



PJM15N30DF

N-Channel Enhancement Mode Power MOSFET

Product Summary

- $V_{DS} = 30V, I_D = 15A$
- $R_{DS(on)} < 12m\Omega @ V_{GS} = 10V$
- $R_{DS(on)} < 16m\Omega @ V_{GS} = 4.5V$

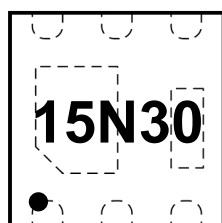
Features

- 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

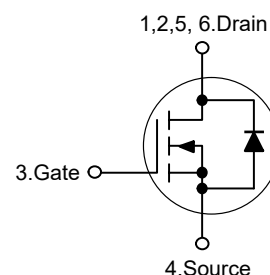


(Top View)

(Bottom View)

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	15	A
Drain Current-Pulsed ^{Note1}	I_{DM}	44	A
Maximum Power Dissipation	P_D	3	W
Single Pulsed Avalanche Energy ^{Note2}	E_{AS}	45.5	mJ
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

Thermal Characteristics

Thermal Resistance, Junction-to-Ambient ^{Note3}	$R_{\theta JA}$	42	°C/W
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Electrical Characteristics

($T_J=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	30	--	--	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=30V, V_{GS}=0V$	--	--	1	μA
Gate-Body Leakage Current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$	--	--	± 100	nA
Gate Threshold Voltage ^{Note4}	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	1	1.6	2.5	V
Drain-Source On-Resistance ^{Note4}	$R_{DS(on)}$	$V_{GS}=10V, I_D=11A$	--	7.5	12	m Ω
		$V_{GS}=4.5V, I_D=10A$	--	12	16	m Ω
Forward Transconductance ^{Note4}	g_{FS}	$V_{DS}=5V, I_D=1A$	--	6	--	S
Dynamic Characteristics						
Input Capacitance	C_{iss}	$V_{DS}=15V, V_{GS}=0V, f=1\text{MHz}$	--	1290	--	pF
Output Capacitance	C_{oss}		--	166	--	pF
Reverse Transfer Capacitance	C_{rss}		--	135	--	pF
Gate Resistance	R_g	$V_{DS}=-0V, V_{GS}=0V, f=1\text{MHz}$	--	1.65	--	Ω
Total Gate Charge	Q_g	$V_{DS}=15V, I_D=10A,$ $V_{GS}=10V$	--	19	--	nC
Gate-Source Charge	Q_{gs}		--	6.3	--	nC
Gate-Drain Charge	Q_{gd}		--	4.5	--	nC
Switching Characteristics						
Turn-on Delay Time	$t_{d(on)}$	$V_{DD}=15V, I_D=10A,$ $V_{GS}=10V, R_{GEN}=3\Omega$	--	6	--	nS
Turn-on Rise Time	t_r		--	5	--	nS
Turn-off Delay Time	$t_{d(off)}$		--	25	--	nS
Turn-off Fall Time	t_f		--	7	--	nS
Source-Drain Diode Characteristics						
Diode Forward Voltage ^{Note4}	V_{SD}	$V_{GS}=0V, I_S=15A$	--	--	1.2	V
Diode Forward Current ^{Note3}	I_S		--	--	15	A

