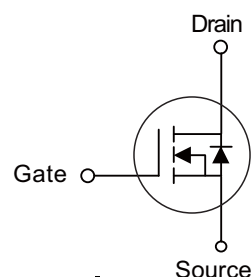


■ PRODUCT CHARACTERISTICS

V_{DSS}	60	V
$R_{DS(ON)-Typ@V_{GS}=10V}$	23	m Ω
$R_{DS(ON)-Typ@V_{GS}=4.5V}$	30	m Ω
I_D	30	A

Symbol



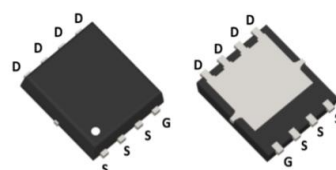
■ APPLICATIONS

- Portable Equipment and Battery Powered systems.
- Power Management in Notebook Computer

■ FEATURES

- Lower $R_{DS(ON)}$ to Minimize Conduction Losses
- Reliable and Rugged
- ROHS Compliant & Halogen-Free
- 100% UIS and Rg Tested

PDFN5060-8L



■ ABSOLUTE MAXIMUM RATINGS ($T_J=25^{\circ}\text{C}$ Unless Otherwise Noted)

PARAMETER		SYMBOL	RATINGS	UNIT
Drain-Source Voltage		V_{DSS}	60	V
Gate-Source Voltage		V_{GSS}	± 20	V
Drain Current	Continuous	I_D	30	A
	Pulsed	I_{DM}	60	A
Avalanche Energy	Single Pulsed	E_{AS}	26.9	mJ
Peak Diode Recovery dv/dt		dv/dt	2.26	V/ns
Power Dissipation		P_D	25	W
Junction Temperature		T_J	+150	$^{\circ}\text{C}$
Storage Temperature Range		T_{STG}	-55 ~ +150	$^{\circ}\text{C}$

