Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
80V	3.3mΩ@10V	110A

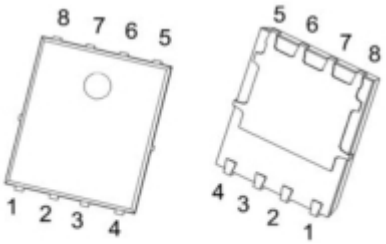
Feature

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

Applications

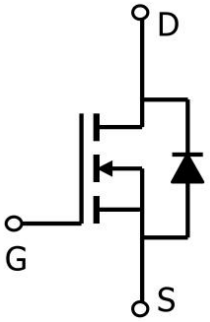
- Power switching application
- DC-DC Converter
- Uninterruptible power supply

Package



PDFNWB5×6-8L

Circuit diagram



Marking

80N03BGH : Product code
*** : Month code**

Absolute maximum ratings

(T_a=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain source voltage	V_{DS}	80	V
Gate source voltage	V_{GS}	±20	V
Continuous drain current(Tc=25℃)	I_D	110	A
Pulsed drain current	I_{DM}	440	A
Power dissipation(Tc=25℃)	P_D	120	W
Single pulsed avalanche energy[1)]	E_{AS}	625	mJ
Thermal resistance, junction-case	$R_{\theta JC}$	1.04	℃/W
Operation and storage temperature	T_J, T_{STG},	-55 to 150	℃

Electrical characteristics

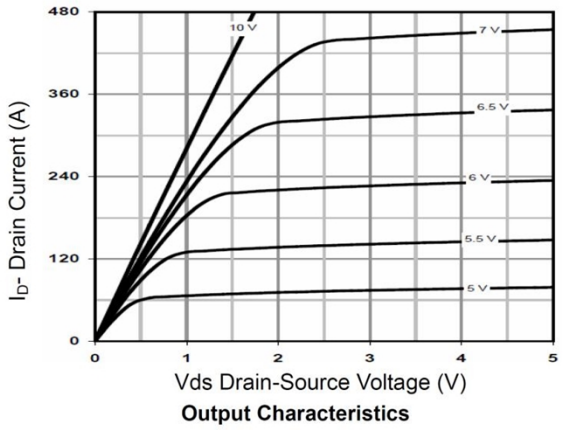
(T_A=25℃, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$BV_{(BR)DSS}$	V_{GS} = 0V, I_D =250μA	80			V
Drain Cut-Off Current	I_{DSS}	V_{DS} =64V, V_{GS} = 0V			1	uA
Gate-Body 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	3	4	V
Drain-Source On-State Resistance	$R_{DS(on)}$	V_{GS} =10V, I_D =20A		3.3	4.1	mΩ
Dynamic Characteristics						
Input capacitance	C_{iss}	V_{DS}=40V, V_{GS}=0V, f=1MHz		5360		pF
Output capacitance	C_{oss}			850		
Reverse transfer capacitance	C_{rss}			56		
Switching Characteristics						
Total Gate Charge	Q_g	V_{DS}=40V, V_{GS}=10V, I_D =20A		42		pF
Gate-Source Charge	Q_{gs}			15		
Gate-Drain Charge	Q_{gd}			20		
Turn-on Delay Time	$T_{d(on)}$	V_{GS}=10V, V_{DS}=40V, R_L =2.0Ω, R_G =3Ω		17		nS
Turn-on Rise Time	T_r			39		
Turn-Off Delay Time	$T_{d(off)}$			64		
Turn-Off Fall Time	t_f			42		
Drain-Source Body Diode Characteristics						
Source-Drain Diode Forward Voltage	V_{SD}	I_S = 1A, V_{GS} = 0V			1.2	V

