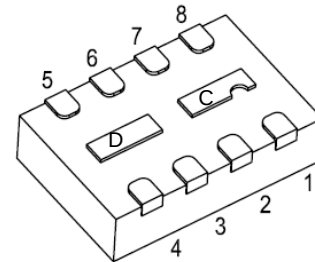


Features

- -20V/-2.7A,
 $R_{DS(ON)} = 55m\Omega(\text{typ.}) @ V_{GS} = -4.5V$
 $R_{DS(ON)} = 80m\Omega(\text{typ.}) @ V_{GS} = -2.5V$
- 100% UIS + R_g Tested
- Reliable and Rugged
- Lead Free and Green Devices Available
(RoHS Compliant)

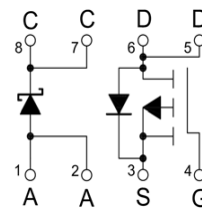
Pin Description



DFNWB3×2-08L-B

Applications

- Power Management in Notebook Computer, Portable Equipment and Battery Powered Systems.



Absolute Maximum Ratings ($T_A = 25^\circ\text{C}$ Unless Otherwise Noted)

Symbol	Parameter		Rating	Unit
V _{DSS}	Drain-Source Voltage		-20	V
V _{GSS}	Gate-Source Voltage		±10	
I _D ^a	Continuous Drain Current (V _{GS} =-4.5V)	T _A =25°C	-2.7	A
		T _A =70°C	-2.02	
I _{DM} ^a	300μs Pulsed Drain Current (V _{GS} =-4.5V)		-8.1	
I _S ^a	Diode Continuous Forward Current		-2.7	
T _J	Maximum Junction Temperature		150	°C
T _{STG}	Storage Temperature Range		-55 to 150	
P _D ^a	Maximum Power Dissipation	T _A =25°C	2.5	W
		T _A =70°C	1.6	
R _{θJA} ^a	Thermal Resistance-Junction to Ambient	t ≤ 10s	50	°C/W
		Steady State	80	
Schottky Barrier Diode				
V _{RRM}	Peak Repetitive Reverse Voltage		20	V
V _R	DC Blocking Voltage		20	V
I _O	Average Rectified Forward Current		1	A

Note a: Surface Mounted on 1in² pad area, $t \leq 10\text{sec}$.

