

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
20V	14.5mΩ@4.5V	8A
	19mΩ@2.5V	

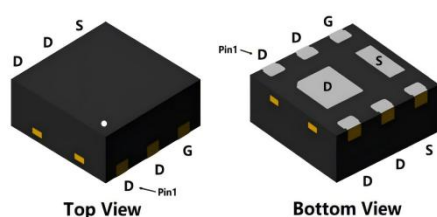
Feature

- Low On-resistance
- Low input capacitance

Application

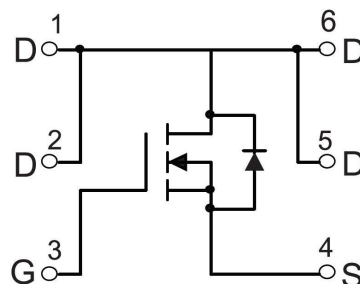
- Power management functions
- DC-DC Converters

Package

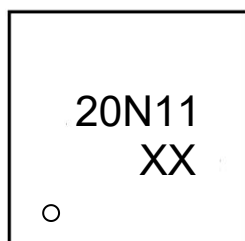


DFN2*2-6L

Circuit diagram



Marking



Absolute maximum ratings ($T_A=25^{\circ}\text{C}$ 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	8	A
Pulsed Drain Current	I_{DM}	32	A
Power Dissipation	P_D	2.8	W
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	44.6	$^{\circ}\text{C}/\text{W}$
Operating Junction Temperature	T_J	$-55 \sim +150$	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	$-55 \sim +150$	$^{\circ}\text{C}$

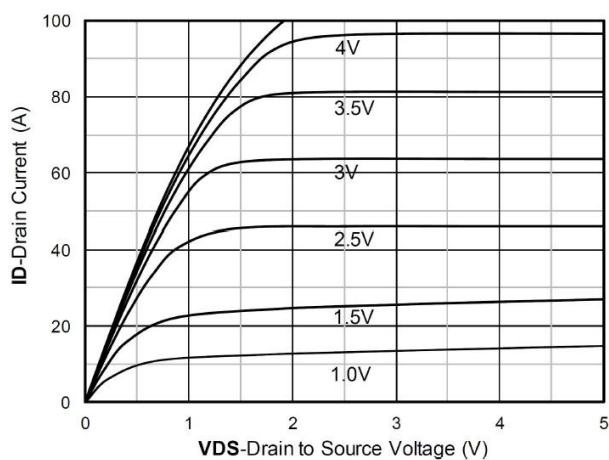
Electrical characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} =0V, I _D =250μA	20			V
Zero gate voltage drain current	I _{DSS}	V _{DS} =16V, V _{GS} =0V, T _J =25°C			1	μA
Gate-body leakage current	I _{GSS}	V _{DS} =0V, V _{GS} =±12V			±100	nA
Gate threshold voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	0.5	0.7	1.2	V
Drain-source on-resistance	R _{DS(on)}	V _{GS} =4.5V, I _D =8A		11.5	14.5	mΩ
		V _{GS} =2.5V, I _D =4A		15	19	
Dynamic characteristics ¹⁾						
Input Capacitance	C _{iss}	V _{DS} =10V, V _{GS} =0V, f =1MHz		782		pF
Output Capacitance	C _{oss}			158		
Reverse Transfer Capacitance	C _{rss}			98		
Total Gate Charge	Q _g	V _{DS} =10V, V _{GS} =4.5V, I _D =8A		7		nC
Gate-Source Charge	Q _{gs}			1		
Gate-Drain Charge	Q _{gd}			2.4		
Turn-on delay time	t _{d(on)}	V _{DS} =10V, V _{GS} =4.5V, I _D =1A R _G =3Ω		3		nS
Turn-on rise time	t _r			4.5		
Turn-off delay time	t _{d(off)}			28		
Turn-off fall time	t _f			6		
Source-Drain Diode characteristics						
Diode Forward Current	I _S				8	A
Diode forward voltage	V _{SD}	V _{GS} =0V, I _S =1A, T _J =25°C			1.2	V

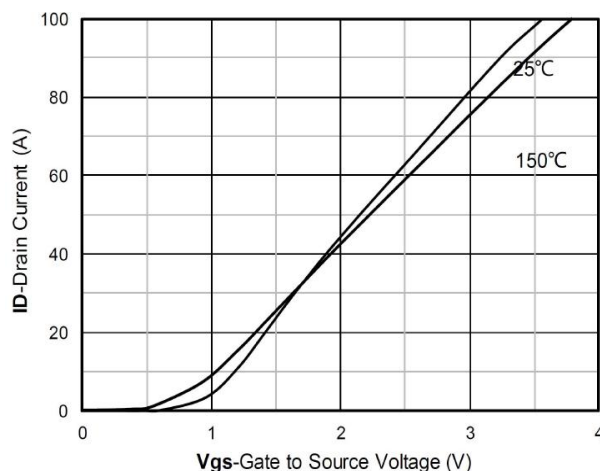
Notes:

1) Guaranteed by design, not subject to production.

