

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
-60V	11mΩ@-10V	-70A
	14mΩ@-4.5V	

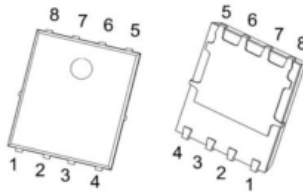
Feature

- High switching speed
- Improved dv/dt capability
- Low Gate Charge
- Low reverse transfer capacitance

Application

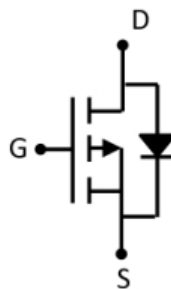
- Load Switches, Adaptor Switch
- Notebook PCs

Package

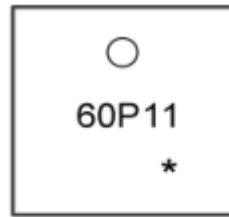


PDFNWB5×6-8L

Circuit diagram



Marking



60P11 =Device Code
***** =Month Code

Absolute maximum ratings

(T_a=25°C unless otherwise noted)

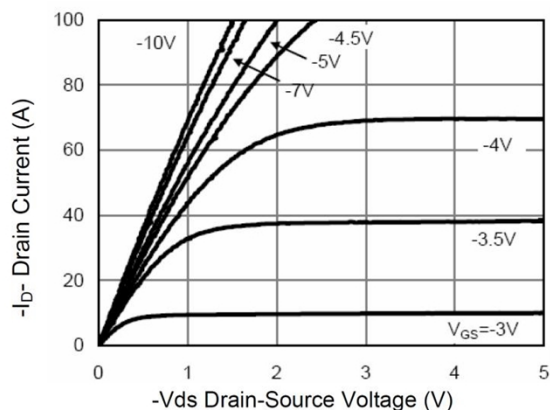
Parameter	Symbol	Value	Unit
Drain-Source Voltage	V _{DS}	-60	V
Gate-Source Voltage	V _{GS}	±20	V
Drain Current-Continuous (T _c =25°C)	I _D	-70	A
Pulsed Drain Current	I _{DM}	-280	A
Maximum Power Dissipation (T _c =25°C)	P _D	135	W
Thermal Resistance, Junction-to-Case	R _{θJC}	0.93	°C/W
Operating Junction and Storage Temperature Range	T _J , T _{STG}	-55~+150	°C

Electrical characteristics

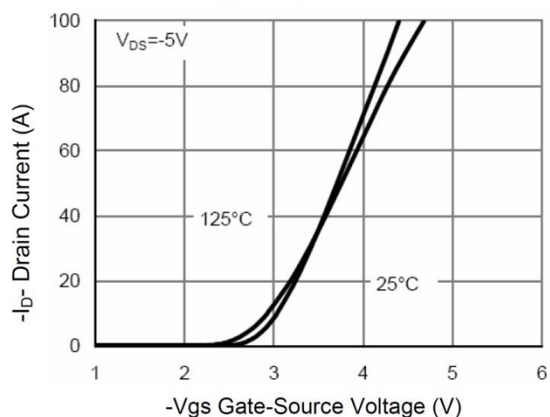
($T_A=25^{\circ}\text{C}$, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$BV_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-60			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -48V, V_{GS} = 0V$			-1	μA
Gate-Source Leakage	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$			± 100	μA
Gate-Source Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-1	-1.5	-2.5	V
Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS} = -10V, I_D = -20A$		11	14	m Ω
		$V_{GS} = -4.5V, I_D = -20A$		14	18.5	
Dynamic Characteristics						
Input Capacitance	C_{iss}	$V_{DS} = -30V, V_{GS} = 0V,$ $f = 1MHz$		7700		pF
Output Capacitance	C_{oss}			489		
Reverse Transfer Capacitance	C_{rss}			364		
Switching Characteristics						
Turn-on Delay Time	$T_{d(on)}$	$V_{DD} = -30V, R_L = 4.7\Omega,$ $V_{GEN} = -10V, R_{GEN} = 3\Omega$		9.8		nS
Turn-on Rise Time	T_r			6.1		
Turn-off Delay Time	$T_{d(off)}$			44		
Turn-off Fall Time	T_f			12.7		
Total Gate Charge	Q_g	$V_{DS} = -30V, V_{GS} = -10V,$ $I_D = -20A$		85.5	55	nC
Gate-Source Charge	Q_{gs}			12.1		
Gate-Drain Charge	Q_{gd}			23.2		
Drain-Source Diode Characteristics						
Diode Forward Voltage	V_{SD}	$I_{SD} = -1A, V_{GS} = 0V$			-1.2	V