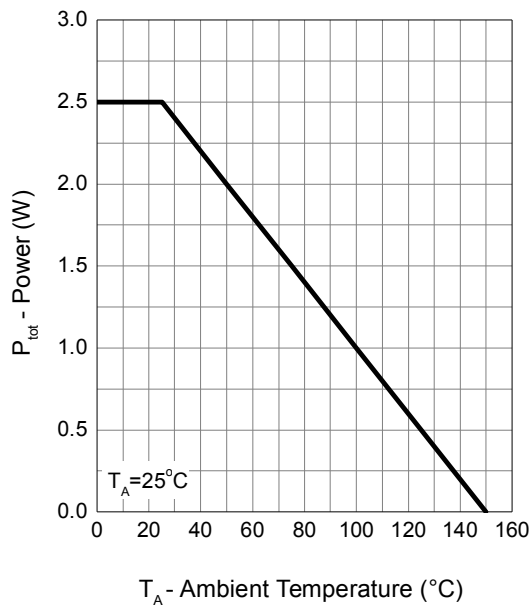
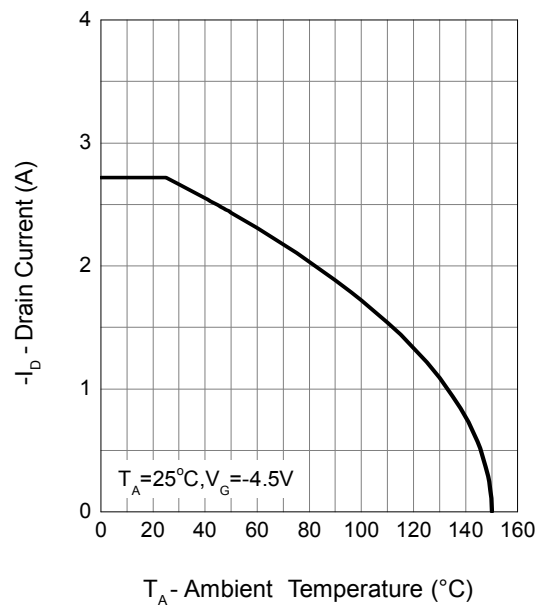
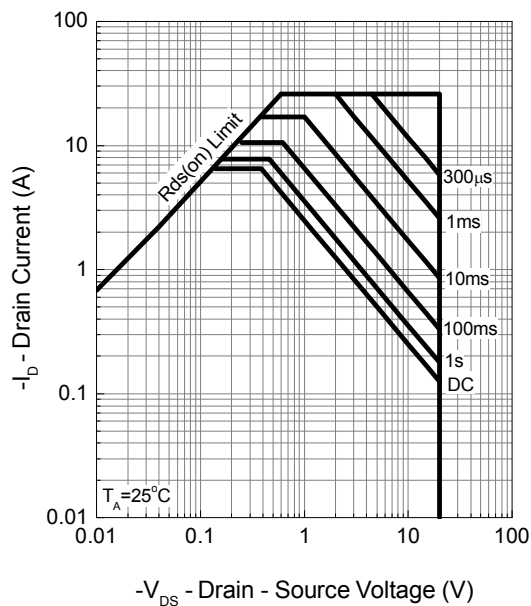
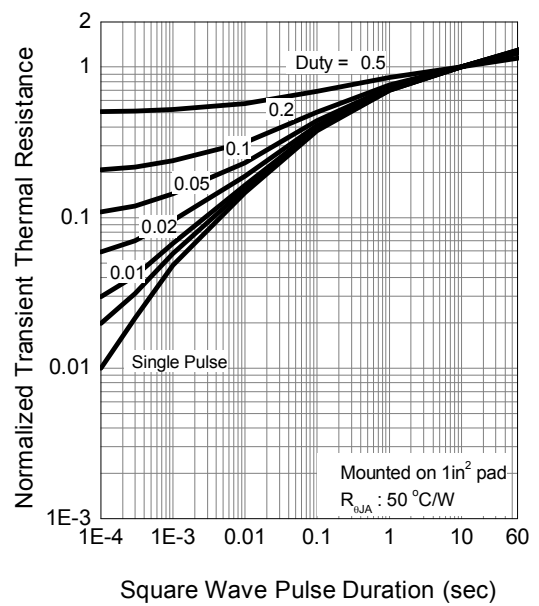
Electrical Characteristics (T_A = 25°C Unless Otherwise Noted)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Static Characteristics						
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _{DS} =-250μA	-20	-	-	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =-16V, V _{GS} =0V	-	-	-1	μA
		T _J =85°C	-	-	-30	
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _{DS} =-250μA	-0.45	-0.75	-1	V
I _{GSS}	Gate Leakage Current	V _{GS} =±12V, V _{DS} =0V	-	-	±100	nA
R _{DS(ON)} ^b	Drain-Source On-state Resistance	V _{GS} =-4.5V, I _{DS} =-2.7A	-	55	105	mΩ
		V _{GS} =-2.5V, I _{DS} =-2A	-	80	146	
		V _{GS} =-1.8V, I _{DS} =-2A	-	136	204	
Diode Characteristics						
V _{SD} ^b	Diode Forward Voltage	I _{SD} =-1A, V _{GS} =0V	-	-0.7	-1	V
t _{rr} ^c	Reverse Recovery Time	I _{SD} =-6.5A,	-	16	-	ns
Q _{rr} ^c	Reverse Recovery Charge	di _{SD} /dt=100A/μs	-	8	-	nC
Dynamic Characteristics ^c						
R _g	Gate Resistance	V _{GS} =0V, V _{DS} =0V, F=1MHz	-	2.4	-	Ω
C _{iss}	Input Capacitance	V _{GS} =0V, V _{DS} =-10V, Frequency=1.0MHz	-	215	-	pF
C _{oss}	Output Capacitance		-	105	-	
C _{rss}	Reverse Transfer Capacitance		-	40	-	
t _{d(ON)}	Turn-on Delay Time	V _{DD} =-10V, R _L =10Ω, I _{DS} =-1A, V _{GEN} =-10V, R _G =6Ω	-	8	-	ns
t _r	Turn-on Rise Time		-	13	-	
t _{d(OFF)}	Turn-off Delay Time		-	34	-	
t _f	Turn-off Fall Time		-	15	-	
Gate Charge Characteristics ^c						
Q _g	Total Gate Charge	V _{DS} =-10V, V _{GS} =-4.5V, I _{DS} =-6.5A	-	8	-	nC
Q _{gs}	Gate-Source Charge		-	1.6	-	
Q _{gd}	Gate-Drain Charge		-	1.9	-	
SCHOTTKY BARRIER DIODE						
Forward voltage	V _F	I _F =0.5A			0.48	V
Reverse current	I _R	V _R =20V			100	μA
Junction capacitance	C _j	V _R =10V, f=1MHz		41		pF