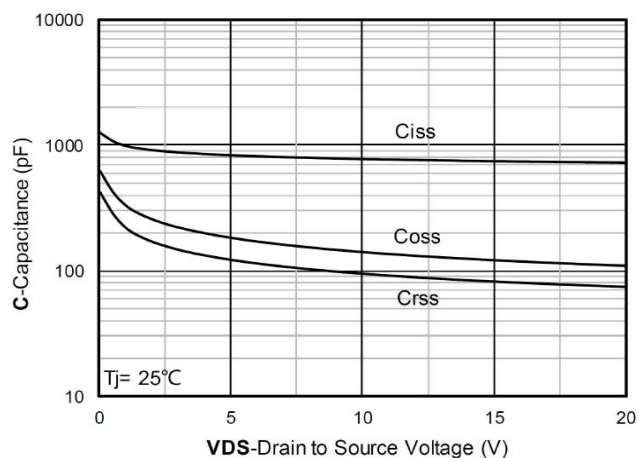
Typical Characteristics



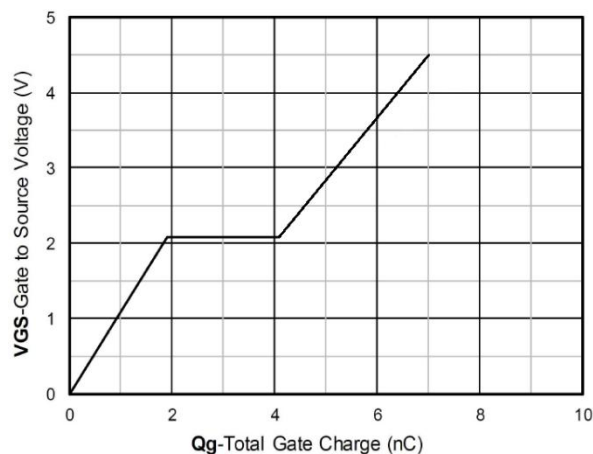
Output Characteristics



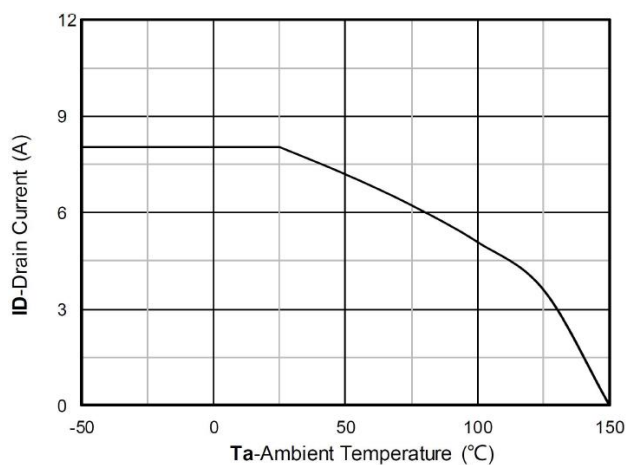
Transfer Characteristics



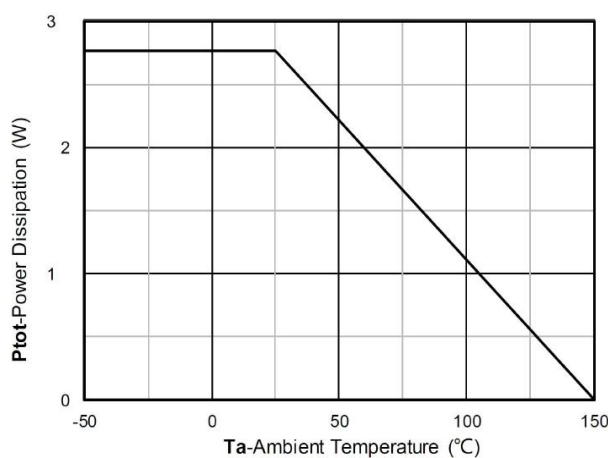
Capacitance Characteristics



Gate Charge

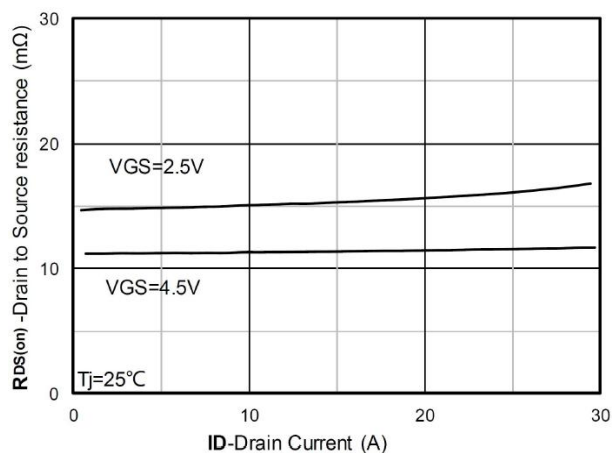


