

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
40V	6.5mΩ@10V	50A
	11mΩ@4.5V	

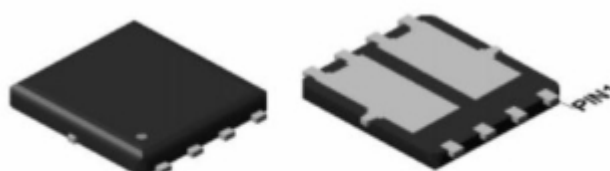
Feature

- Fast switching speed
- Low On-Resistance
- 100% Single Pulse avalanche energy Test

Application

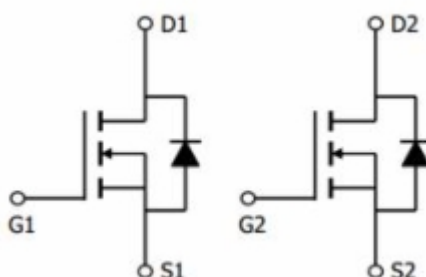
- DC-DC Converters.
- Power Management

Package

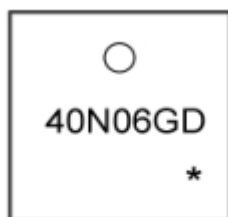


PDFN5X6-8L

Circuit diagram



Marking



40N06GD
*

=Device Code
=Month Code

Absolute maximum ratings

(T_a=25°C unless otherwise noted)

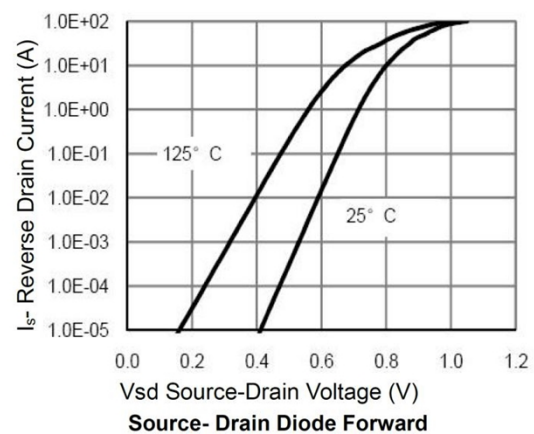