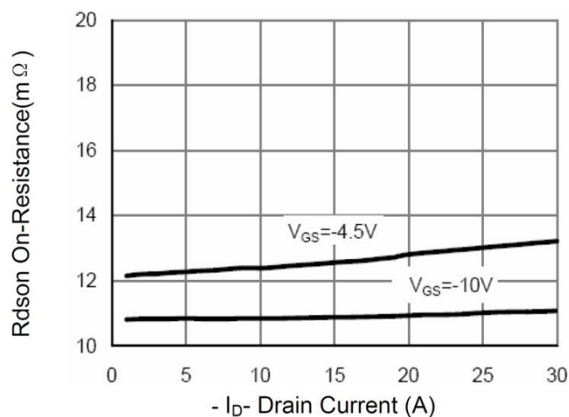
Typical Characteristics



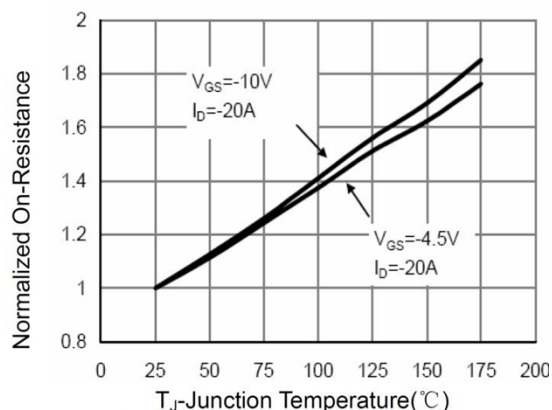
Output Characteristics



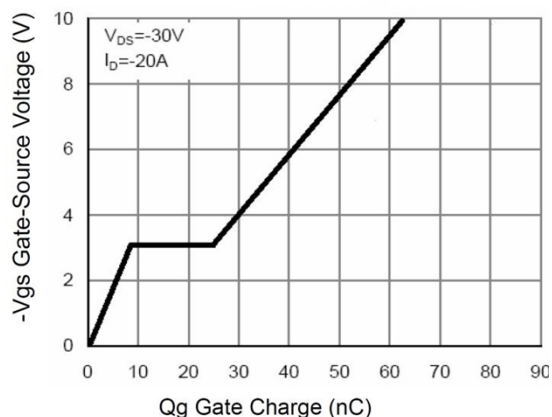
Transfer Characteristics



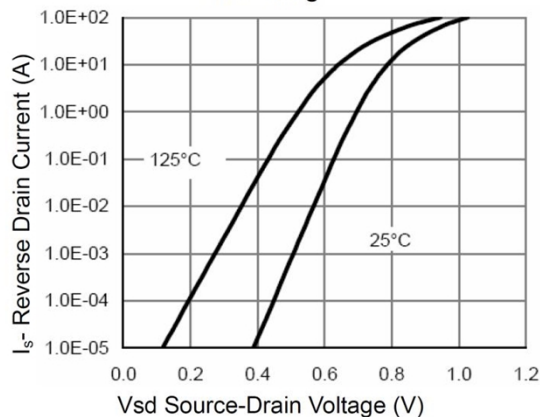
R_{dson} - Drain Current



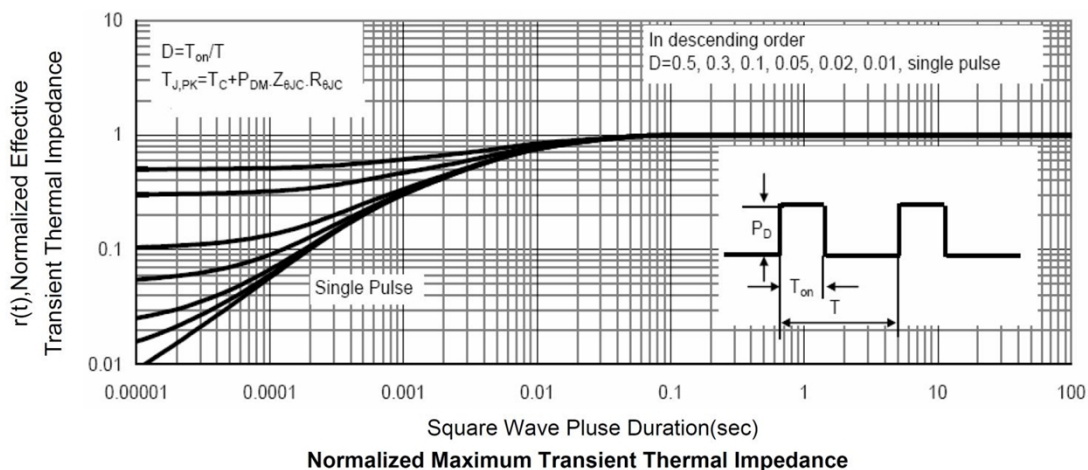