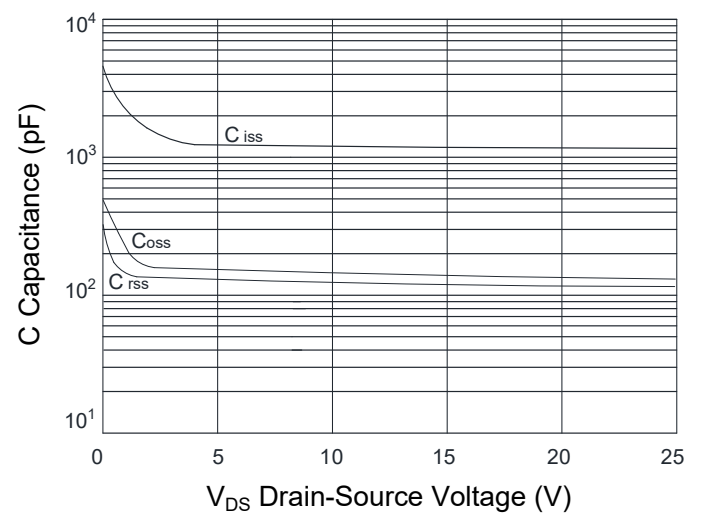
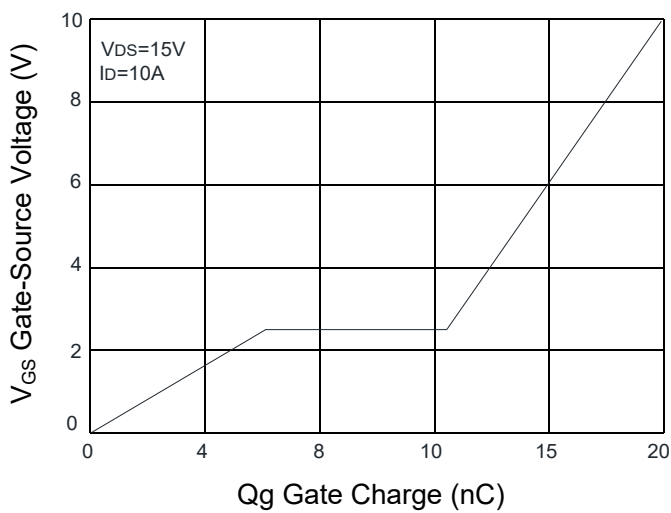
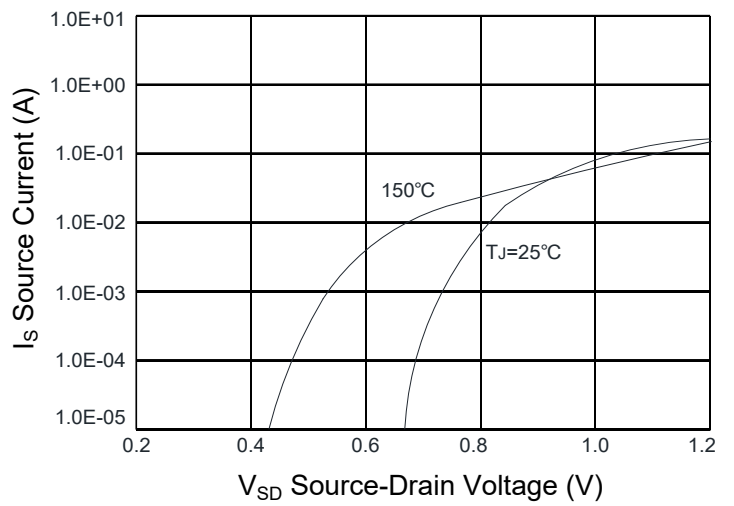
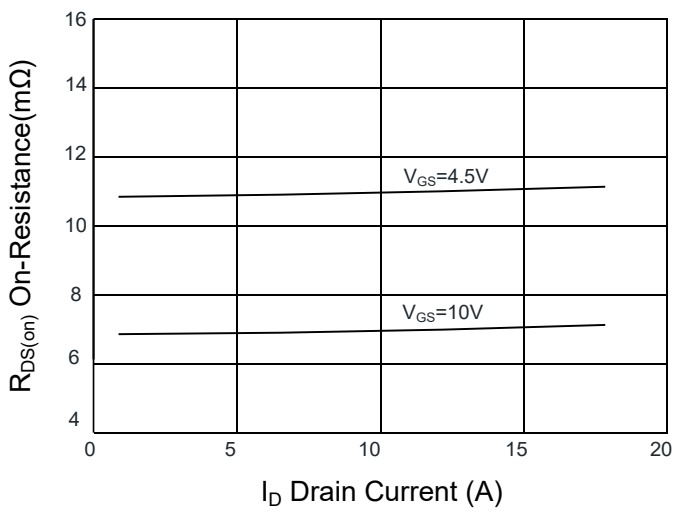
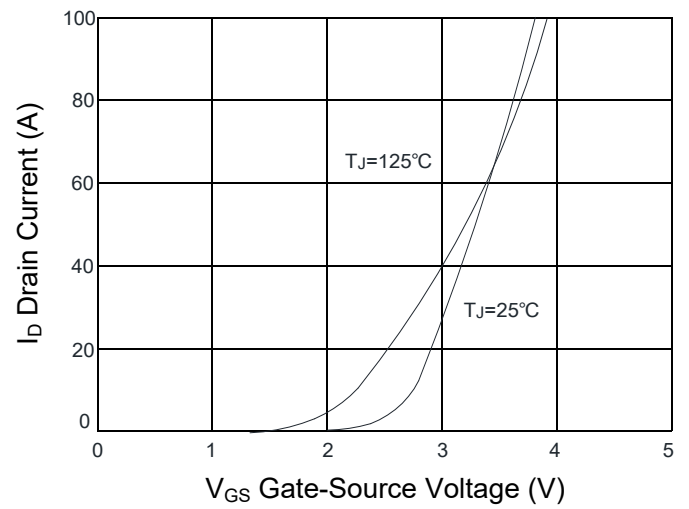
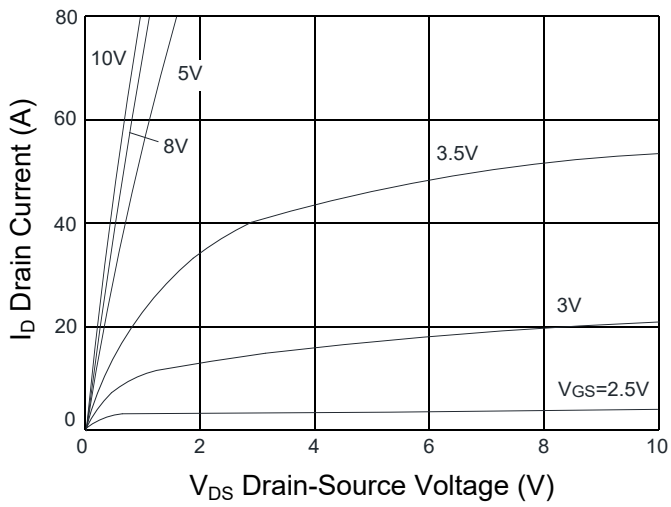
- Note: 1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. The test condition is $V_{DD}=20V, V_{GS}=10V, L=0.5\text{mH}, I_{AS}=13.5A, R_G=25\Omega, T_J=25^{\circ}\text{C}$.
3. Surface Mounted on FR4 Board, $t \leq 10$ sec.
4. Pulse Test: Pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 2\%$.