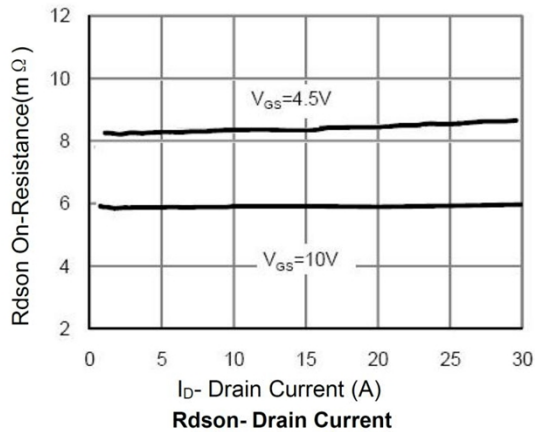
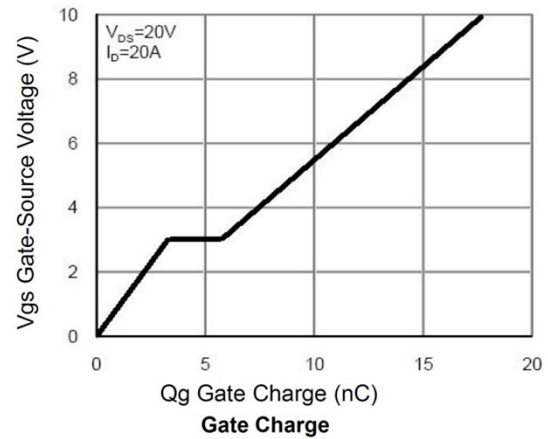
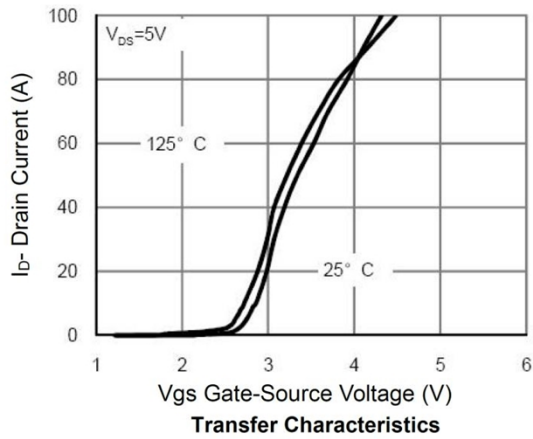
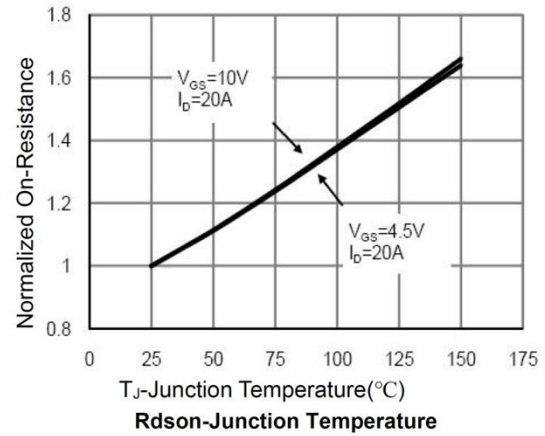
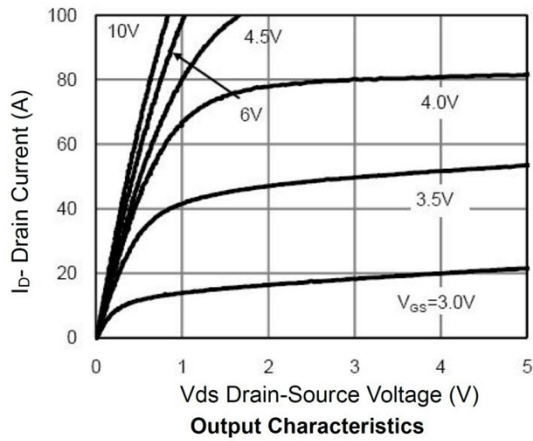
Parameter	Symbol	Value	Unit
Drain-Source Voltage	V _{DS}	40	V
Gate-Source Voltage	V _{GS}	±20	V
Continuous Drain Current(T _c =25°C)	I _D	50	A
Pulse Drain Current Tested	I _{DM}	200	A
Maximum Power Dissipation(T _c =25°C)	P _D	45	W
Thermal Resistance-Junction to Case	R _{θJC}	2.77	°C/W
Maximum Junction Temperature	T _J	-55 to 150	°C
Storage Temperature Range	T _{STG}	-55 to 150	°C

