



PJM09P30DF

P-Channel Enhancement Mode Power MOSFET

Product Summary

- $V_{DS} = -30V, I_D = -9A$
- $R_{DS(on)} < 25m\Omega @ V_{GS} = -10V$
- $R_{DS(on)} < 45m\Omega @ V_{GS} = -4.5V$

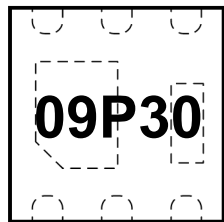
Features

- Advanced Trench Technology
- RoHS and Reach Compliant
- Halogen and Antimony Free
- Moisture Sensitivity Level 1

Application

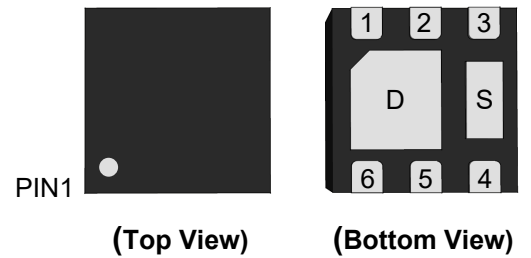
- Load Switch
- PWM Applications
- Power Management

Marking Code



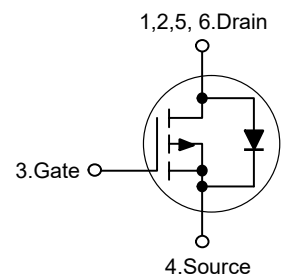
Top View

DFN2x2-6L



Pin	Description
1,2,5,6	Drain
3	Gate
4	Source

Schematic Diagram



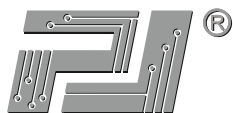
Absolute Maximum Ratings

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Drain-Source Voltage	$-V_{DS}$	30	V
Gate-Source Voltage	V_{GS}	± 20	V
Drain Current-Continuous	$-I_D$	9	A
Drain Current-Pulsed ^{Note1}	$-I_{DM}$	50	A
Single Pulsed Avalanche Energy ^{Note2}	E_{AS}	36	mJ
Maximum Power Dissipation	P_D	2	W
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

Thermal Characteristics

Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	62.5	°C/W
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Electrical Characteristics

(Ta=25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	-V _{(BR)DSS}	V _{GS} =0V, I _D =-250μA	30	--	--	V
Zero Gate Voltage Drain Current	-I _{DSS}	V _{DS} =-30V, V _{GS} =0V	--	--	1	μA
Gate-Body Leakage Current	I _{GSS}	V _{GS} =±20V, V _{DS} =0V	--	--	±100	nA
Gate Threshold Voltage ^{Note3}	-V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250μA	1.0	--	2.5	V
Drain-Source On-Resistance ^{Note3}	R _{DS(on)}	V _{GS} =-10V, I _D =-6.5A	--	19	25	mΩ
		V _{GS} =-4.5V, I _D =-5A	--	28	45	mΩ
Dynamic Characteristics						
Input Capacitance	C _{iss}	V _{DS} =-15V, V _{GS} =0V, f=1MHz	--	1030	--	pF
Output Capacitance	C _{oss}		--	155	--	pF
Reverse Transfer Capacitance	C _{rss}		--	132	--	pF
Total Gate Charge	Q _g	V _{DS} =-15V, I _D =-8A, V _{GS} =-10V	--	52	--	nC
Gate-Source Charge	Q _{gs}		--	9.8	--	nC
Gate-Drain Charge	Q _{gd}		--	8.3	--	nC
Switching Characteristics						
Turn-on Delay Time	t _{d(on)}	V _{DD} =-15V, I _D =-1A, V _{GS} =-10V, R _{GEN} =6Ω	--	13	--	nS
Turn-on Rise Time	t _r		--	15	--	nS
Turn-off Delay Time	t _{d(off)}		--	198	--	nS
Turn-off Fall Time	t _f		--	98	--	nS
Source-Drain Diode Characteristics						
Diode Forward Voltage ^{Note3}	-V _{SD}	V _{GS} =0V, I _S =-9A	--	--	1.2	V
Diode Forward Current	-I _S		--	--	9	A