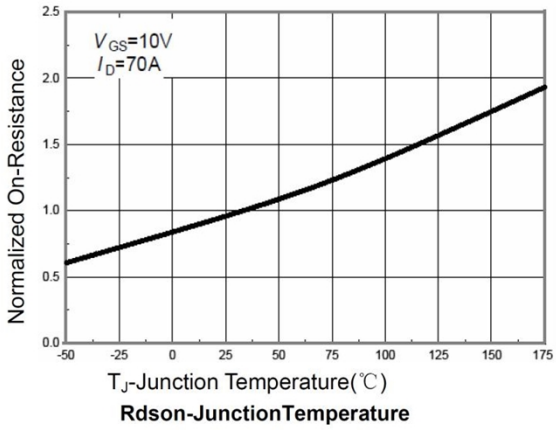
Note：

1. E AS is tested at starting T_j = 25℃, V_{DD} =40V,V_{GS} = 10V,L = 0.5mH, Rg=25 mΩ;

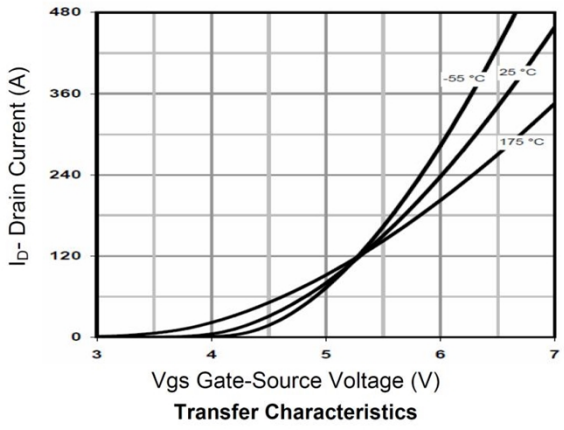
Typical Characteristics



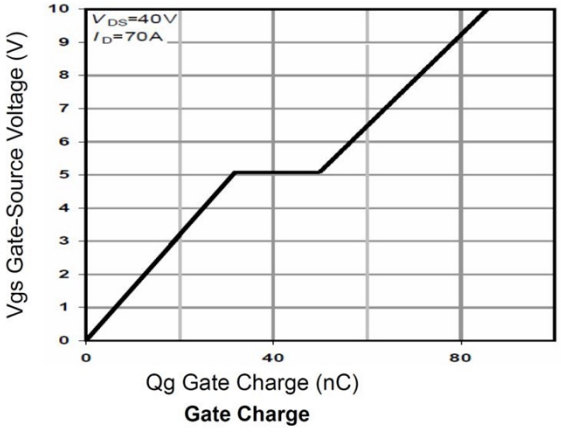
Output Characteristics



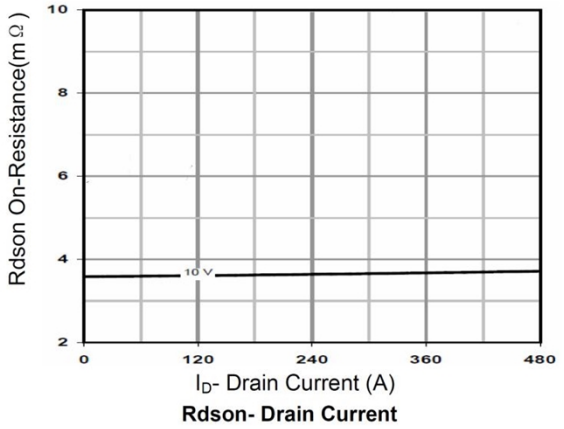
Rdson-JunctionTemperature



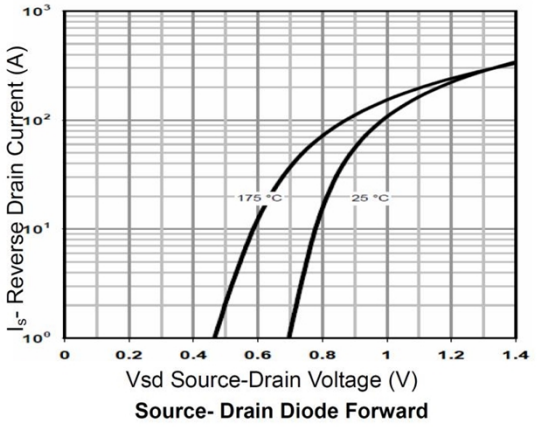
Transfer Characteristics



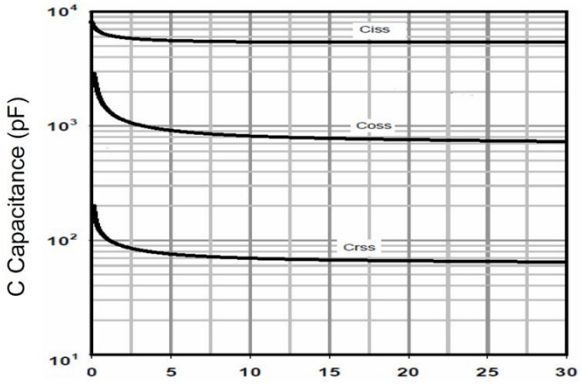
Gate Charge



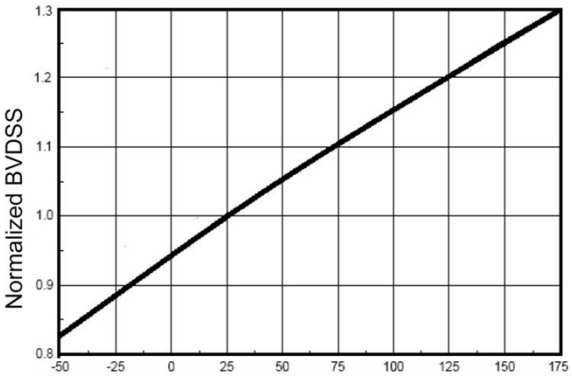
Rdson- Drain Current



