

■ PRODUCT CHARACTERISTICS

V_{DS}	500V
$R_{DS(on)}$ Typ@ $V_{GS}=10V$	3 Ω
I_D	5A

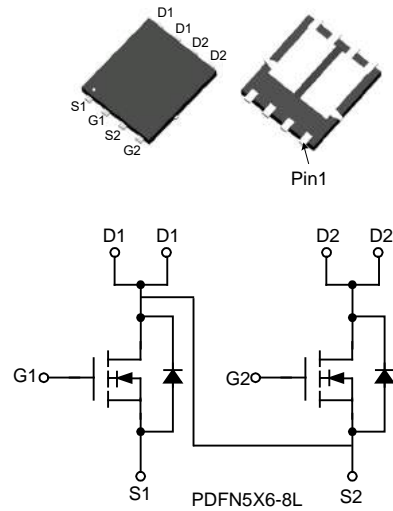
■ APPLICATIONS

- High frequency switching mode power supply
- Electronic ballast
- LED power supply

■ FEATURES

- Fast switching capability
- Avalanche energy specified
- Improved dv/dt capability, high ruggedness

Symbol



■ ORDER INFORMATION

Order codes		Package	5000pieces/Reel
Halogen-free	Halogen		
N/A	MOT50232G	PDFN5X6-8L	

■ ABSOLUTE MAXIMUM RATINGS ($T_c=25^\circ C$, unless otherwise specified)