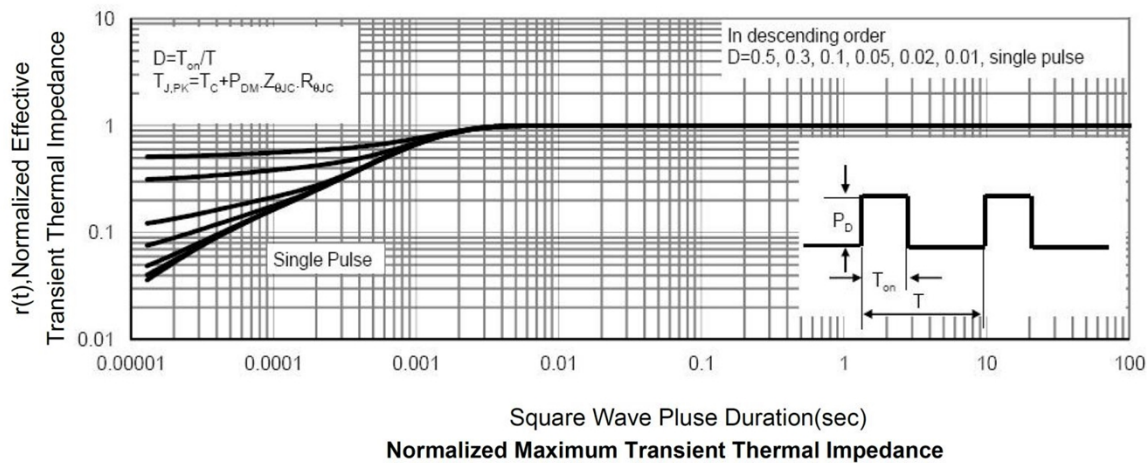
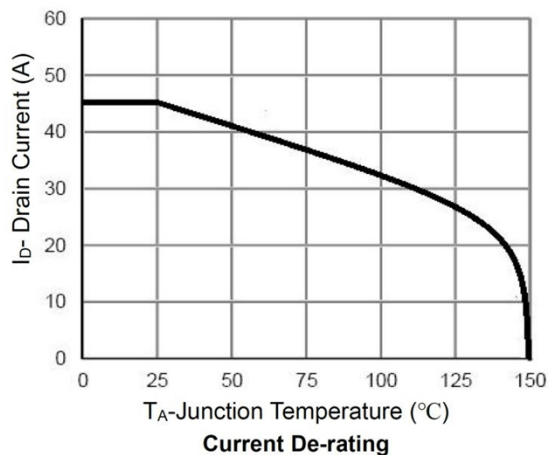
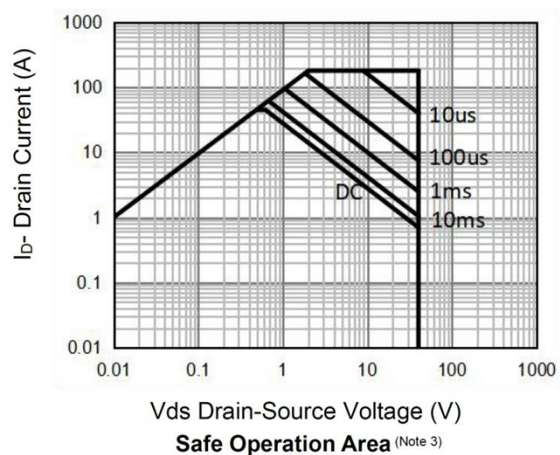
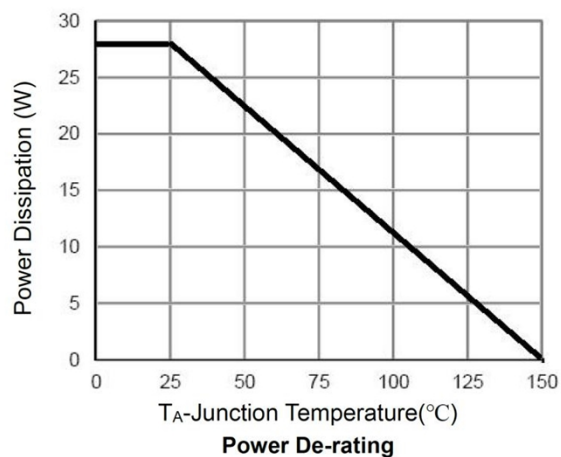
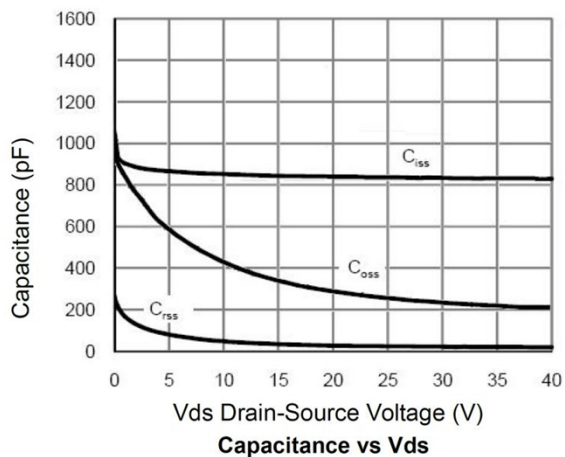
Electrical characteristics