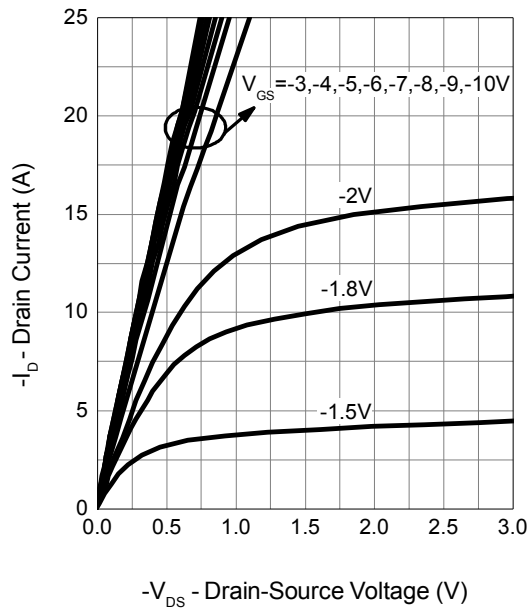
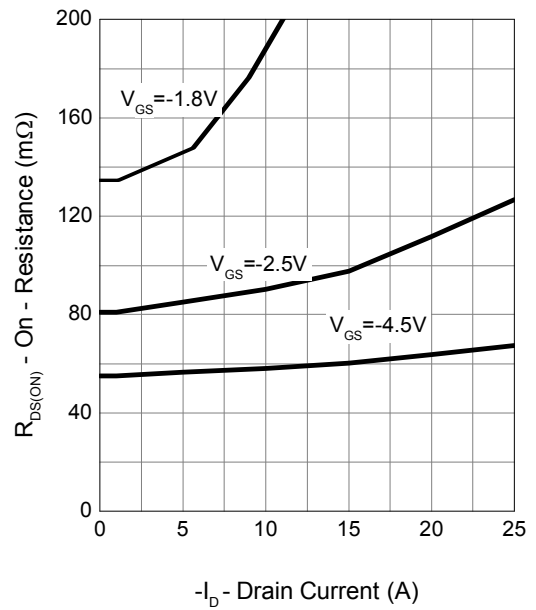
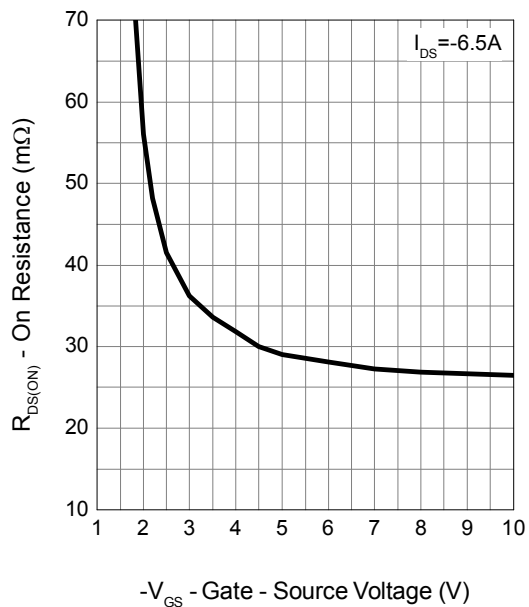
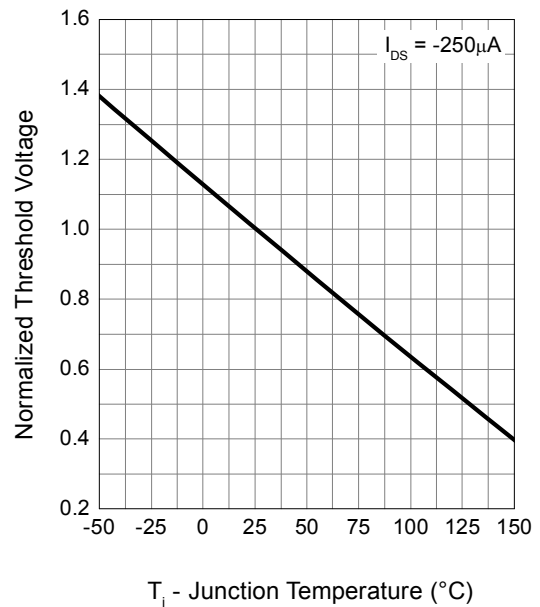
Note b : Pulse test ; pulse width≤300μs, duty cycle≤2%.

