

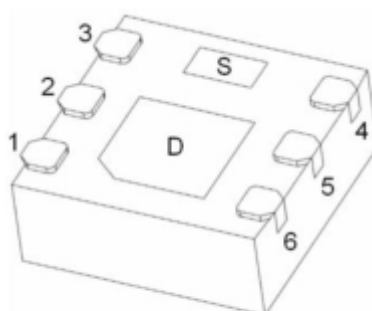
Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
20V	11.5mΩ@4.5V	8A
	15mΩ@2.5V	

Feature

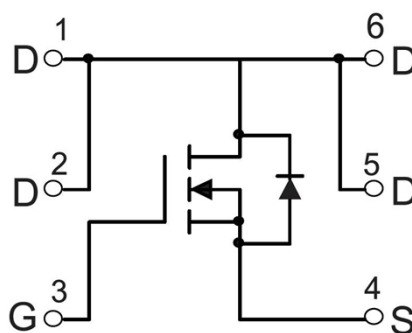
- V_{DS} 20V
- I_D (at $V_{GS}=4.5V$) 8A
- $R_{DS(ON)}$ (at $V_{GS}=4.5V$) < 14.5 mΩ
- $R_{DS(ON)}$ (at $V_{GS}=2.5V$) < 19 mΩ

Package

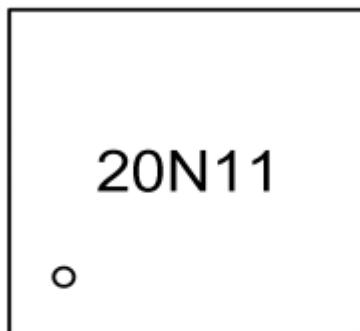


DFNWB2*2-6L

Circuit diagram



Marking



20N11 =Device Code

Absolute maximum ratings

(T_a=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	8	A
		6	
Pulsed Drain Current	I _{DM}	32	A
Power Dissipation	P _D	2.8	A
		1.8	
Thermal Resistance Junction-to-Case @ Steady State	R _{θJC}	80	°C/W
Junction and Storage Temperature Range	T _J , T _{STG}	-55 To 150	°C

Electrical characteristics

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

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Parameter						
Drain-source breakdown voltage	BV _{DSS}	V _{GS} = 0V, I _D =250mA	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			±100	uA
Gate threshold voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250mA	0.5	0.7	1.2	V
Static 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 Parameters						
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =10V, f=1MHz		782		pF
Output Capacitance	C _{oss}			158		
Reverse Transfer Capacitance	C _{rss}			98		
Switching Parameters						
Total Gate Charge	Q _g	V _{GS} =4.5V, V _{DS} =10V, I _D =8A		7		pF
Gate Source Charge	Q _{gs}			1		
Gate Drain Charge	Q _{gd}			2.4		
Turn-On Delay Time	T _{d(on)}	V _{GS} =4.5V, V _{DS} =10V, R _L =1.25W, R _{GEN} =3W		3		nS
Rise Time	T _r			4.5		
Turn-Off Delay Time	T _{d(off)}			28		
Fall Time	T _f			6		
Drain-Source Diode Characteristics						
Diode Forward Voltage	V _{SD}	I _S =1A,V _{GS} =0V		0.65	1	V
Maximum Body-Diode Continuous Current	I _S				3.5	A
Body Diode Reverse Recovery Time	t _{rr}	I _F =8A, dI/dt=100A/ms		11		ns
Body Diode Reverse Recovery Charge	Q _{rr}	I _F =8A, dI/dt=100A/ms		2.7		nC