Note: 1. 10 μ s Pulse, duty cycle=1%

2. The test condition is $V_{DD}=-20V, V_{GS}=-10V, L=0.5mH, I_{AS}=-12A, R_G=25\Omega, T_J=25^\circ C$.

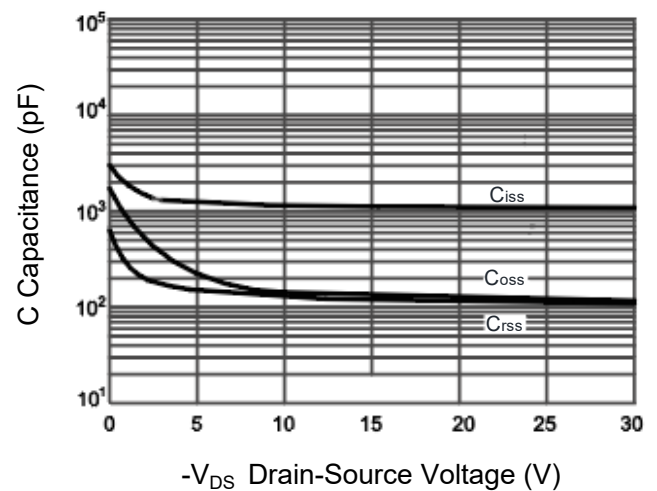
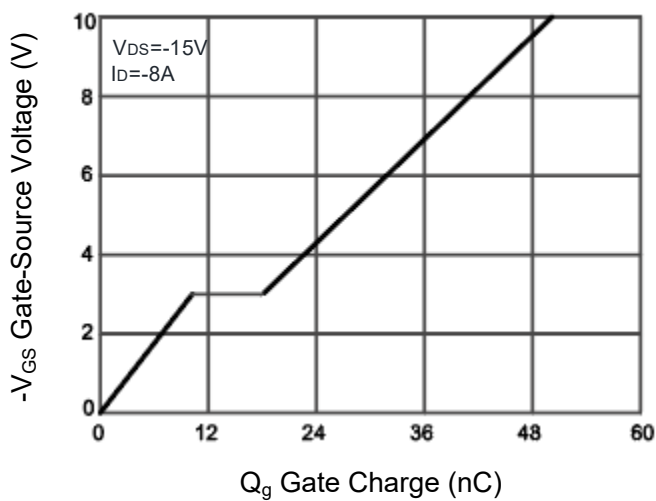
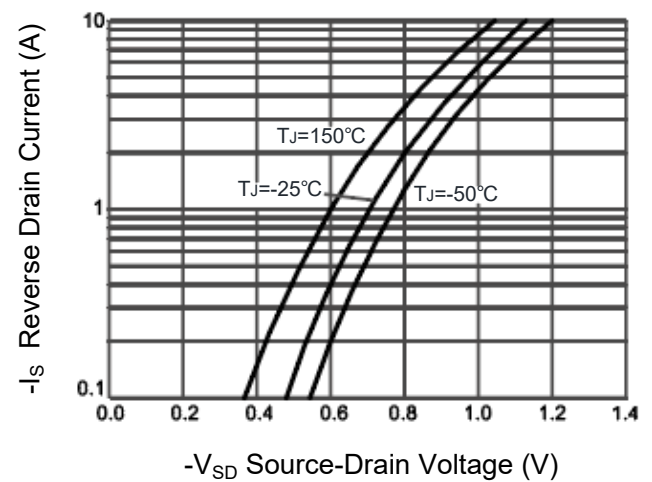
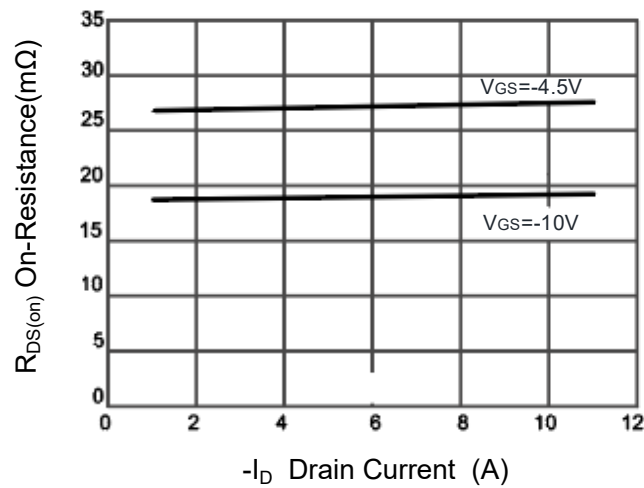
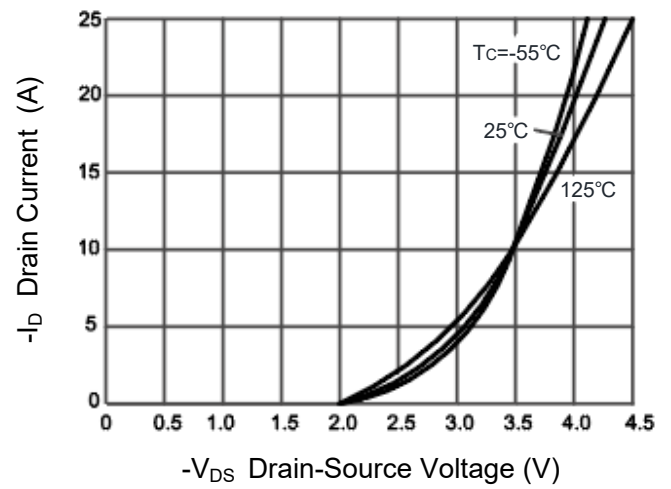
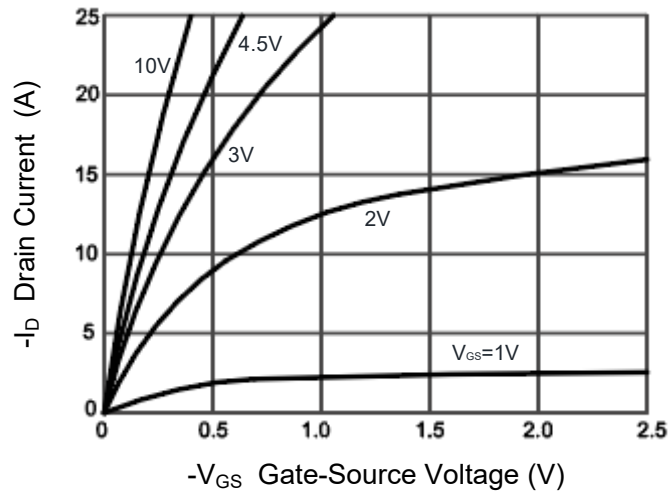
3. Pulse Test: Pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$