Note c : Guaranteed by design, not subject to production testing.

Typical Operating Characteristics

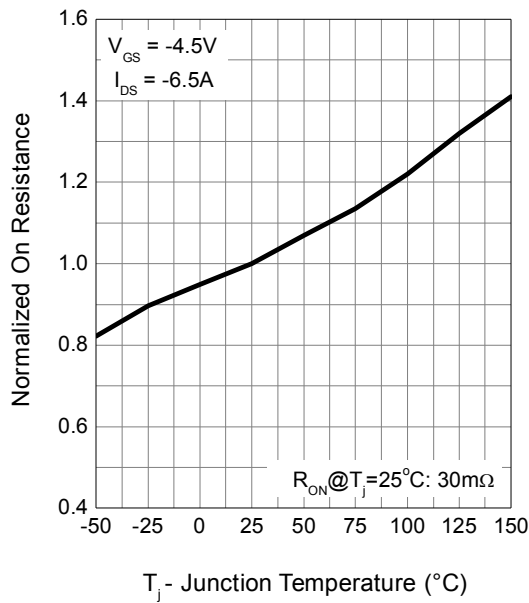
Power Dissipation

Drain Current

Safe Operation Area

Thermal Transient Impedance


Typical Operating Characteristics (Cont.)

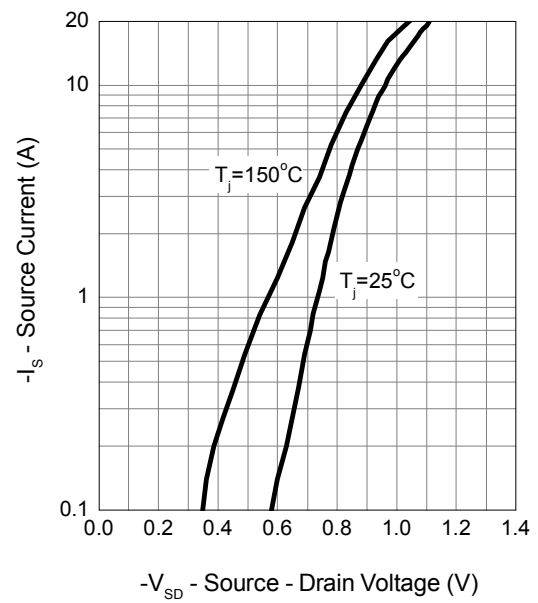
Output Characteristics

Drain-Source On Resistance

Gate-Source On Resistance

Gate Threshold Voltage


Typical Operating Characteristics (Cont.)