Current dissipation

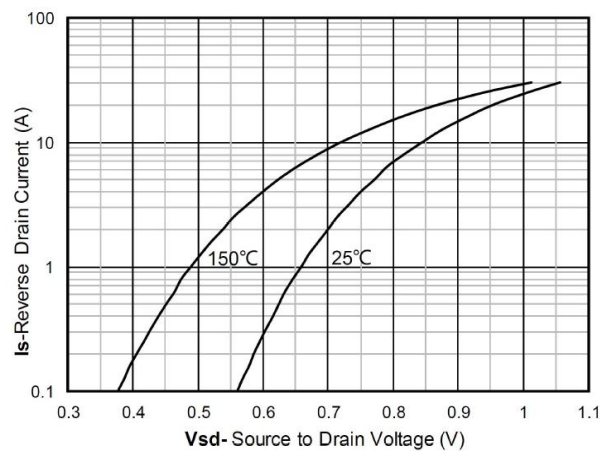


Power dissipation

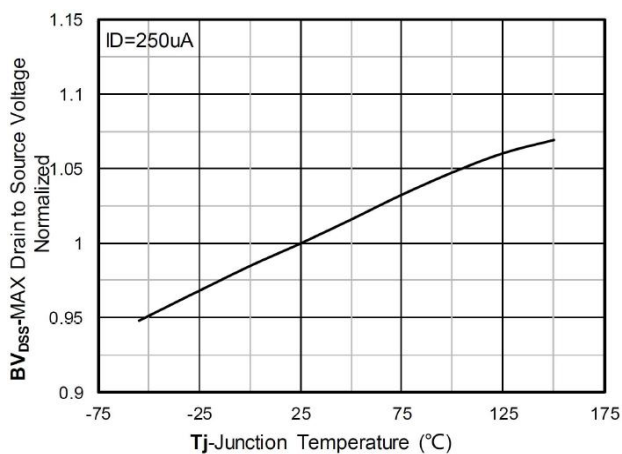
Typical Characteristics



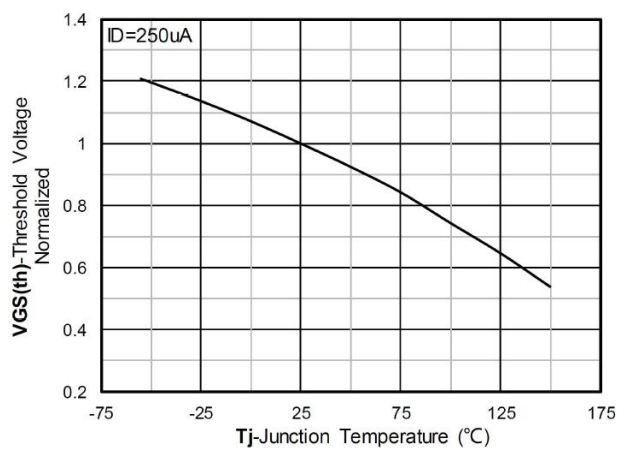
$R_{DS(on)}$ VS Drain Current



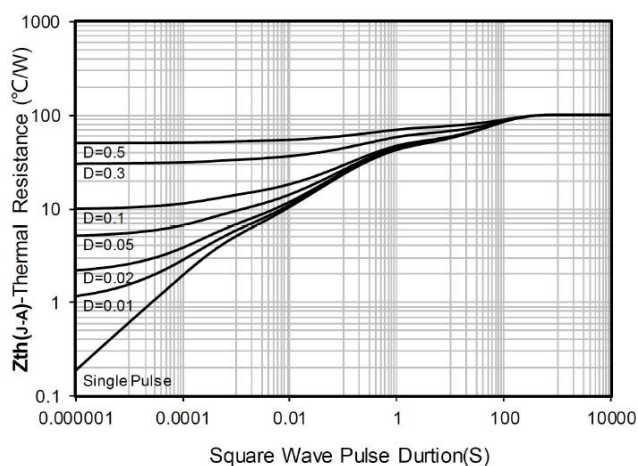
Forward characteristics of reverse diode