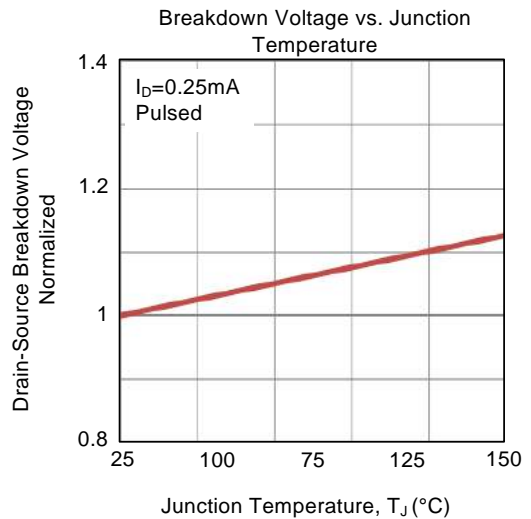
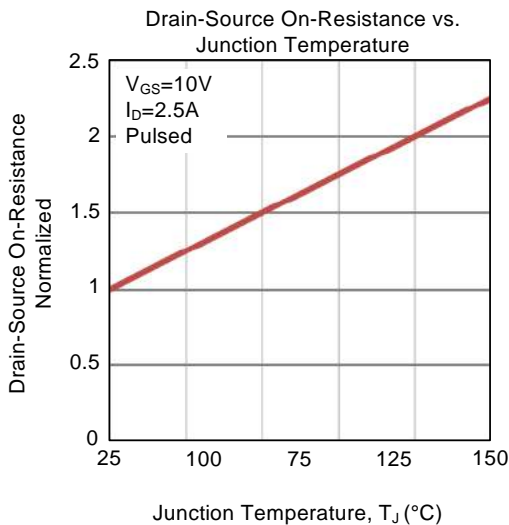
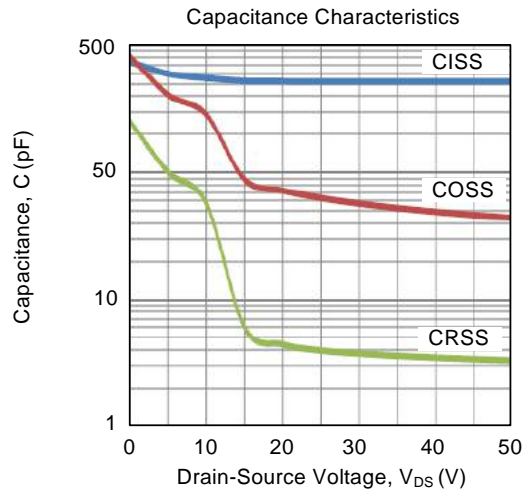
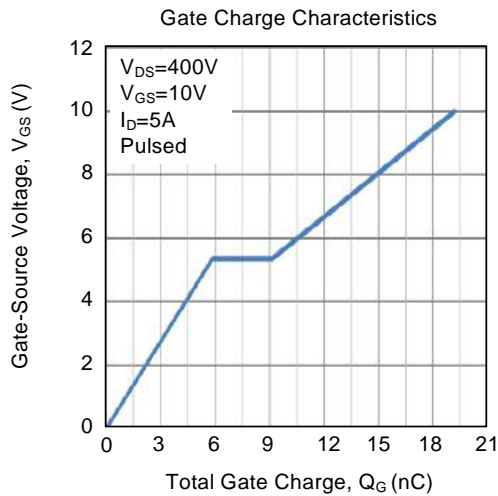
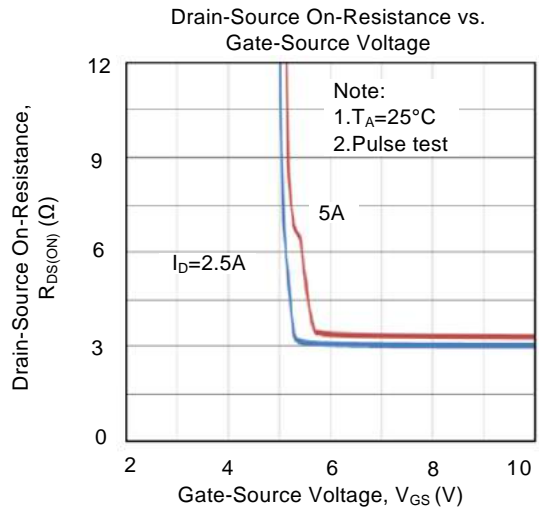
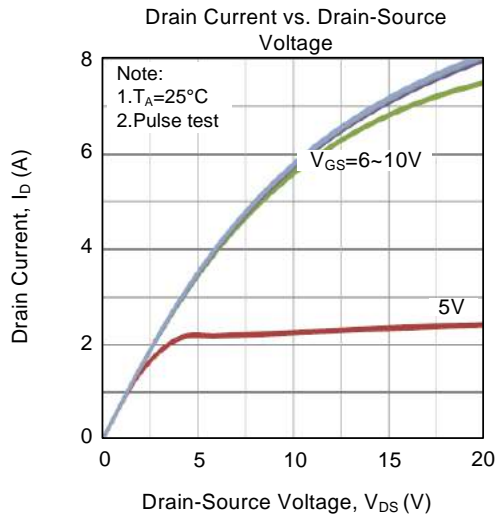
PARAMETER	SYMBOL	RATINGS	UNIT
Drain-Source Voltage	V_{DS}	500	V
Gate-Source Voltage	V_{GS}	± 30	V
Drain Current	Continuous	I_D	5
	Pulse	I_{DM}	15
Avalanche Energy	Single Pulsed	E_{AS}	60
Power Dissipation	P_D	32.9	W
Junction Temperature	T_J	+150	$^\circ C$
Storage Temperature	T_{STG}	-55~+150	$^\circ C$

■ ELECTRICAL CHARACTERISTICS(Tc=25°C, unless otherwise specified)

