

Features

- Advanced high cell density Trench technology
- Super Low Gate Charge
- Excellent CdV/dt effect decline
- Green Device Available

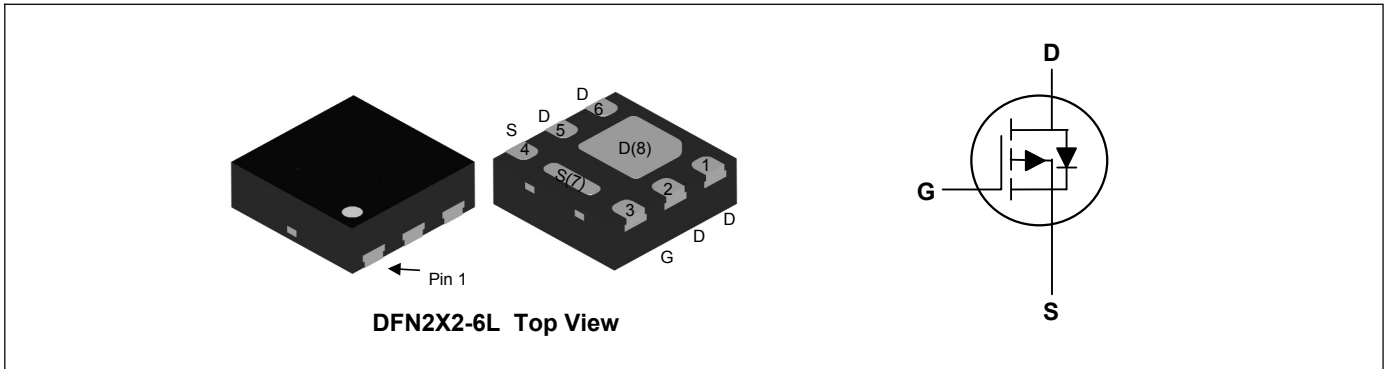
Product Summary



V_{DS}	-12	V
I_D	-16	A
$R_{DS(ON)}$ (at $V_{GS}=-4.5V$)	18	m
$R_{DS(ON)}$ (at $V_{GS}=-2.5V$)	22	m

Applications

- High Frequency Point-of-Load, Synchronous Buck Converter
- Networking DC-DC Power System
- Load Switch



Absolute Maximum Ratings($T_C=25^{\circ}C$, unless otherwise noted)

Parameter	Symbol	Rating	Units
Drain-Source Voltage	V_{DS}	-12	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current ¹	I_D	-16	A
Pulsed Drain Current ²	I_{DM}	-65	A
Total Power Dissipation ³	P_D	2.5	W
Storage Temperature Range	T_{STG}	-55 to 150	$^{\circ}C$
Operating Junction Temperature Range	T_J	-55 to 150	$^{\circ}C$

Thermal Characteristics

Parameter	Symbol	Typ	Max	Unit
Thermal Resistance Junction-Ambient ¹	R_{JA}	---	50	$^{\circ}C/W$

Electrical Characteristics ($T_J=25^{\circ}\text{C}$, unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=-250\mu A$	-12	---	---	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=-4.5V, I_D=-6.7A$	---	11	18	$m\Omega$
		$V_{GS}=-2.5V, I_D=-6.2A$	---	14	22	$m\Omega$
Gate Threshold Voltage	$V_{GS(th)}$	$V_{GS}=V_{DS}, I_D=-250\mu A$	-0.4	---	-1.0	V
Drain-Source Leakage Current	I_{DSS}	$V_{DS}=-12V, V_{GS}=0V$	---	---	-1	μA
Gate-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 12V, V_{DS}=0V$	---	---	± 100	nA
Forward Transconductance	g_{fs}	$V_{DS}=-5V, I_D=-6.7A$	20	---	---	S
Total Gate Charge	Q_g	$V_{DS}=-6V, V_{GS}=-4.5V, I_D=-10A$	---	35	---	nC
Gate-Source Charge	Q_{gs}		---	5	---	
Gate-Drain Charge	Q_{gd}		---	10	---	
Turn-On Delay Time	$T_{d(on)}$	$V_{DD}=-10V, V_{GS}=-4.5V, R_G=10\Omega, I_D=-1A$	---	11	---	ns
Rise Time	T_r		---	35	---	
Turn-Off Delay Time	$T_{d(off)}$		---	30	---	
Fall Time	T_f		---	10	---	
Input Capacitance	C_{iss}	$V_{DS}=-10V, V_{GS}=0V, f=1\text{MHz}$	---	2680	---	pF
Output Capacitance	C_{oss}		---	680	---	
Reverse Transfer Capacitance	C_{rss}		---	570	---	