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

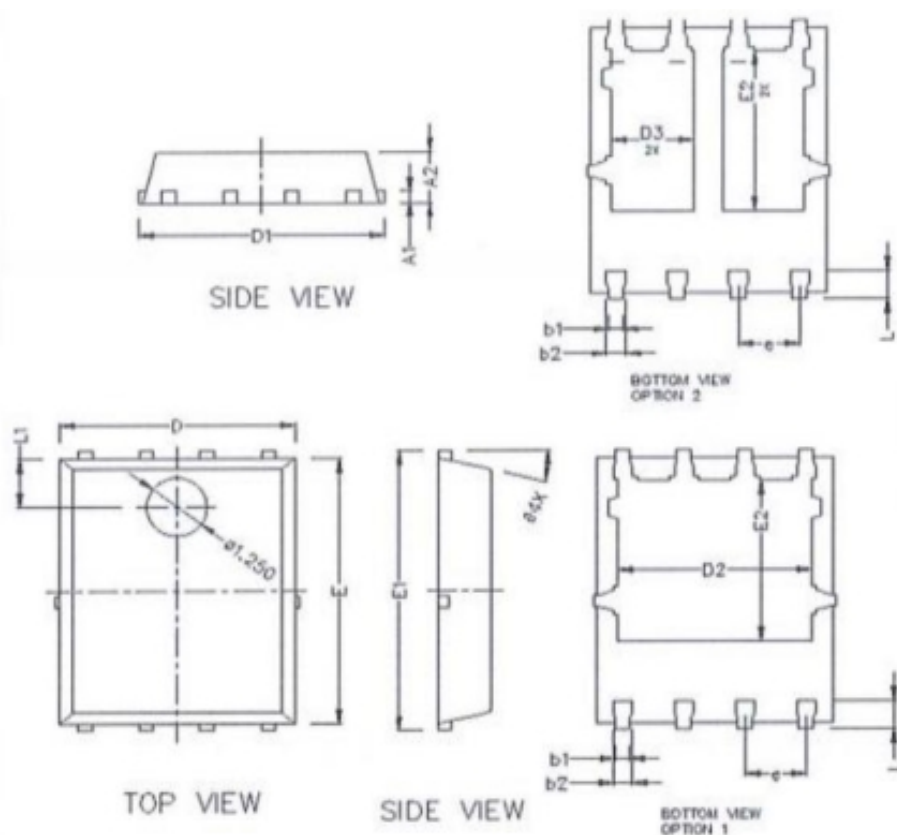
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Off Characteristics						
Drain-Source Breakdown Voltage	BV (BR)DSS	V _{GS} = 0V, I _D =250μA	40			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =40V,V _{GS} = 0V			1	uA
Gate-Body Leakage Current	I _{GSS}	V _{GS} = ±20V , V _{DS} =0V			±100	uA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	1.0	1.5	2.5	V
Drain-Source On-State Resistance ³	R _{DS(on)}	V _{GS} =10V, I _D =20A		6.5	9.5	mΩ
		V _{GS} =4.5V, I _D =10A		11	15	
Dynamic Characteristics						
Input Capacitance	C _{iss}	V _{DS} =20V, V _{GS} =0V, f=1MHz		1278		pF
Output Capacitance	C _{oss}			583		
Reverse Transfer Capacitance	C _{rss}			49		
Total Gate Charge	Q _g	V _{DS} =20V, I _D =20A, V _{GS} =10V		25		pF
Gate-Source Charge	Q _{gs}			5.4		
Gate-Drain Charge	Q _{gd}			3.2		
Turn-On Delay Time	T _{d(on)}	V _{DD} =20V, I _D =20A, V _{GS} =10V, R _G =1.6Ω		6		nS
Rise Time	T _r			2.5		
Turn-Off Delay Time	T _{d(off)}			22		
Fall Time	T _f			3.5		
Diode Characteristics						
Diode Forward Voltage	V _{SD}	V _{GS} =0V, I _S =1A			1.2	V

Typical Characteristics





PDFN5X6-8L Package Information



Symbol	Dimensions In Millimeters	
	Min.	Max.
A1	0.254REF.	
A2	1.000	1.200
b1	0.250	0.350
b2	0.350	0.450
D	4.850	4.950
D1	5.000	5.200
D2	3.910	4.110
D3	1.605	1.805
E	5.700	5.800
E1	5.950	6.150
E2	3.375	3.575
e	1.270REF.	
L	0.530	0.730
L1	0.900	1.100
θ	13°REF.	