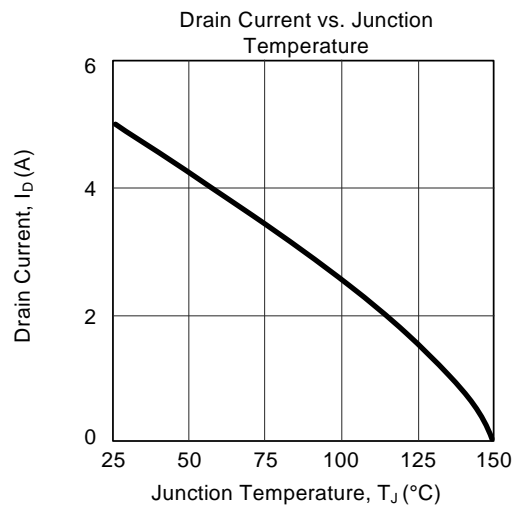
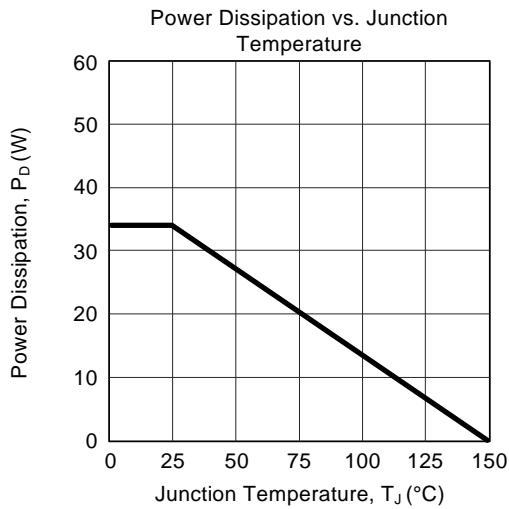
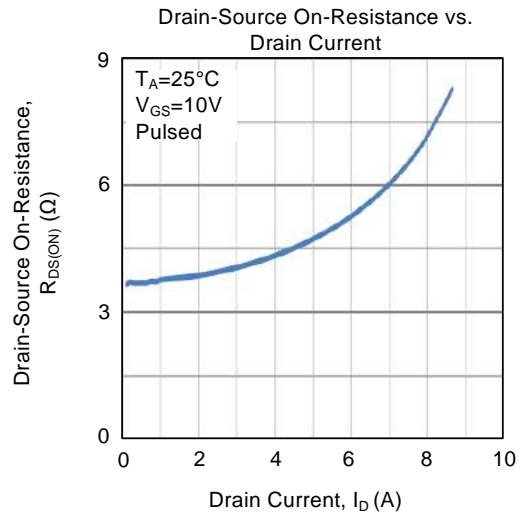
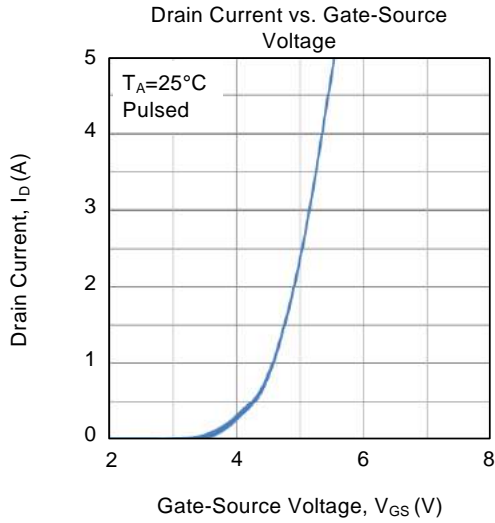
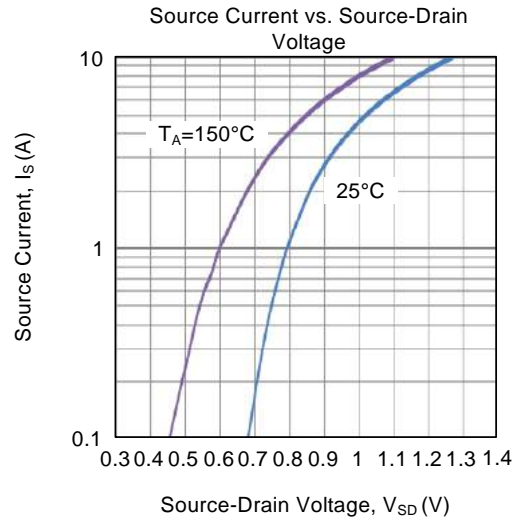
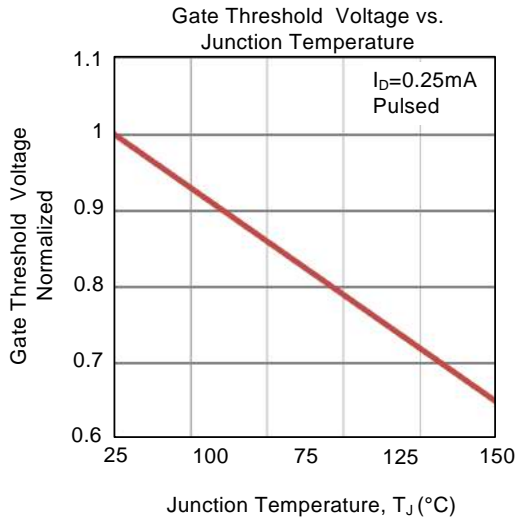
PARAMETER		SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS							
Drain-Source Breakdown Voltage		BV_{DSS}	$I_D=250\mu A, V_{GS}=0V$	500	-	-	V
Breakdown Voltage Temperature Coefficient		$\Delta BV_{DSS}/\Delta T_J$	Reference to 25°C, $I_D=250\mu A$	-	0.5	-	V/°C
Drain-Source Leakage Current		I_{DSS}	$V_{DS}=500V, V_{GS}=0V$	-	-	1	μA
			$V_{DS}=400V, T_C=125^\circ C$	-	-	10	
Gate- Source Leakage Current	Forward	I_{GSS}	$V_{GS}=30V, V_{DS}=0V$	-	-	100	nA
	Reverse		$V_{GS}=-30V, V_{DS}=0V$	-	-	-100	nA
ON CHARACTERISTICS							
Gate Threshold Voltage		$V_{GS(TH)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	2.0	-	4.0	V
Static Drain-Source On-State Resistance		$R_{DS(ON)}$	$V_{GS}=10V, I_D=2.5A$	-	3	3.2	Ω
