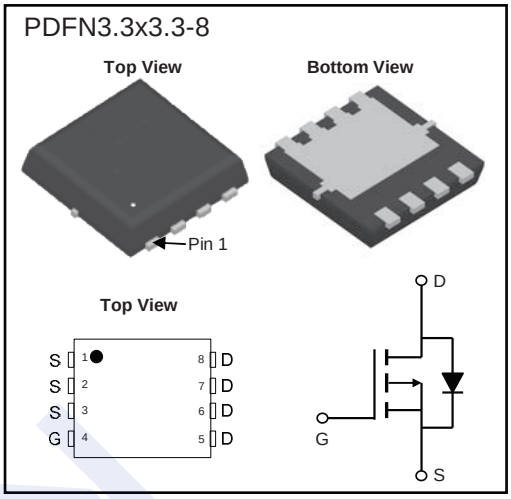
P-Channel MOSFET

2KJ6062DFN

■ Features

- V_{DS} -40 V
- I_D (at V_{GS}=-10V) -30 A
- $R_{DS(ON)}$ (at V_{GS} = - 10V) < 12.5 mΩ
- $R_{DS(ON)}$ (at V_{GS} = - 4.5V) < 17 mΩ
- Advanced Trench Technology
- Excellent $R_{DS(ON)}$ and Low Gate Charge



■ Absolute Maximum Ratings (T_C = 25℃ unless otherwise noted.)

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	-40	V
Gate-Source Voltage		V_{GS}	±20	
Continuous Drain Current	T_C=25℃	I_D	-30	A
	T_C=100℃		-19	
Pulsed Drain Current (Note 1)		I_{DM}	-92	
Single Pulsed Avalanche Energy (Note2)		E_{AS}	132	mJ
Power Dissipation	T_A=25℃	P_D	6.25	W
	T_A=70℃		4	
Thermal Resistance, Junction- to-Ambient (Note 3)		$R_{\theta JA}$	20	℃/W
Junction Temperature		T_J	150	℃
Storage Temperature Range		T_{stg}	-55 to 150	

Notes:

1. Repetitive Rating: Pulse Width Limited by Maximum Junction Temperature
2. EAS condition: T_J= 25℃, V_{DD}= -20V, V_G= -10V, L= 0.5mH, R_G= 25Ω, I_{AS}= -23A
3. The value of $R_{\theta JA}$ is measured with the device mounted on 1in^2 FR-4 board with 2oz. Copper, in a still air environment, t ≤ 10s.

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■ Electrical Characteristics (T_J = 25℃ unless otherwise noted)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV_{DSS}	I_D = -250μA, V_{GS} = 0V	-40			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}= -40V, V_{GS} = 0V			-1	μA
		V_{DS}= -40V, V_{GS} = 0V, T_J=55℃			-25	
Gate-Body Leakage Current	I_{GSS}	V_{DS} = 0V, V_{GS} = ±20V			±100	nA
ON CHARACTERISTICS						
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS} , I_D = -250μA	-1.1		-2.1	V
Static Drain-Source On-Resistance (Note 4)	$R_{DS(on)}$	V_{GS} = -10V, I_D = -20A			12.5	mΩ
		V_{GS} = -4.5V, I_D = -10A			17	
DYNAMIC CHARACTERISTICS (Note 5)						
Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS} = -20V, f = 1MHz		3800		pF
Output Capacitance	C_{oss}			329		
Reverse Transfer Capacitance	C_{rss}			289		
Total Gate Charge	Q_g	V_{DS} = -20V, V_{GS} = -10V, I_D = -20A		42		nC
Gate Source Charge	Q_{gs}			7.3		
Gate Drain Charge	Q_{gd}			8.5		
SWITCHING CHARACTERISTICS (Note 6)						
Turn-On DelayTime	$t_{d(on)}$	V_{DD} = -20 V, R_{GEN} = 2.5 Ω, I_D = -20 A,V_{GS} = -10 V,		10		ns
Turn-On Rise Time	t_r			21		
Turn-Off DelayTime	$t_{d(off)}$			53		
Turn-Off Fall Time	t_f			29		
DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS						
Maximum Body-Diode Continuous Current	I_S				-30	A
Maximum Body-Diode Pulsed Current	I_{SM}				-92	
Reverse Recovery Time	t_{rr}	V_{GS} = 0V , I_S = -25A, di/dt = 100A/μs		39		ns
Reverse Recovery Charge	Q_{rr}			42		μC
Diode Forward Voltage	V_{SD}	I_S = -30 A,V_{GS} = 0V		-0.8	-1.2	V

Notes:

4. Measured under pulsed conditions. Pulse width ≤ 300μs, duty cycle ≤ 2%.
5. For design aid only, not subject to production testing.
6. Switching characteristics are independent of operating junction temperatures.