Typical Characteristics

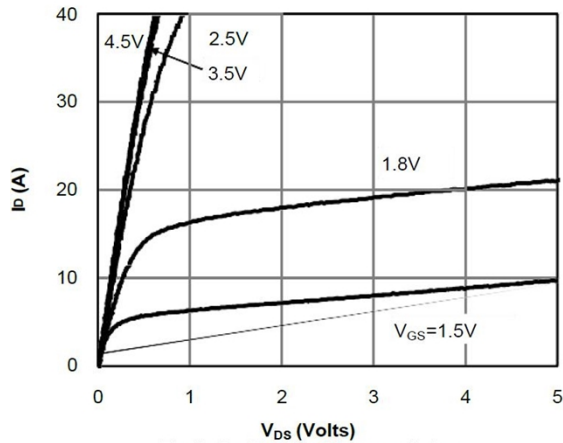


Fig 1: On-Region Characteristics

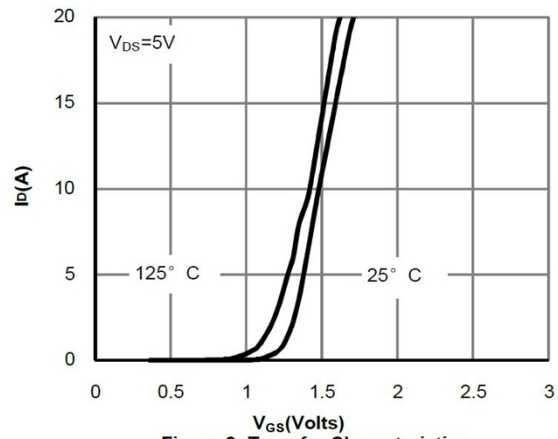


Figure 2: Transfer Characteristics

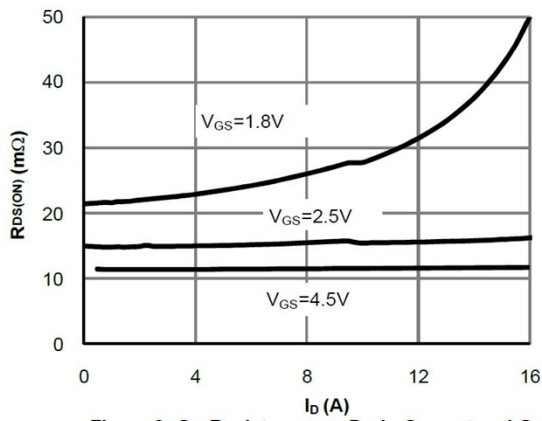


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

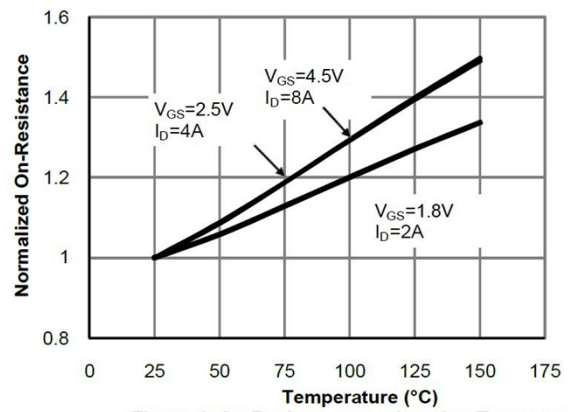


Figure 4: On-Resistance vs. Junction Temperature

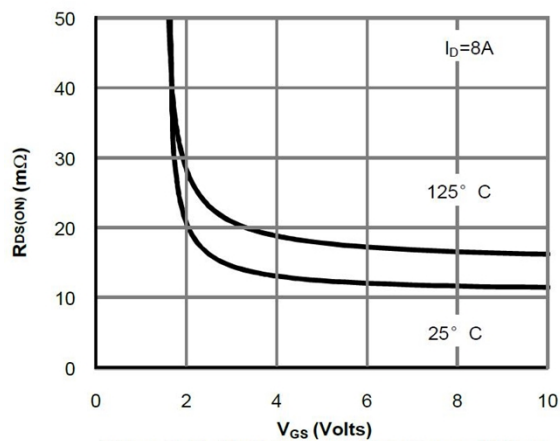


Figure 5: On-Resistance vs. Gate-Source Voltage