DYNAMIC CHARACTERISTICS							
Input Capacitance		C_{ISS}	$V_{GS}=0V, V_{DS}=25V,$ $f=1.0MHz$	-	320	-	pF
Output Capacitance		C_{OSS}		-	40	-	pF
Reverse Transfer Capacitance		C_{RSS}		-	8	-	pF
SWITCHING CHARACTERISTICS							
Total Gate Charge		Q_G	$V_{GS}=10V, V_{DS}=400V,$ $I_D=5A$	-	18	-	nC
Gate to Source Charge		Q_{GS}		-	2.2	-	nC
Gate to Drain Charge		Q_{GD}		-	9.7	-	nC
Turn-ON Delay Time		$t_{D(ON)}$	$V_{DD}=250V, I_D=5A,$ $R_G=25\Omega$	-	12	-	ns
Rise Time		t_R		-	46	-	ns
Turn-OFF Delay Time		$t_{D(OFF)}$		-	50	-	ns
Fall-Time		t_F		-	48	-	ns
SOURCE-DRAIN DIODE RATINGS AND CHARACTERISTICS							
Maximum Continuous Drain-Source Diode Forward Current		I_S		-	-	5	A
Maximum Pulsed Drain-Source Diode Forward Current		I_{SM}		-	-	15	A
Drain-Source Diode Forward Voltage		V_{SD}	$I_S=5A, V_{GS}=0V$	-	-	1.4	V
Reverse Recovery Time		t_{rr}	$I_S=5A, V_{GS}=0V,$	-	83	-	ns
Reverse Recovery Charge		Q_{RR}	$di_F/dt=100A/\mu s$ (Note 1)	-	0.25	-	μC