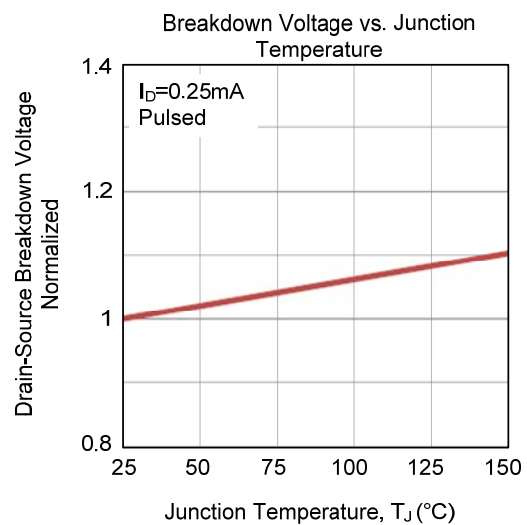
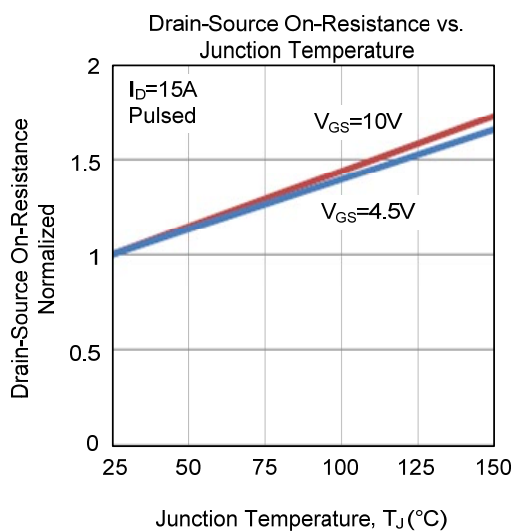
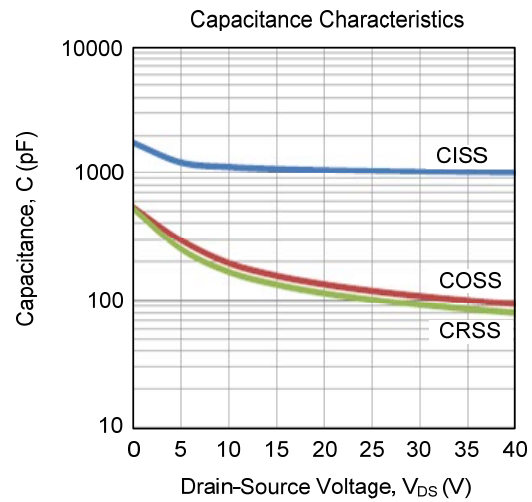
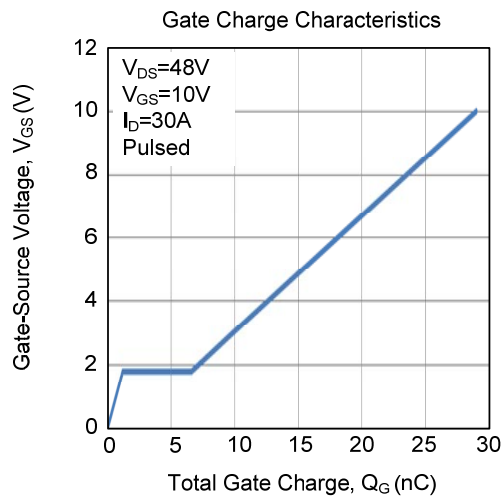
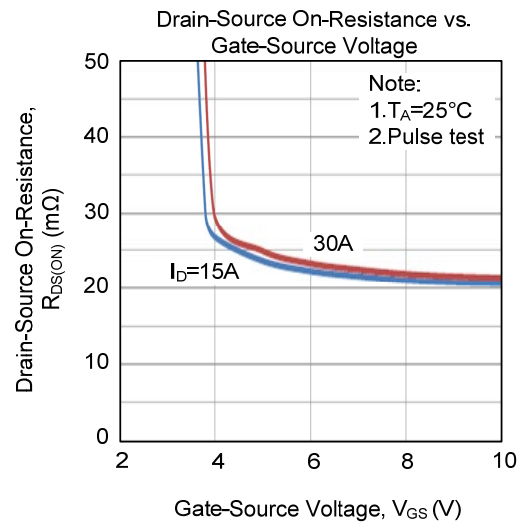
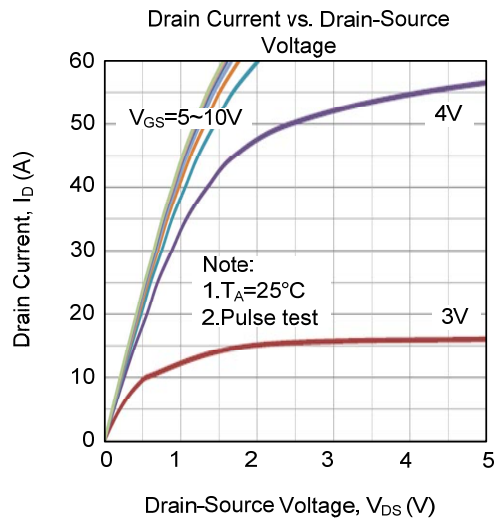
■ THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ_{JA}	65	$^{\circ}\text{C/W}$
Junction to Case	θ_{JC}	4.9	$^{\circ}\text{C/W}$