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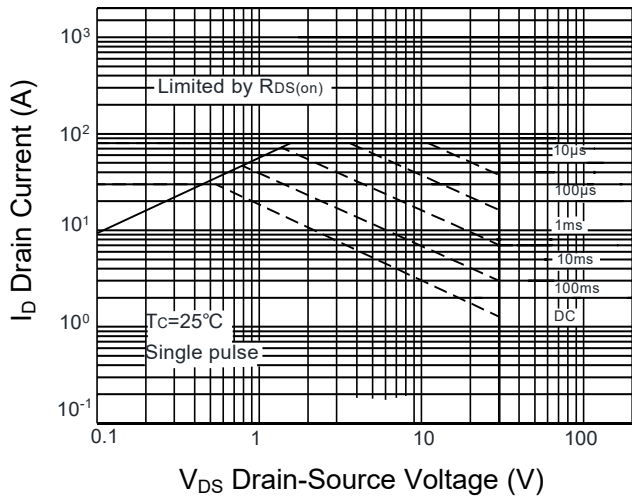
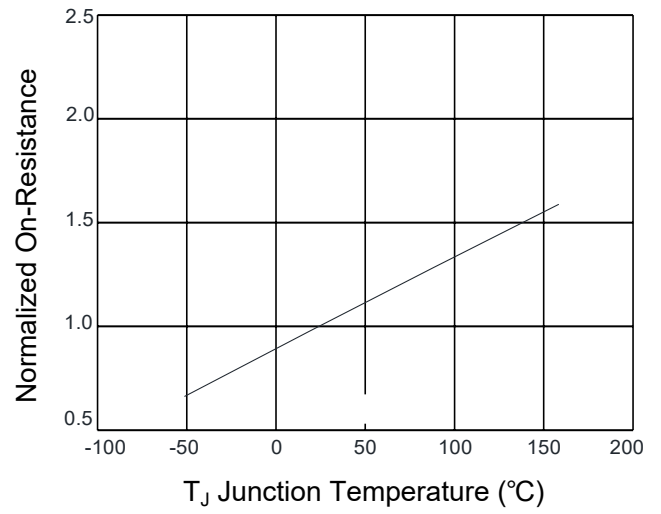
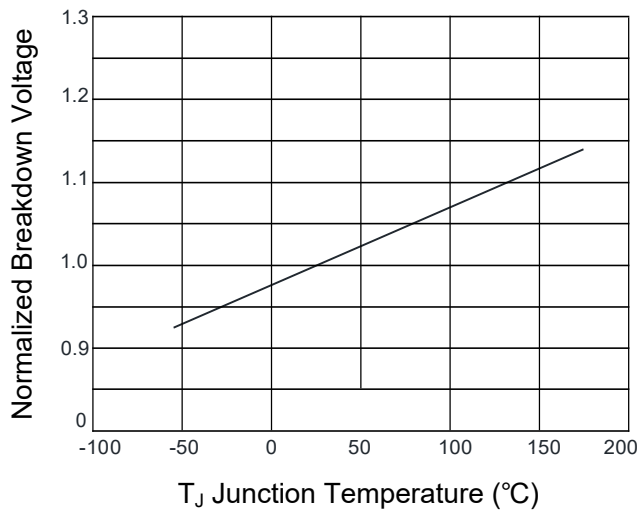
Typical Characteristic Curves





