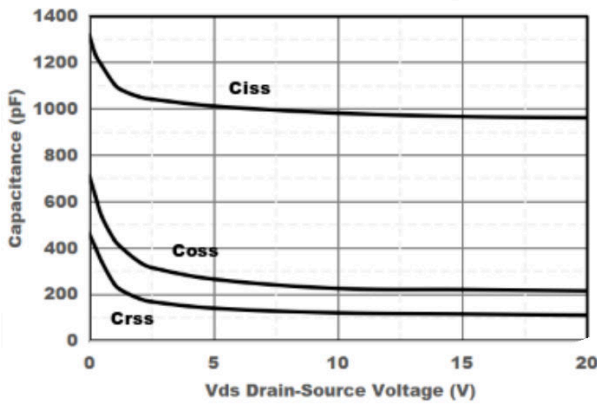


Figure3. Capacitance Characteristics

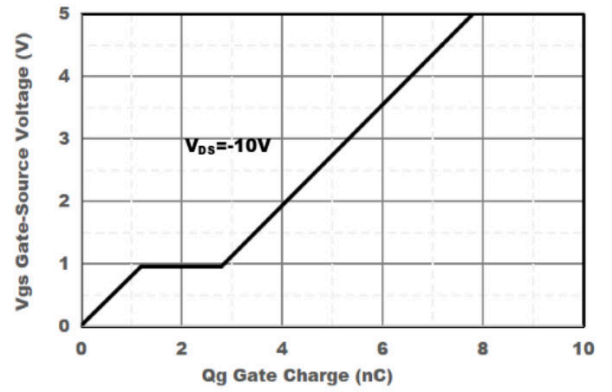


Figure4. Gate Charge

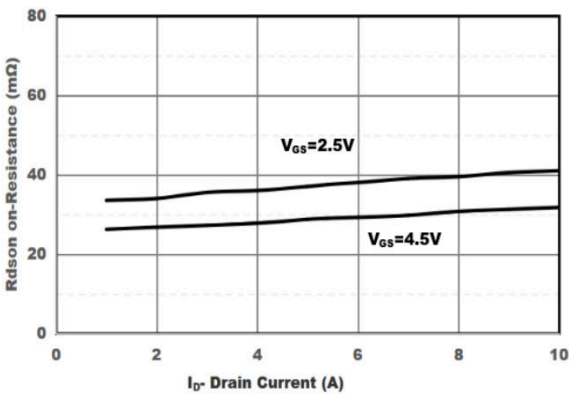


Figure5. Drain-Source on Resistance

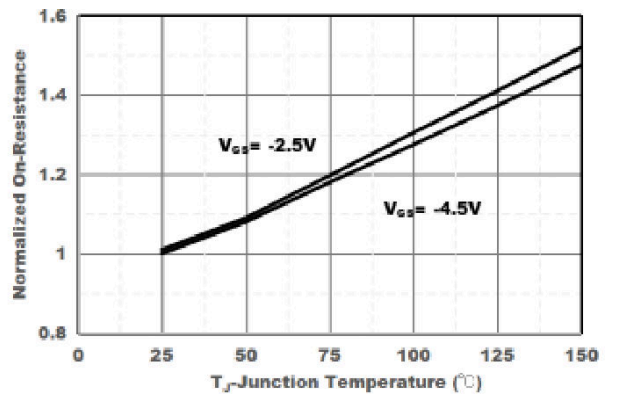
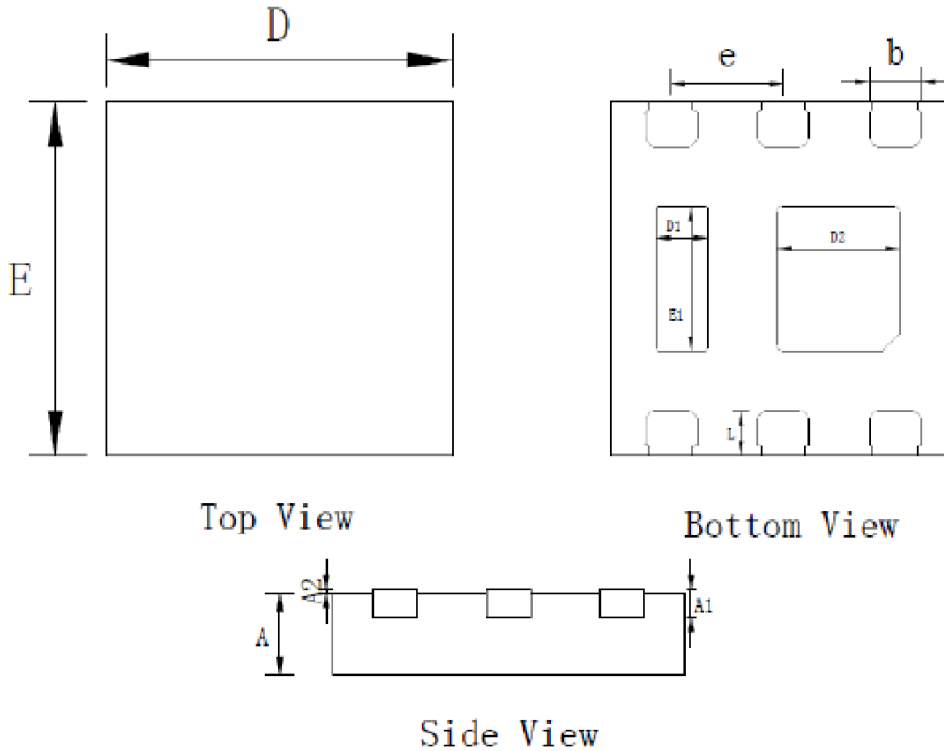


Figure6. Drain-Source on Resistance

DFN2*2-6L Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.800	0.028	0.031
A1	0.150 REF		0.006 REF	
A2	0.000	0.050	0.000	0.002
L	0.200	0.300	0.008	0.012
b	0.250	0.350	0.010	0.014
D	1.950	2.050	0.077	0.081
E	1.950	2.050	0.077	0.081
e	0.650 BSC		0.260 BSC	
D2	0.610	0.810	0.024	0.032
D1	0.200	0.400	0.008	0.016
E1	0.710	0.910	0.028	0.036