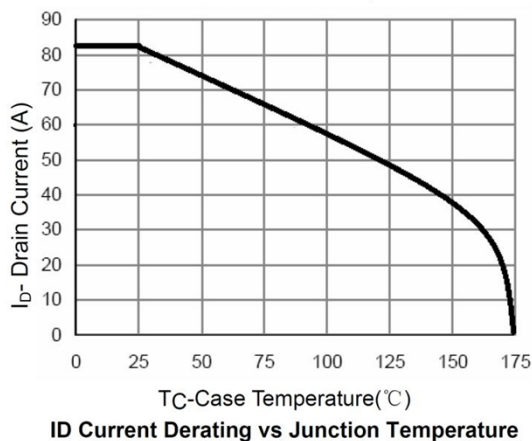
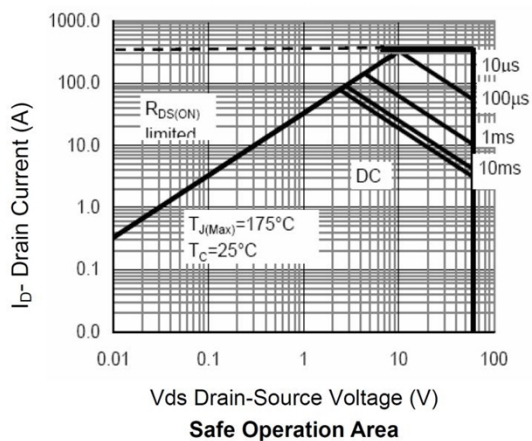
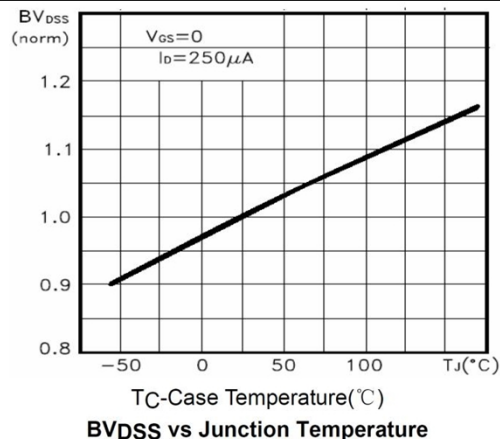
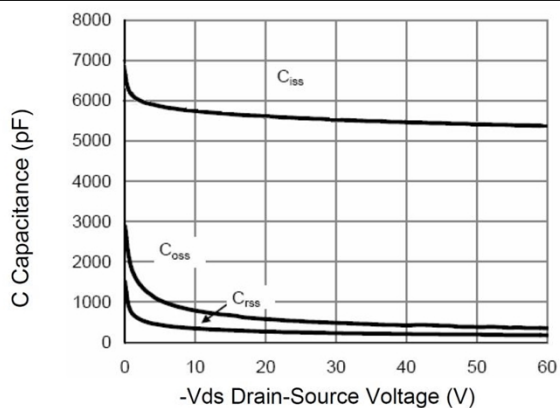
R_{dson} -Junction Temperature



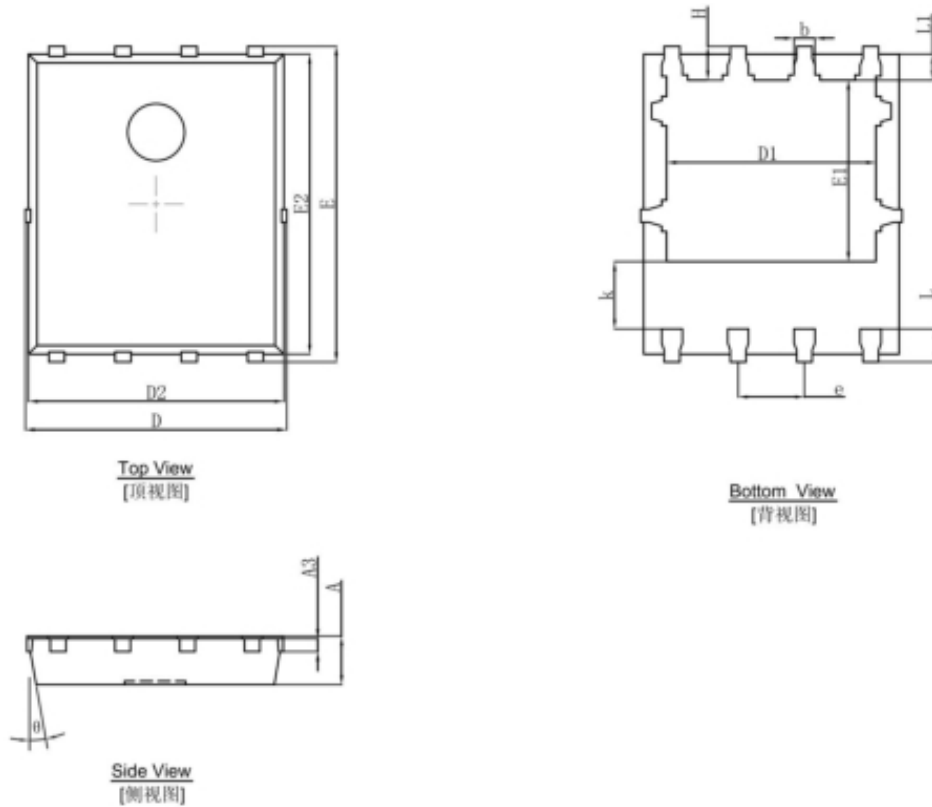
Gate Charge



Source- Drain Diode Forward



PDFNWB5×6-8L 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°