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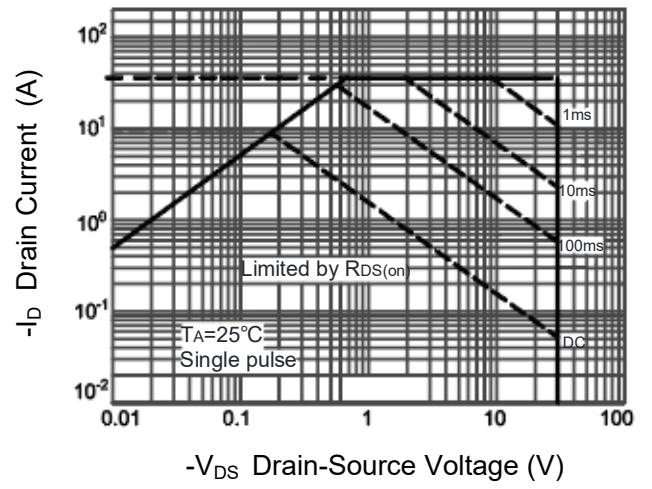
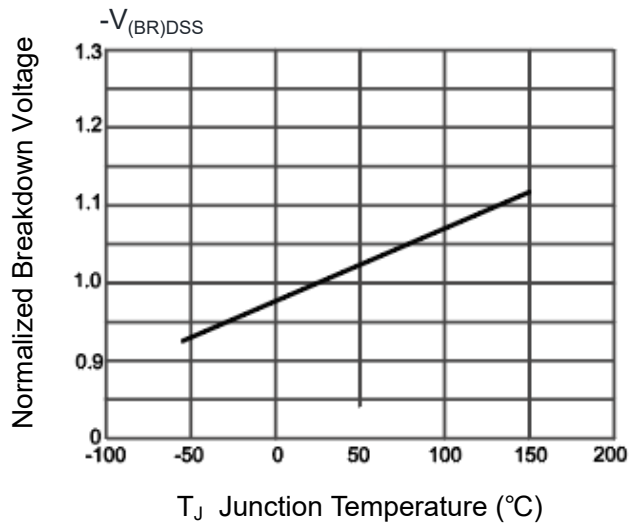
Typical Characteristic Curves





