

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
60V	6m Ω @10V	70A

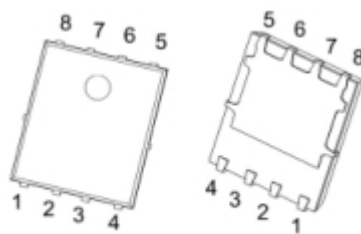
Feature

- Fast Switching
- Low Gate Charge and Rdson
- 100% Single Pulse avalanche energy Test

Applications

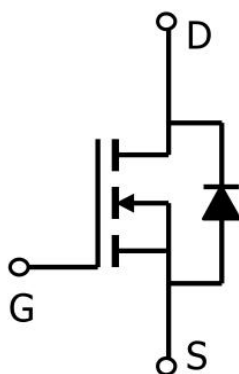
- Power switching application
- DC-DC Converter
- Power Management

Package

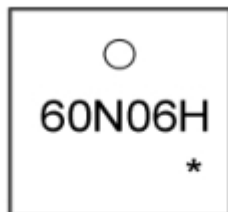


PDFNWB5x6-8L

Circuit diagram



Marking



60N06H : Product code
***** : Month code

Absolute maximum ratings

(T_a=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V _{DS}	60	V
Gate-Source Voltage	V _{GS}	±20	V
Continuous Drain Current(Tc=25°C)	I _D	70	A
Pulse Drain Current Tested	I _{DM}	280	A
Power dissipation(Tc=25°C)	P _D	97	W
Single Pulse Avalanche Energy ¹	E _{AS}	169	mJ
Thermal Resistance-Junction to Case	R _{θJC}	1.29	°C/ W
Storage Temperature Range	T _{STG} , T _J	-55~ +150	°C

Electrical characteristics

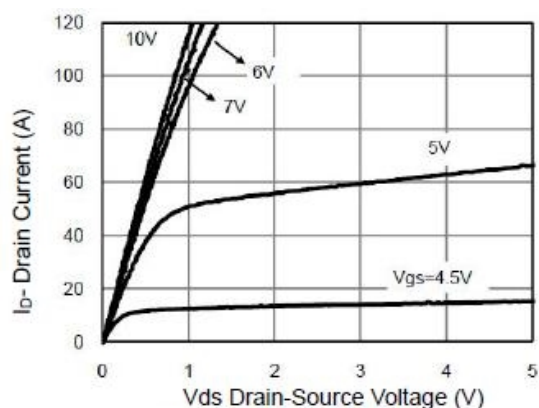
($T_A=25^{\circ}\text{C}$, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	BV (BR)DSS	V _{GS} = 0V, I _D =250μA	60			V
Drain Cut-Off Current	I _{DSS}	V _{DS} =48V,V _{GS} = 0V			1	uA
Gate-source leakage current	I _{GSS}	V _{GS} = ±20V, V _{DS} =0V			±0.1	uA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	2.0	3.0	4.0	V
Drain-Source On-State Resistance	R _{DS(on)}	V _{GS} =10V, I _D =20A		6	7.5	mΩ
Dynamic Characteristics Reverse						
Input Capacitance	C _{iss}	V _{DS} =30V, V _{GS} =0V, f=1.0MHz		4010		pF
Output Capacitance	C _{oss}			293		
Reverse Transfer Capacitance	C _{rss}			215		
Switching Characteristics						
Total gate charge	Q _g	V _{DS} =30V , V _{GS} =10V , I _D =20A		91		pF
Gate-source charge	Q _{gs}			9		
Gate-drain charge	Q _{gd}			18.5		
Turn-On Delay Time	T _{d(on)}	V _{GS} =10V, V _{DS} =30V, I _D =20A, R _G =3Ω		8.5		nS
Rise Time	T _r			7		
Turn-Off Delay Time	T _{d(off)}			41		
Fall Time	T _r			14		
Drain-Source Body Diode Characteristics						
Source-Drain Diode Forward Voltage	V _{SD}	V _{GS} =0V ,I _S =1A			1.2	V