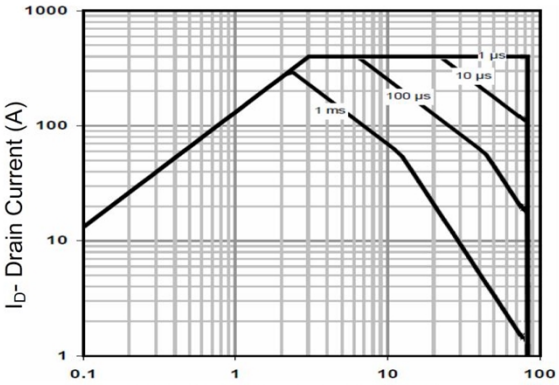
Source- Drain Diode Forward



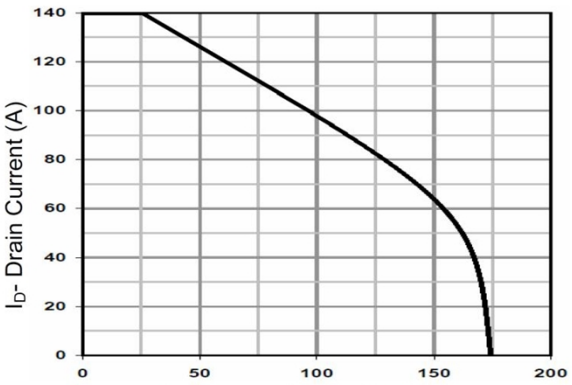
Capacitance vs Vds



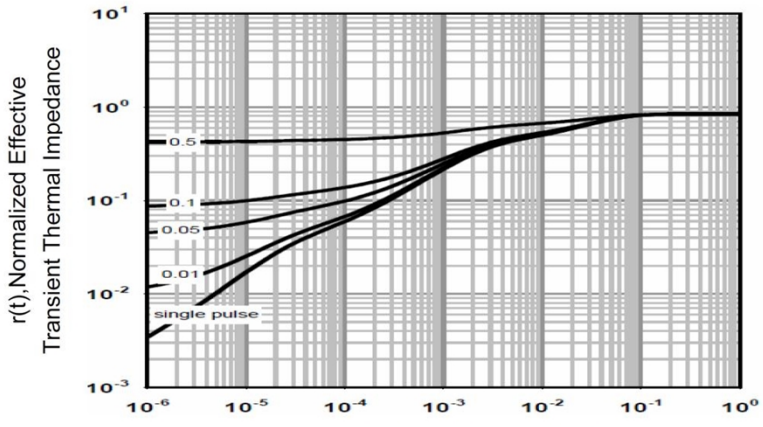
BVDSS vs Junction Temperature



Safe Operation Area

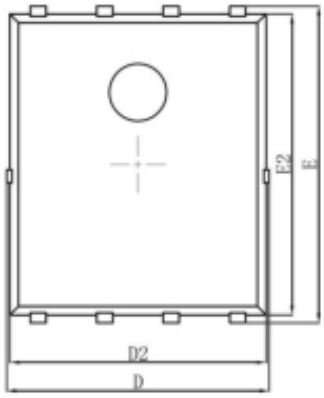


Current De-rating

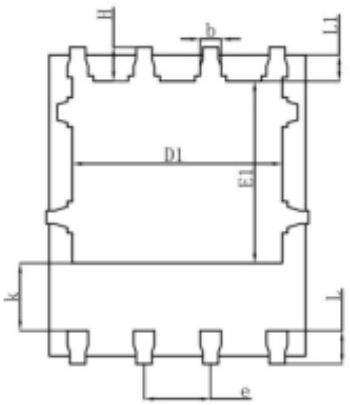


Normalized Maximum Transient Thermal Impedance

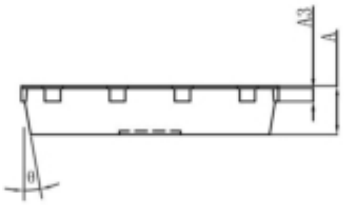
PDFNWB5×6-8L Package Information



Top View
[顶视图]



Bottom View
[背视图]



Side View
[侧视图]

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°