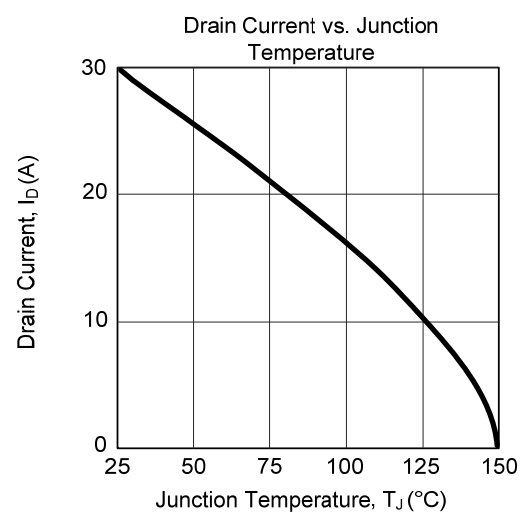
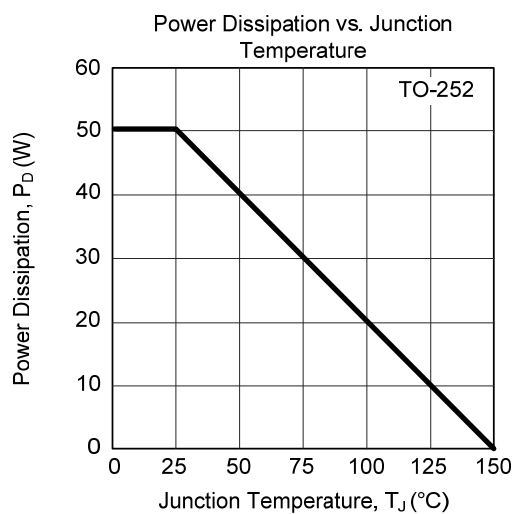
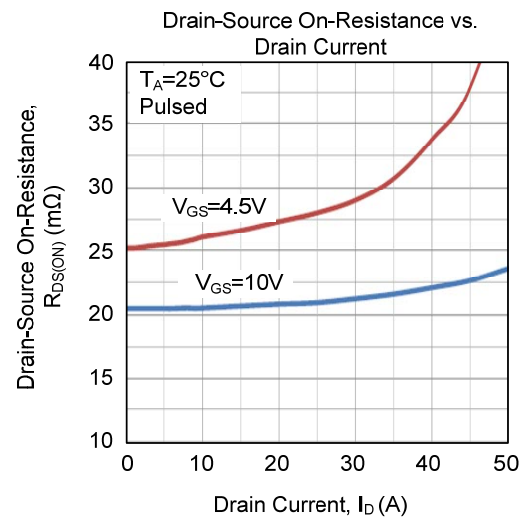
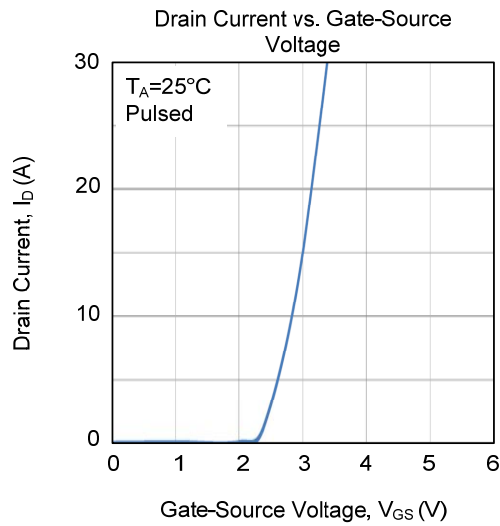
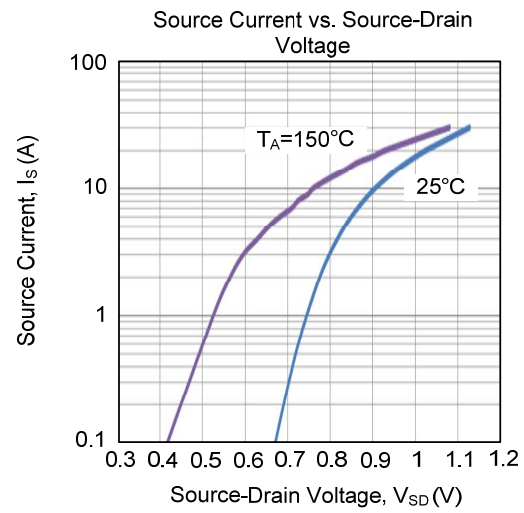
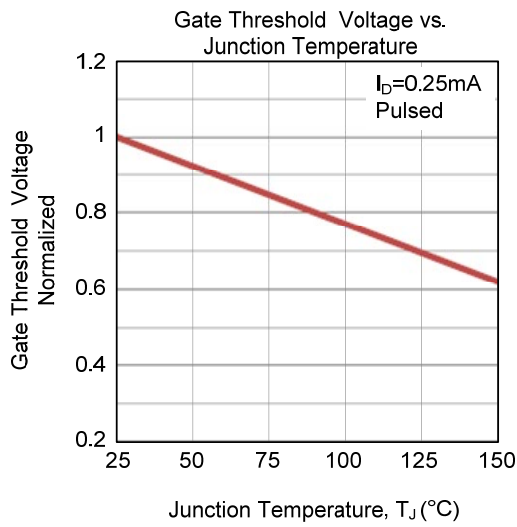
■ ELECTRICAL CHARACTERISTICS ($T_c=25^\circ\text{C}$ unless otherwise specified)