■ Marking

Marking	J6062 KC****

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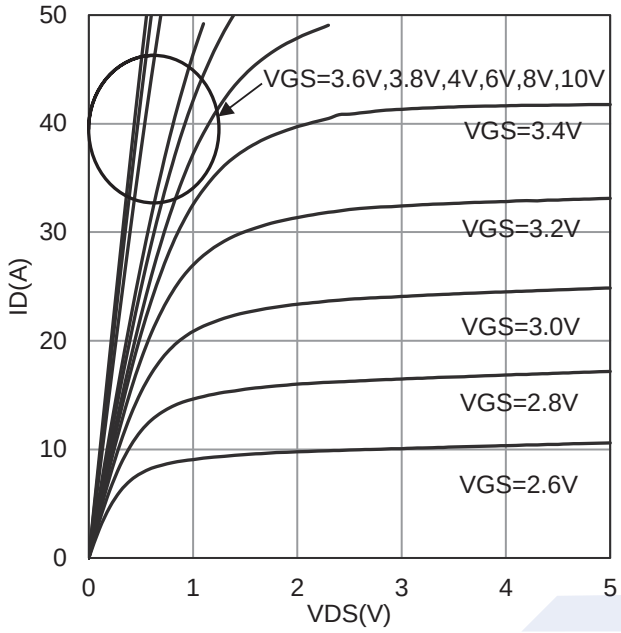
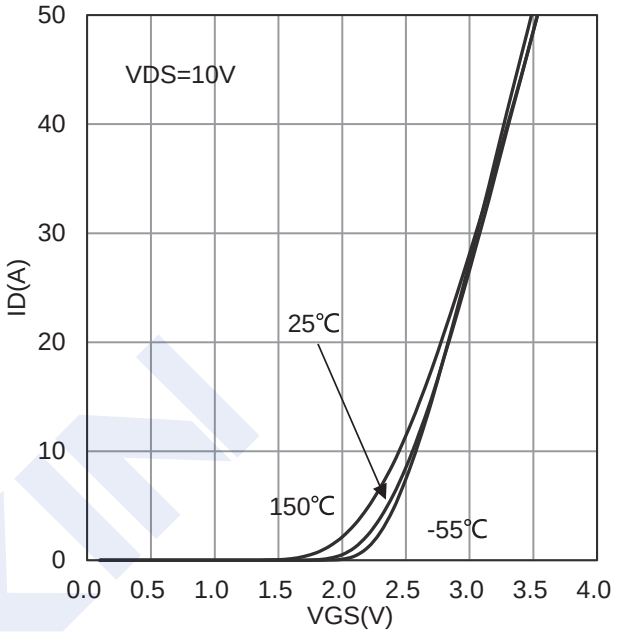
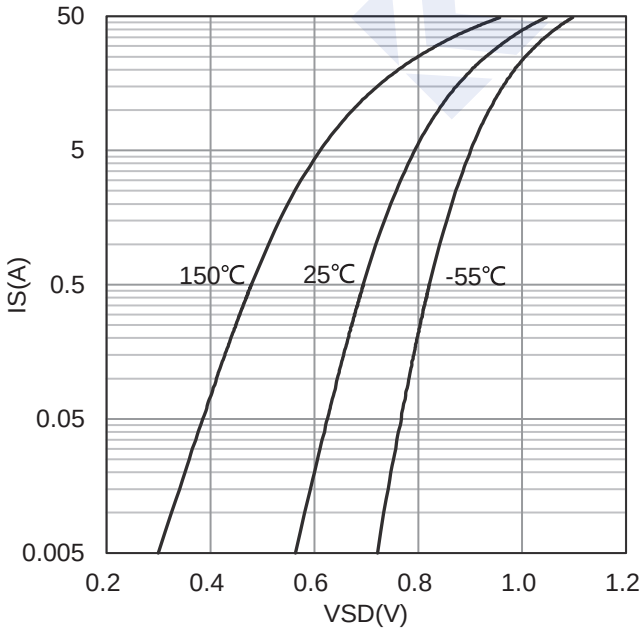
■ Typical Characterisitics