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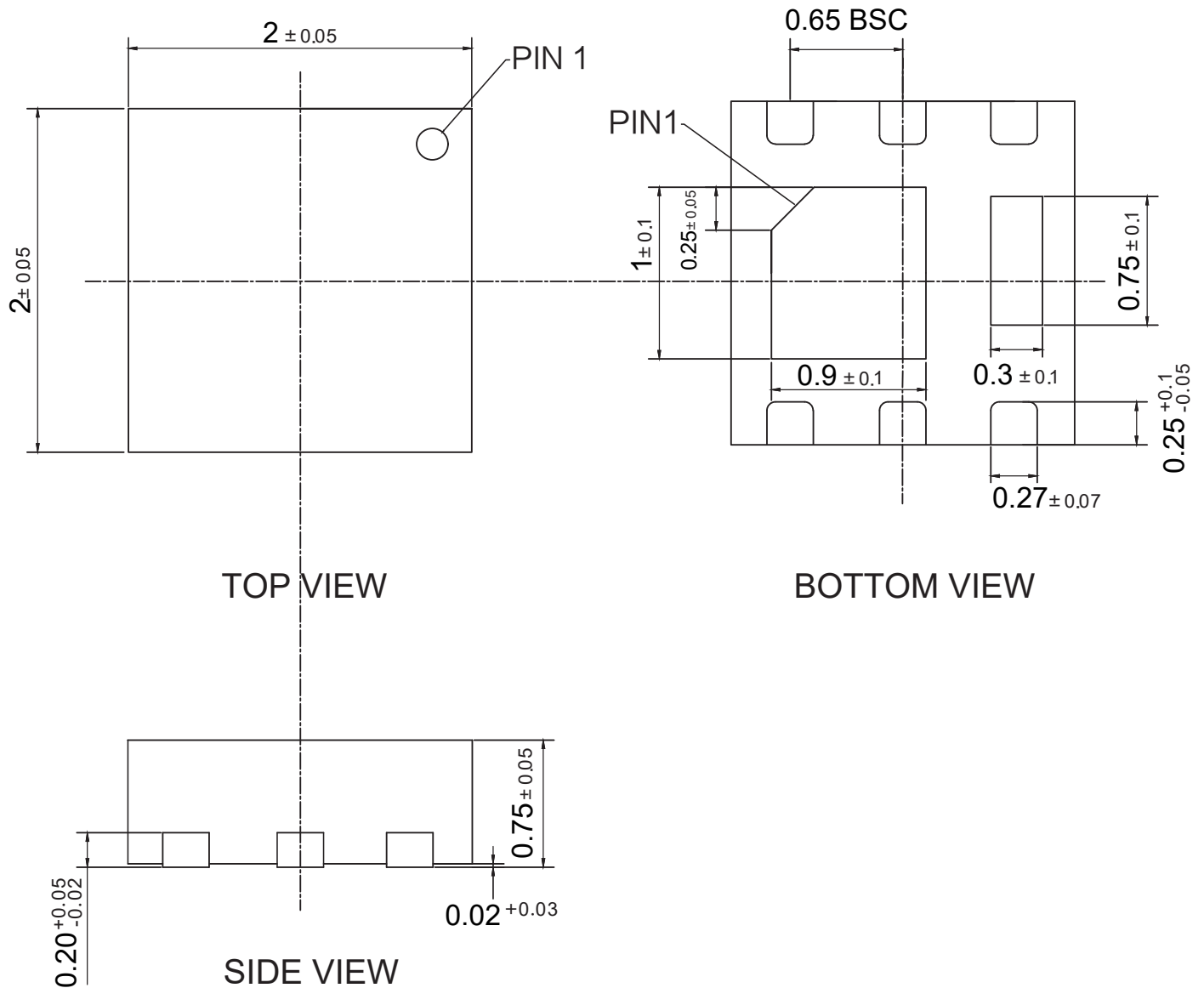
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Package Outline

DFN2x2-6L-0001

Dimensions in mm



Ordering Information

Device	Package	Shipping
PJM09P30DF	DFN2x2-6L	3,000PCS/Reel&7inches