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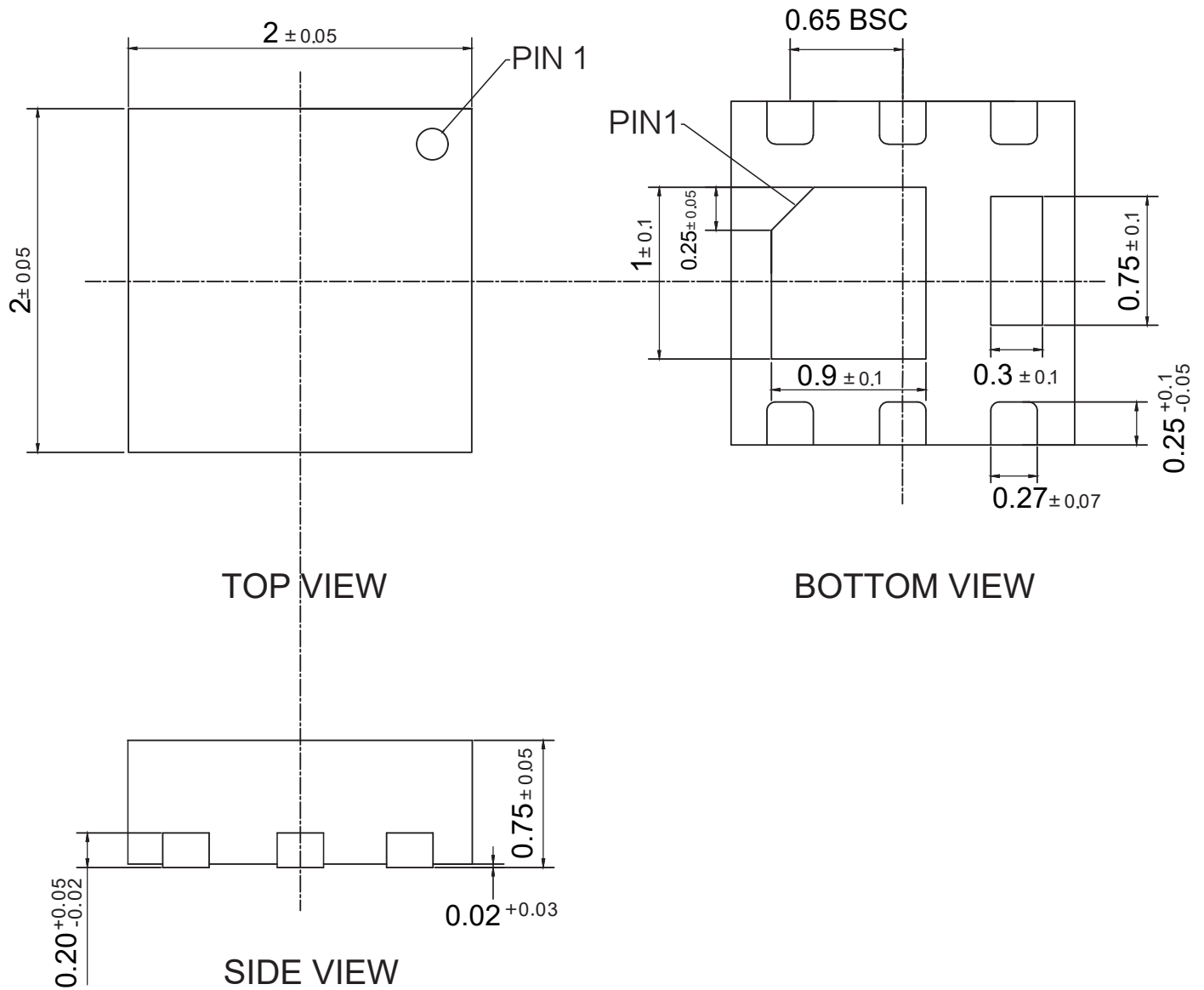
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Package Outline

DFN2x2-6L-0001

Dimensions in mm



Ordering Information

Device	Package	Shipping
PJM15N30DF	DFN2x2-6L	3,000PCS/Reel&7inches

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