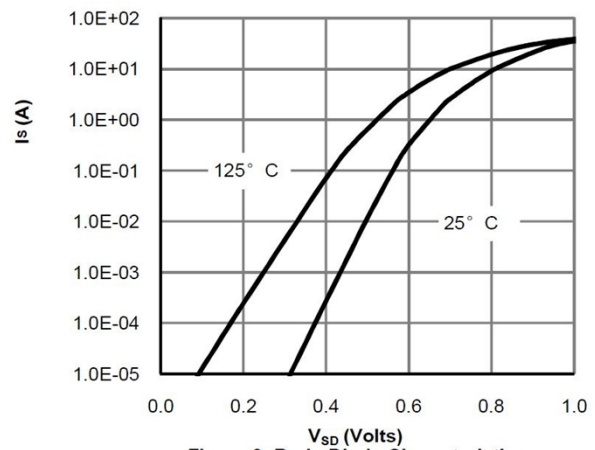


Figure 6: Body-Diode Characteristics

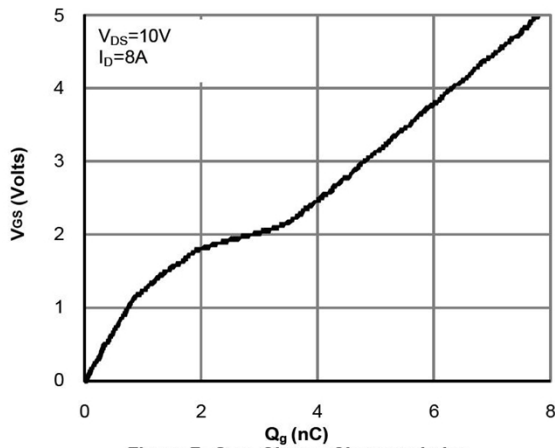


Figure 7: Gate-Charge Characteristics

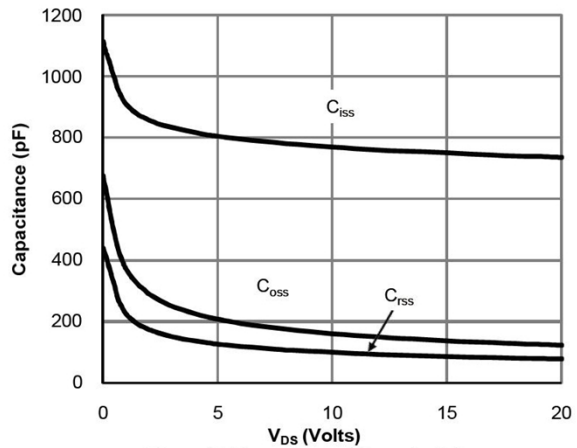


Figure 8: Capacitance Characteristics

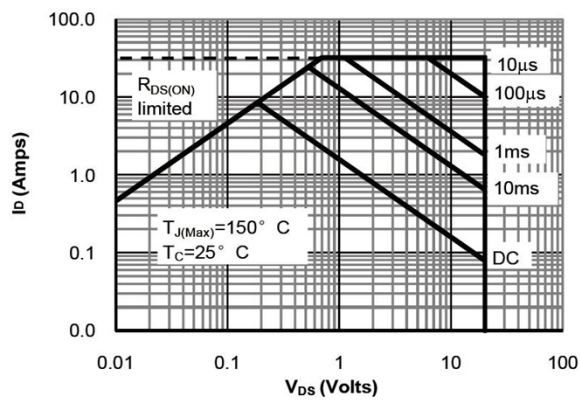


Figure 9: Maximum Forward Biased Safe Operating Area

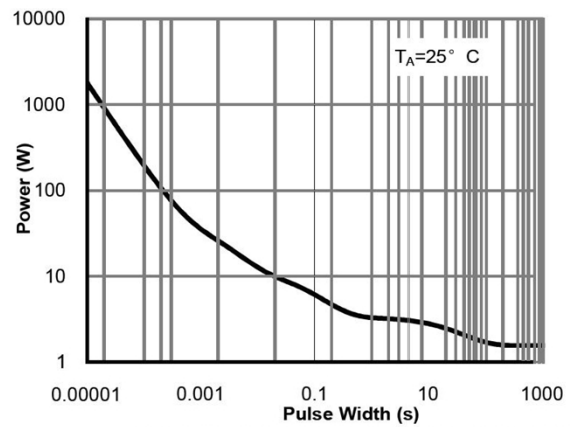


Figure 11: Single Pulse Power Rating Junction-to-Ambient