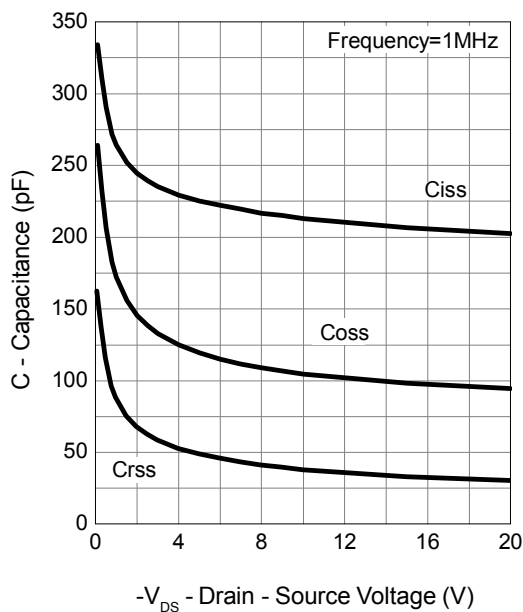
Drain-Source On Resistance



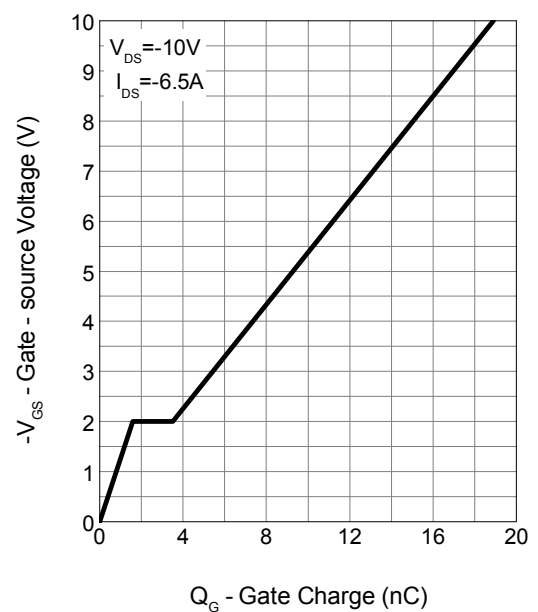
Source-Drain Diode Forward



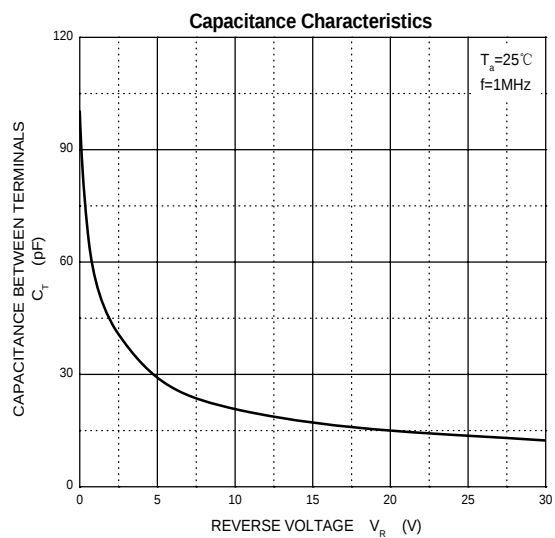
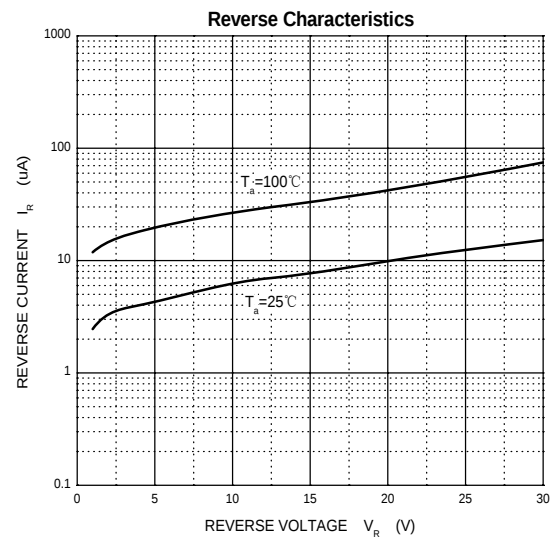
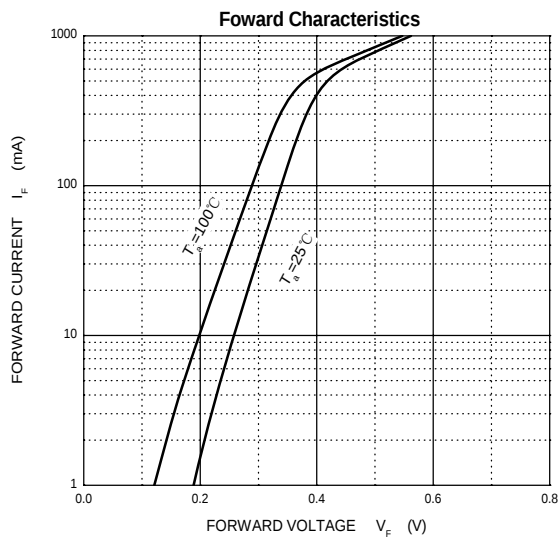
Capacitance



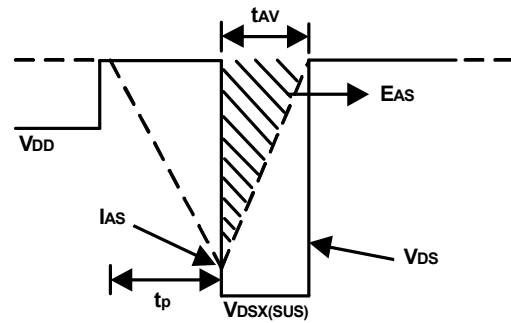