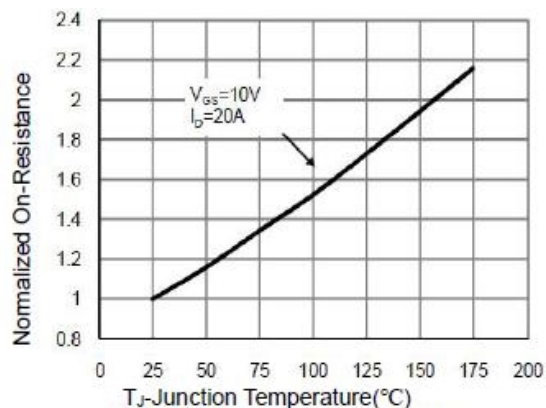
Note :

1. E_{AS} is tested at starting $T_j = 25^{\circ}\text{C}$, $V_{DD}=30V, V_{GS} = 10V, L = 0.5\text{mH}, R_g=25\text{m}\Omega$;

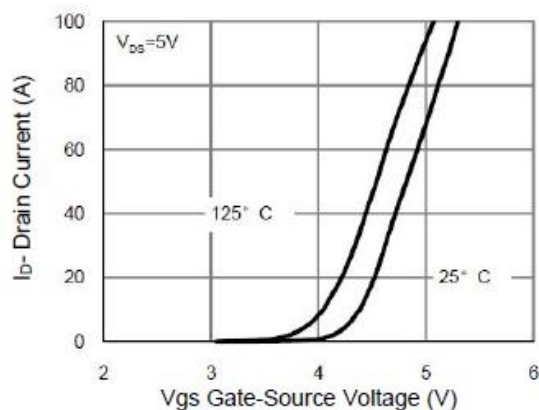
Typical Characteristics



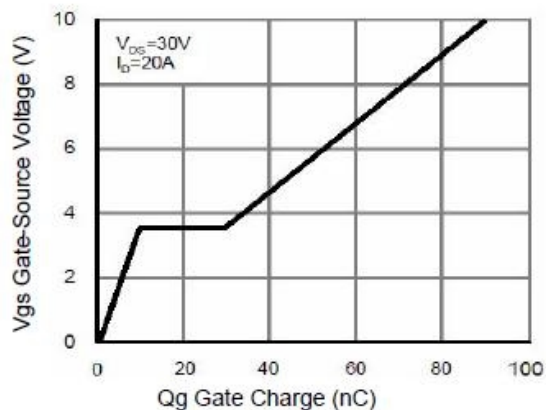
Output Characteristics



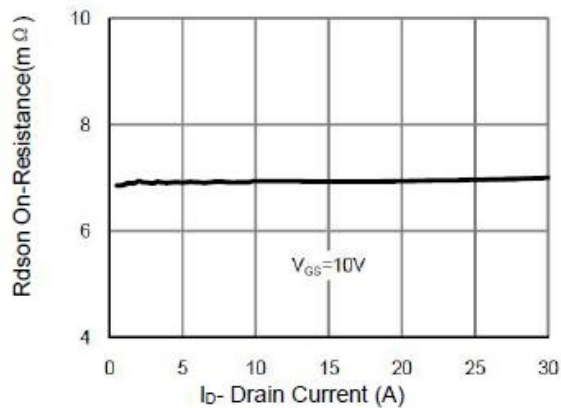