Drain-Source Diode Characteristics

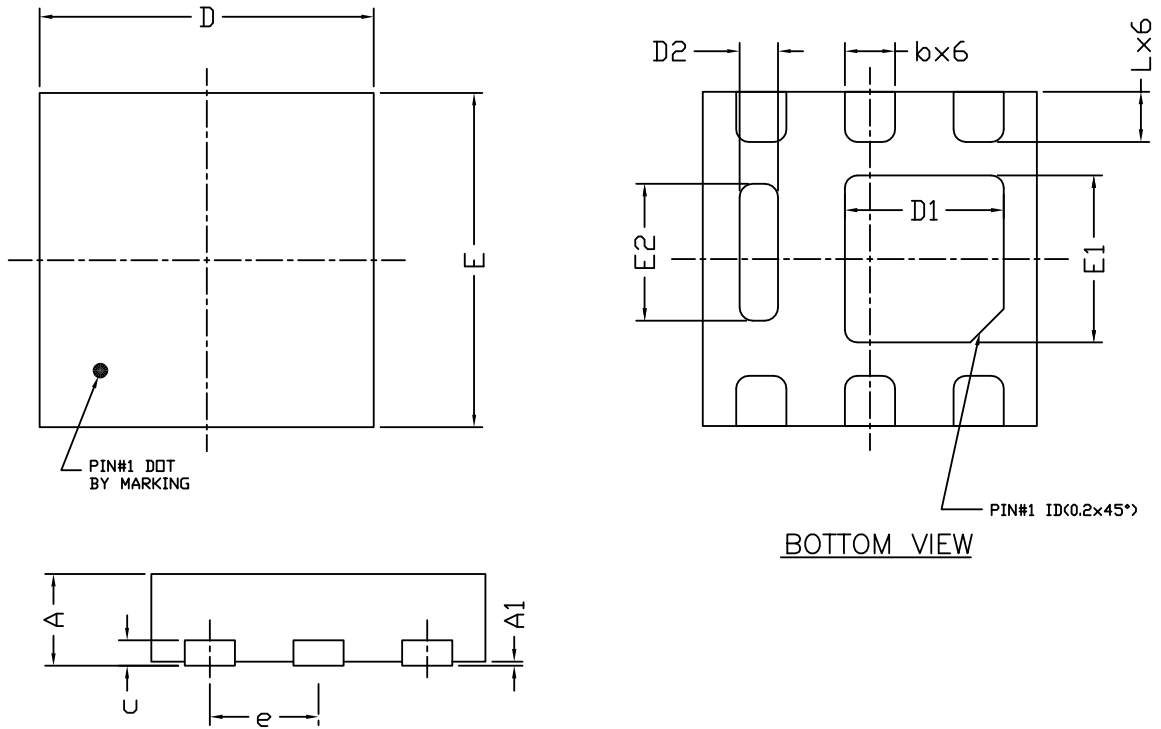
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Continuous Source Current ¹	I_S		---	---	-16	A
Diode Forward Voltage ²	V_{SD}	$V_{GS}=0V, I_S=-8A, T_J=25^{\circ}\text{C}$	---	---	-1.2	V

Note:

- 1.The data tested by surface mounted on a 1 inch² FR-4 board with 2OZ copper.
- 2.The data tested by pulsed , pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$
- 3.The power dissipation is limited by 150 $^{\circ}\text{C}$ junction temperature

Typical Characteristics

DFN2X2-6L Package Outline Dimensions



Symbol	Dimensions (unit:mm)			Symbol	Dimensions (unit:mm)		
	Min	Typ	Max		Min	Typ	Max
A	0.50	0.55	0.60	D2	0.13	0.25	0.40
A1	0.00	---	0.05	E	1.90	2.00	2.10
b	0.25	0.30	0.35	E1	0.82	1.00	1.20
c	0.15 REF			E2	0.45	0.75	0.90
D	1.90	2.00	2.10	e	0.65 REF		
D1	0.85	0.95	1.05	L	0.20	0.25	0.32