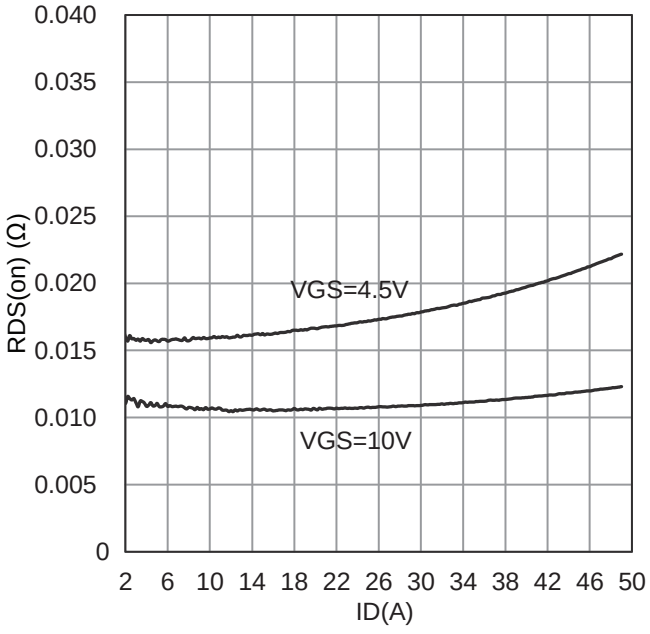
ID vs. VDS



ID vs. VGS



IS vs. VSD



RDS(on) vs. ID

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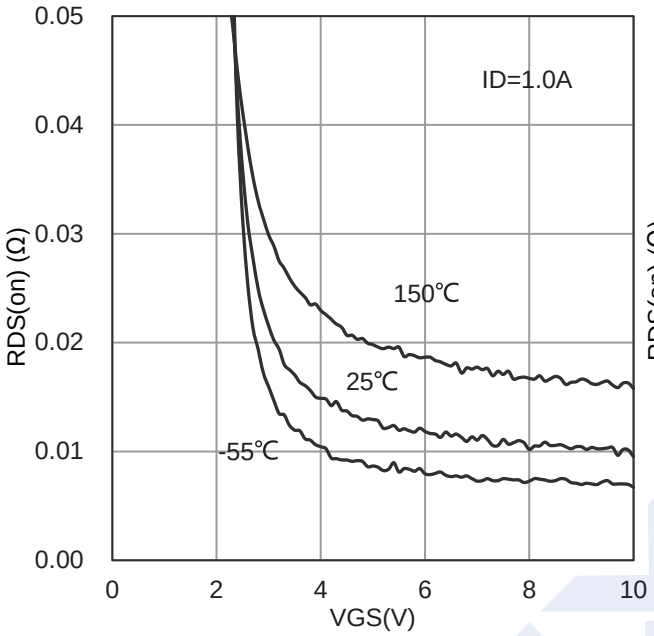
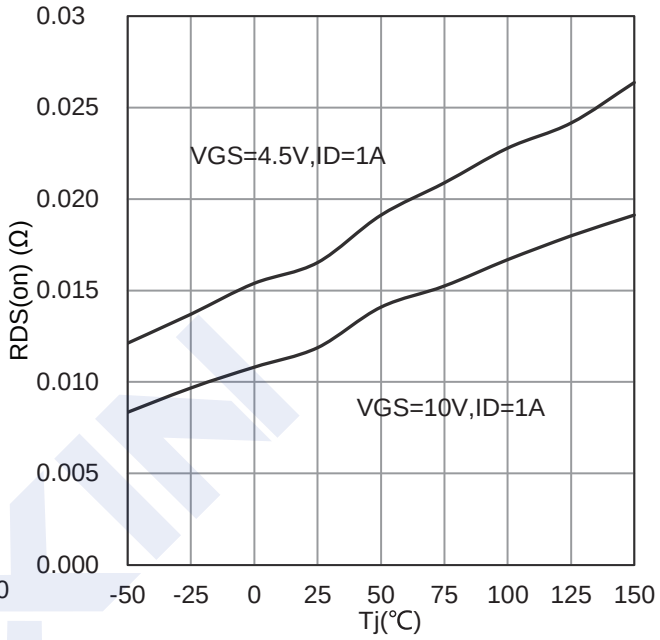
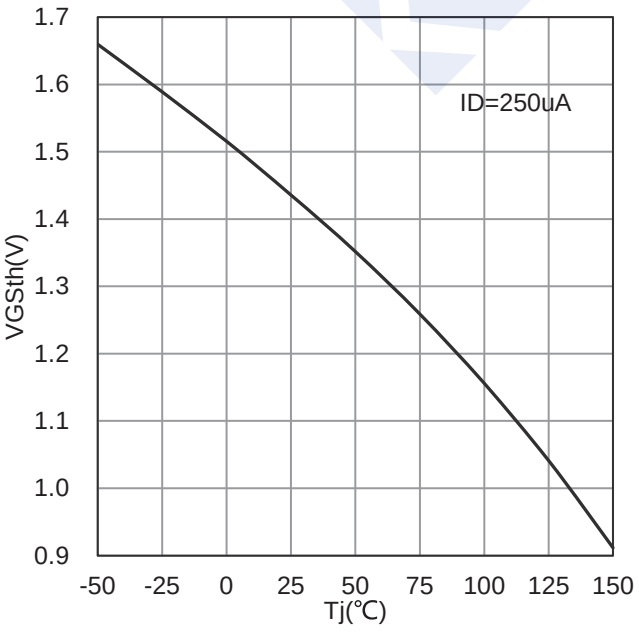