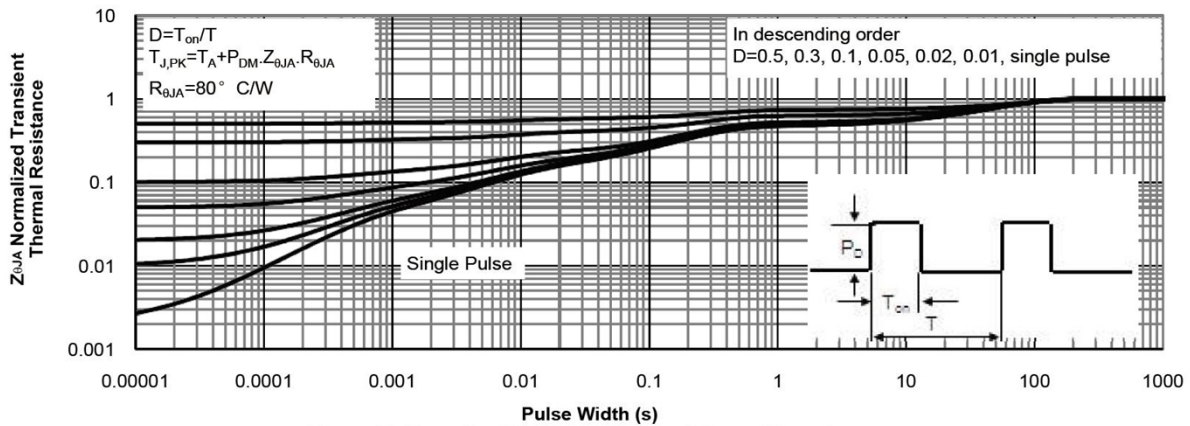
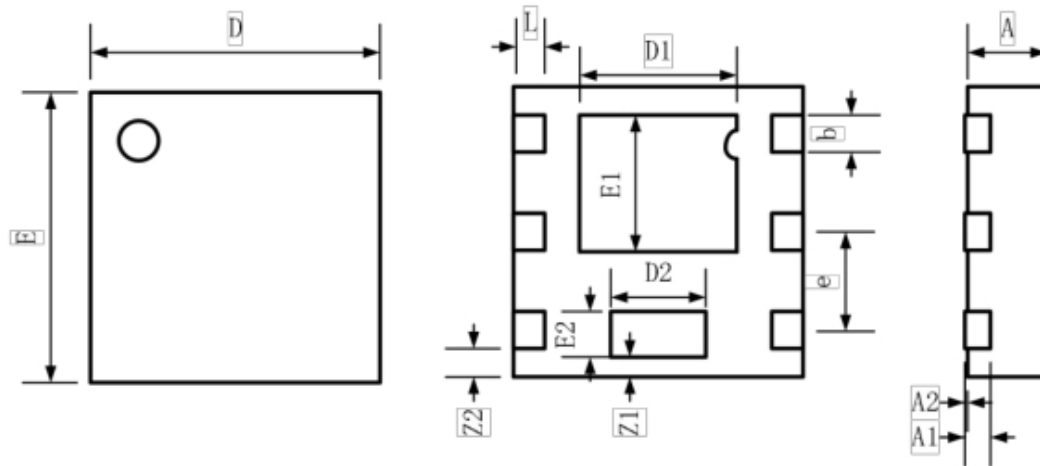


Figure 12: Normalized Maximum Transient Thermal Impedance

DFN2*2-6L Package Information



Symbol	Dimensions In Millimeters		
	Min.	Typ.	Max.
D	1.95	2.00	2.05
E	1.95	2.00	2.05
D1	1.10	1.15	1.20
E1	0.90	0.95	1.00
D2	0.65	0.70	0.75
E2	0.33	0.38	0.43
L	0.225	0.275	0.325
b	0.25	0.30	0.35
e	0.65BSC		
A	0.47	0.5	0.55
A1	0.20REF		
A2	0.00		0.05
Z1	0.06	0.11	0.16
Z2	0.15	0.20	0.25