$R_{DS(on)}$ -Junction Temperature



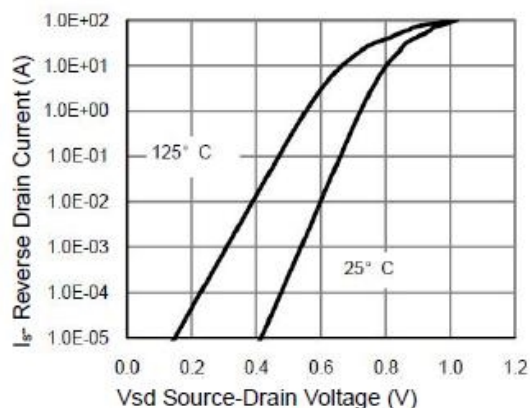
Transfer Characteristics



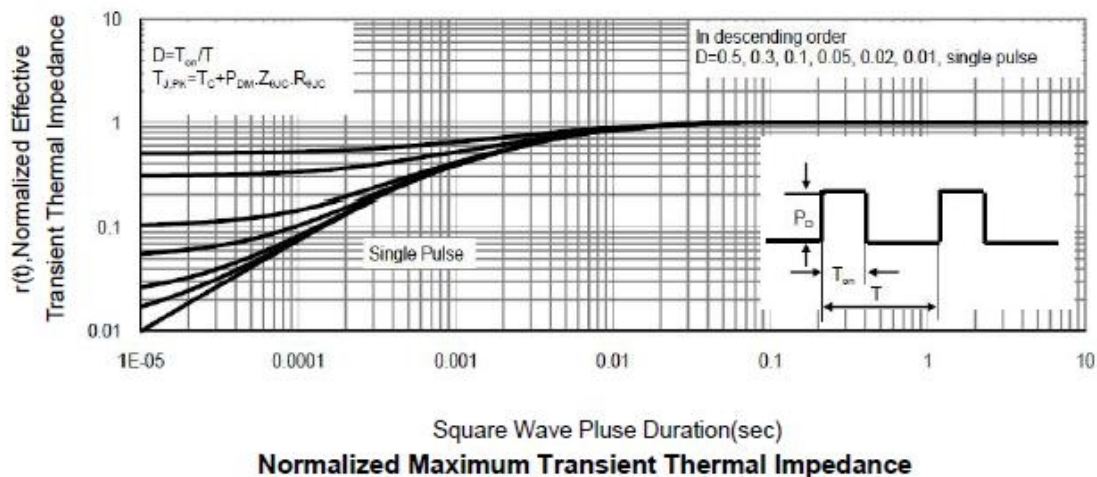
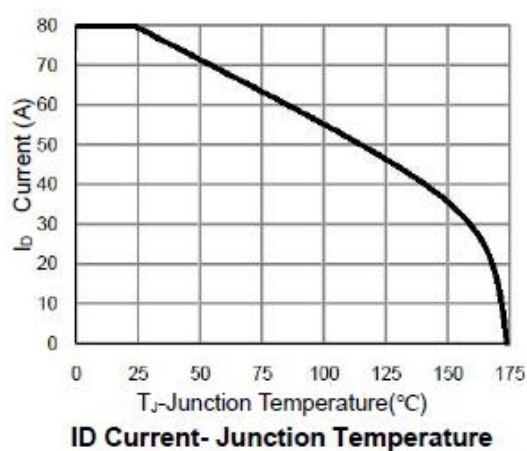
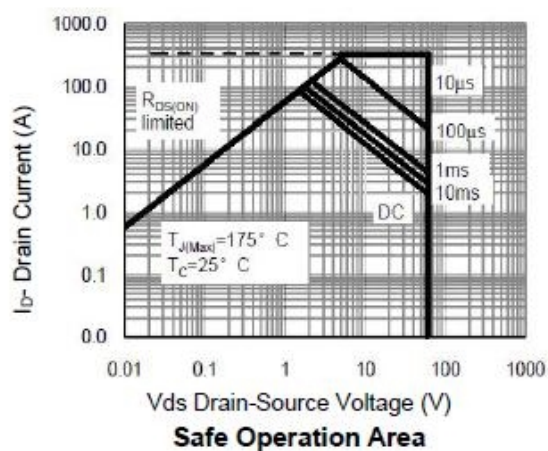
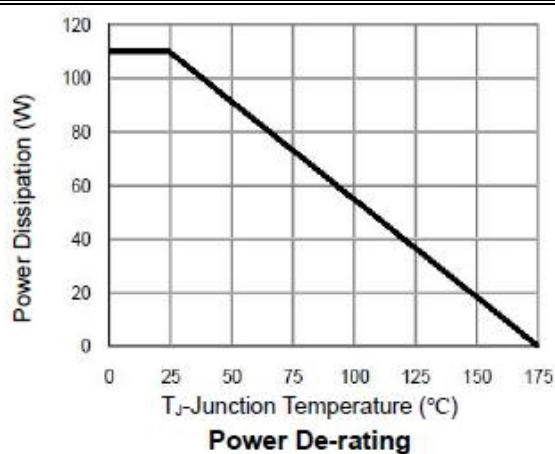
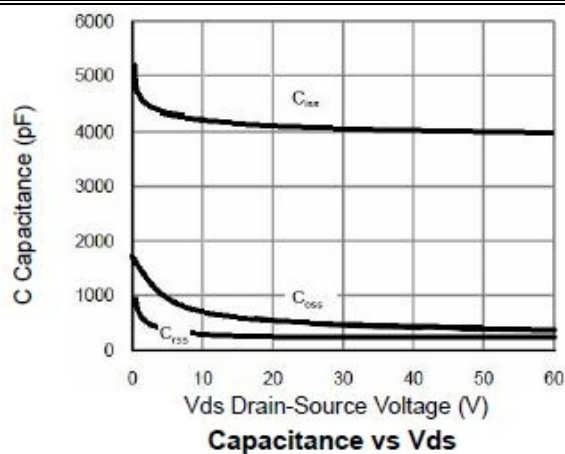
Gate Charge