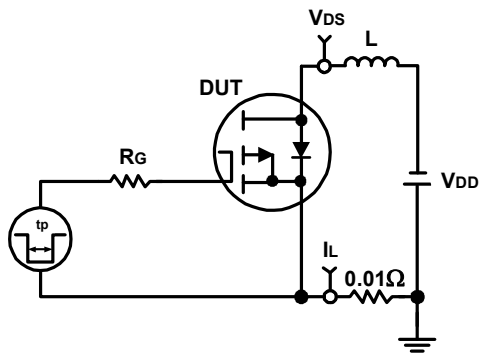
Gate Charge



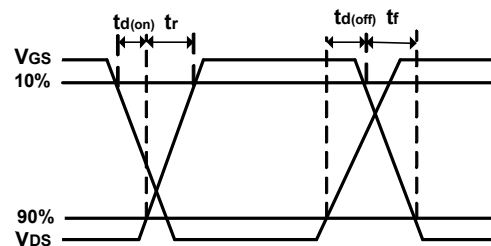
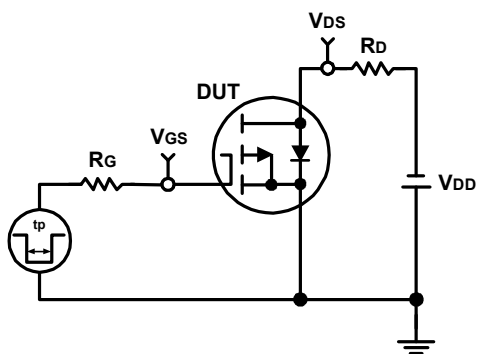
Schottky Characteristics



Avalanche Test Circuit and Waveforms



Switching Time Test Circuit and Waveforms



DFNWB3X2-8L-B Package Outline Dimensions