PARAMETER		SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Off characteristics							
Drain-Source Breakdown Voltage		BV_{DSS}	$I_D=250\mu A$, $V_{GS}=0V$	60			V
Drain-Source Leakage Current		I_{DSS}	$V_{DS}=60V$, $V_{GS}=0V$			1	μA
Gate-Source Leakage Current	Forward	I_{GSS}	$V_{GS}=+20V$, $V_{DS}=0V$			+100	nA
	Reverse		$V_{GS}=-20V$, $V_{DS}=0V$			-100	nA
On characteristics							
Gate Threshold Voltage		$V_{GS(TH)}$	$V_{DS}=V_{GS}$, $I_D=250\mu A$	1.0		3.0	V
Static Drain-Source On-State Resistance		$R_{DS(ON)}$	$V_{GS}=10V$, $I_D=15A$			30	m Ω
			$V_{GS}=4.5V$, $I_D=15A$			40	m Ω
Dynamic characteristics							
Input Capacitance		C_{ISS}	$V_{GS}=0V$, $V_{DS}=25V$, $f=1.0MHz$		1020		pF
Output Capacitance		C_{OSS}			118		pF
Reverse Transfer Capacitance		C_{RSS}			101		pF
Switching characteristics							
Total Gate Charge		Q_G	$V_{DS}=48V$, $V_{GS}=10V$, $I_D=30A$, $I_G=1mA$ (Note 1, 2)		29		nC
Gate to Source Charge		Q_{GS}			1.2		nC
Gate to Drain Charge		Q_{GD}			5.4		nC
Turn-on Delay Time		$t_{D(ON)}$	$V_{DD}=30V$, $V_{GS}=10V$, $I_D=30A$, $R_G=3\Omega$ (Note 1, 2)		4.8		ns
Rise Time		t_R			16.6		ns
Turn-off Delay Time		$t_{D(OFF)}$			28		ns
Fall-Time		t_F			19		ns
Source-drain diode ratings and characteristics							
Maximum Body-Diode Continuous Current		I_S				30	A
Maximum Body-Diode Pulsed Current		I_{SM}				60	A
Drain-Source Diode Forward Voltage		V_{SD}	$I_S=30A$, $V_{GS}=0V$			1.4	V
Reverse Recovery Time		t_{rr}	$I_S=30A$, $V_{GS}=0V$,		32		ns
Reverse Recovery Charge		Q_{rr}	$dl_F/dt=100A/\mu s$		58		nC

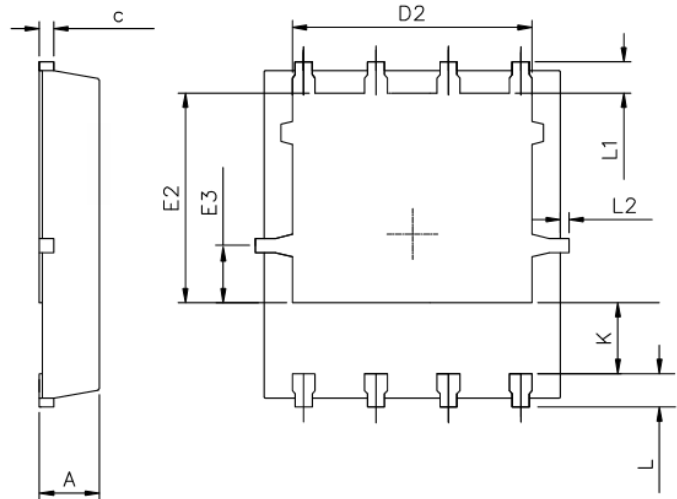
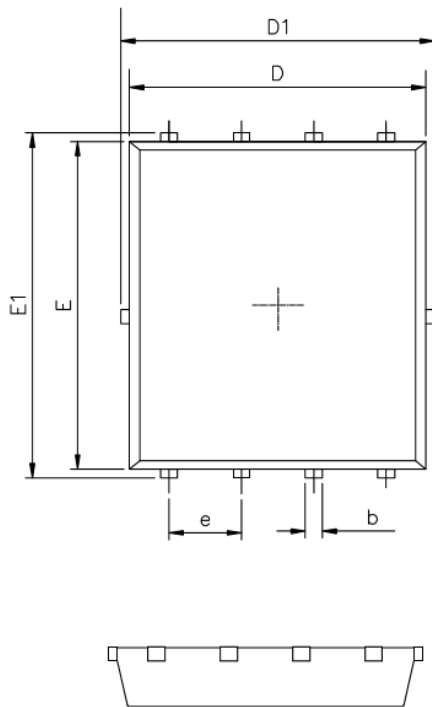
■ TYPICAL CHARACTERISTICS



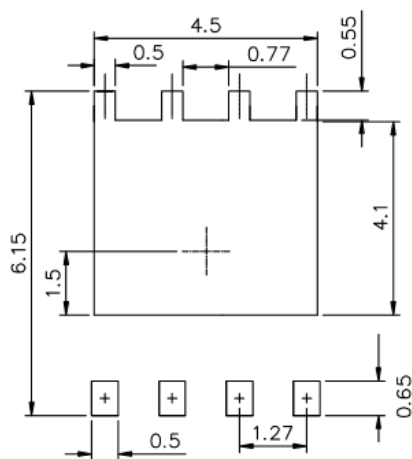
■ TYPICAL CHARACTERISTICS(Cont.)



■ PDFN5060-8L Package Mechanical Data



RECOMMENDED LAND PATTERN



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