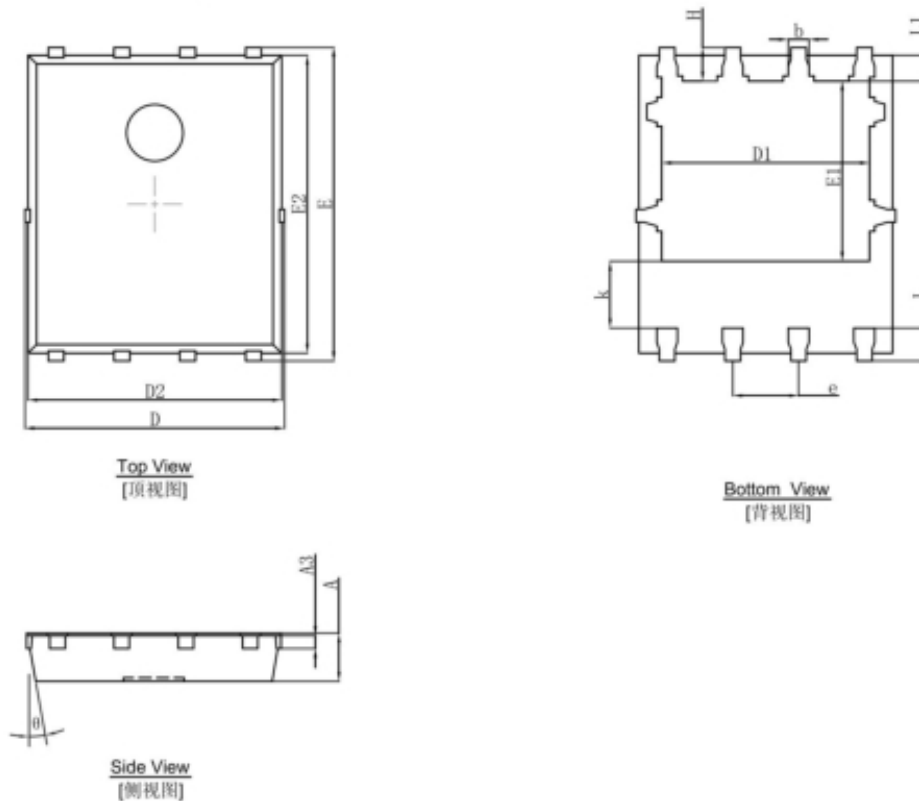
$R_{DS(on)}$ - Drain Current



Source- Drain Diode Forward



PDFNWB5X6-8L Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.000	0.035	0.039
A3	0.254REF.		0.010REF.	
D	4.944	5.096	0.195	0.201
E	5.974	6.126	0.235	0.241
D1	3.910	4.110	0.154	0.162
E1	3.375	3.575	0.133	0.141
D2	4.824	4.976	0.190	0.196
E2	5.674	5.826	0.223	0.229
k	1.190	1.390	0.047	0.055
b	0.350	0.450	0.014	0.018
e	1.270TYP.		0.050TYP.	
L	0.559	0.711	0.022	0.028
L1	0.424	0.576	0.017	0.023
H	0.574	0.726	0.023	0.029
θ	10°	12°	10°	12°