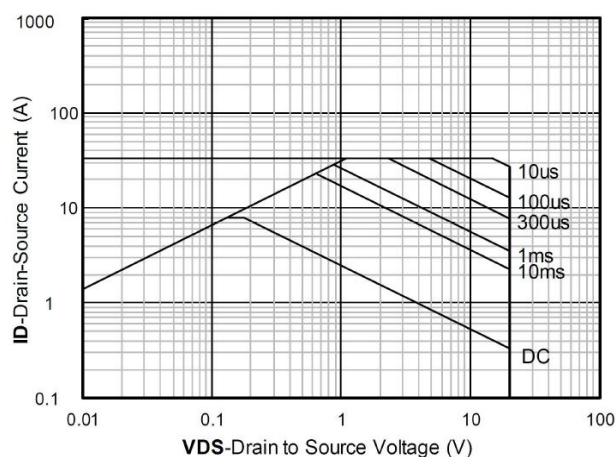
Normalized breakdown voltage



Normalized Threshold voltage

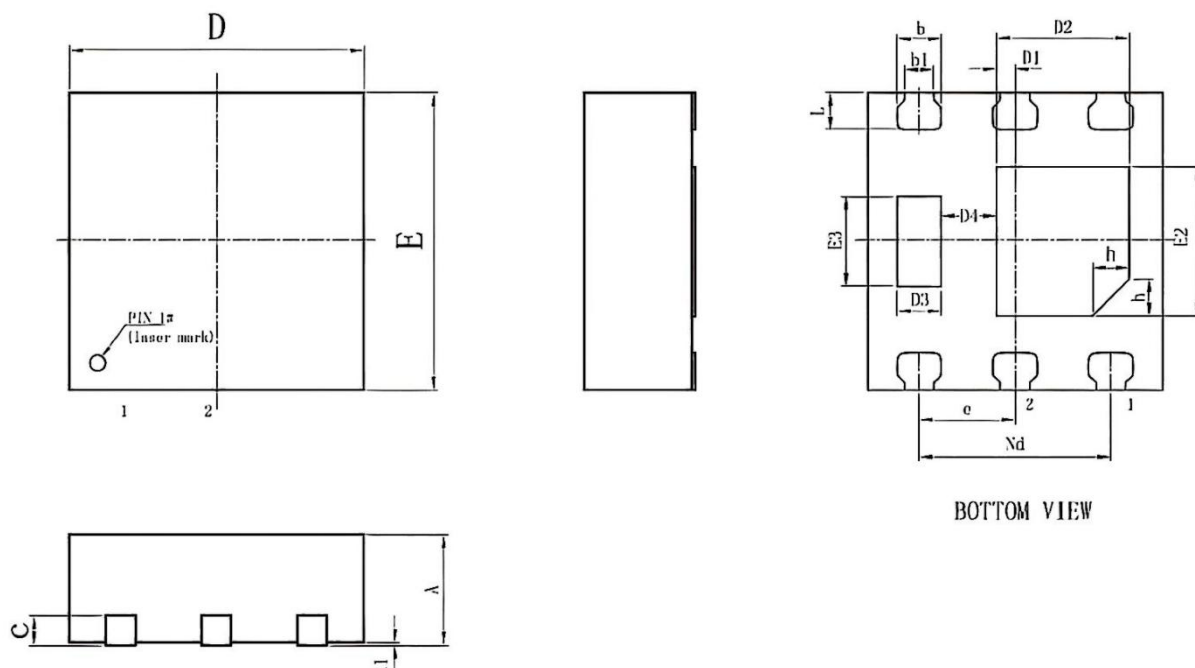


Maximum Transient Thermal Impedance



Safe Operation Area

DFN2*2-6L Package Information



BOTTOM VIEW

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
b	0.250	0.350	0.010	0.014
b1	0.200 REF.		0.008 REF.	
c	0.203 REF.		0.008 REF.	
D	1.900	2.100	0.075	0.083
D1	0.080	0.180	0.003	0.007
D2	0.850	0.950	0.033	0.037
D3	0.250	0.350	0.010	0.014
D4	0.330	0.430	0.013	0.017
e	0.650 BSC.		0.026 BSC.	
Nd	1.300 BSC.		0.051 BSC.	
E	1.900	2.100	0.075	0.083
E2	0.950	1.050	0.037	0.041
E3	0.550	0.650	0.022	0.026
L	0.200	0.300	0.008	0.012
h	0.250 REF.		0.010 REF.	