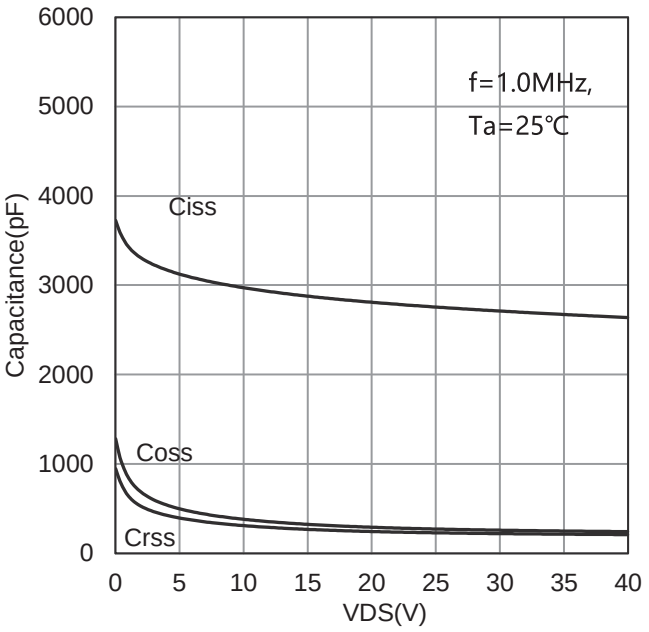
RDS(on) vs. VGS



RDS(on) vs. Tj



VGSth vs. Tj



Capacitance

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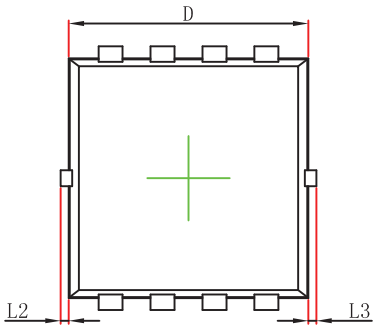
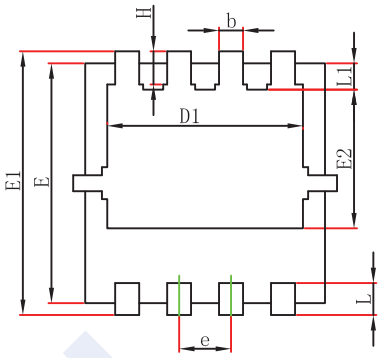
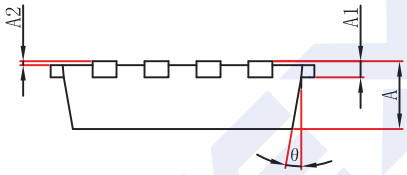
■ **PDFN3.3x3.3-8 Package Outline Dimensions**



Top View



Bottom View



Side View

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.650	0.850	0.026	0.033
A1	0.152 REF.		0.006 REF.	
A2	0~0.05		0~0.002	
D	3.050	3.250	0.114	0.122
D1	2.300	2.600	0.091	0.102
E	2.900	3.100	0.114	0.122
E1	3.150	3.450	0.124	0.136
E2	1.535	1.935	0.060	0.076
b	0.200	0.400	0.008	0.016
e	0.550	0.750	0.022	0.030
L	0.300	0.500	0.012	0.020
L1	0.180	0.480	0.007	0.019
L2	0~0.100		0~0.004	
L3	0~0.100		0~0.004	
H	0.315	0.515	0.012	0.020
θ	9°	13°	9°	13°