 Note: 1. Pulse Test: Pulse width 300 μs , Duty cycle 2%

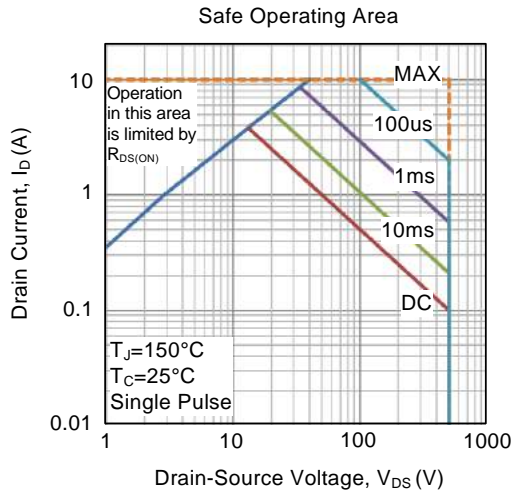
■ TYPICAL CHARACTERISTICS



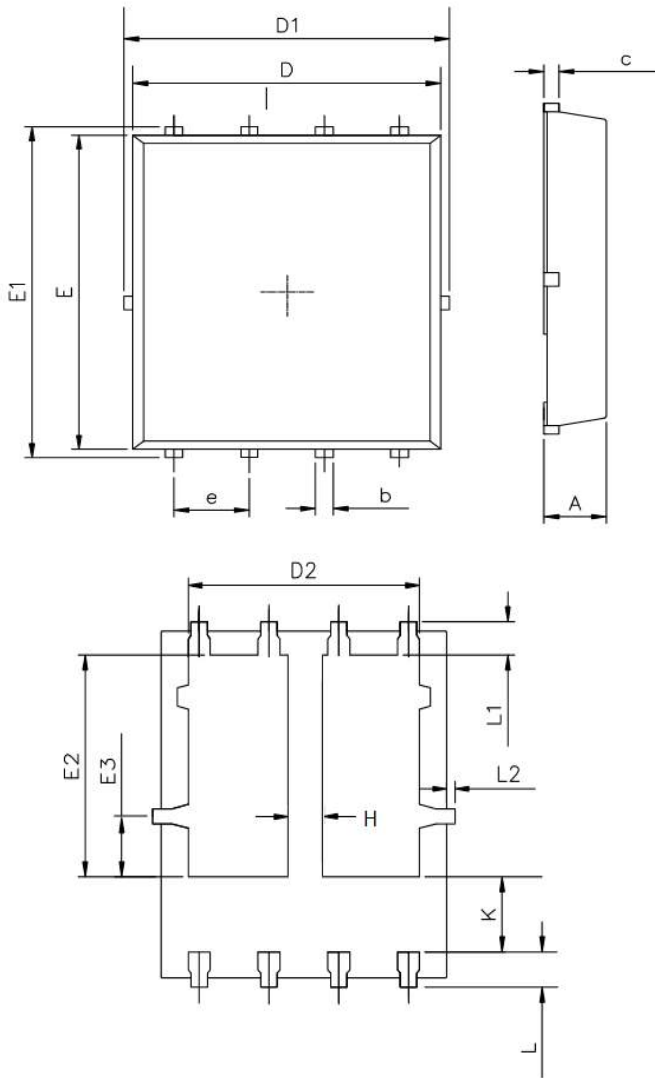
■ TYPICAL CHARACTERISTICS(Cont.)



■ TYPICAL CHARACTERISTICS(Cont.)



■ PDFN5X6-8L PACKAGE MECHANICAL DATA



UNIT: mm

	MIN	NOM	MAX
A	0.90	1.00	1.10
b	0.25	0.35	0.50
c	0.10	0.20	0.30
D	4.80	5.00	5.30
D1	4.90	5.10	5.50
D2	3.92	4.02	4.20
E	5.65	5.75	5.85
E1	5.90	6.05	6.20
E2	3.325	3.525	3.775
E3	0.80	0.90	1.00
e		1.27	
L	0.40	0.55	0.70
L1		0.65	
L2	0.00		0.15
K	1.00	1.30	1.50
H	0.5	0.6	0.7