



PJM15N30DF

N-Channel Enhancement Mode Power MOSFET

Product Summary

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

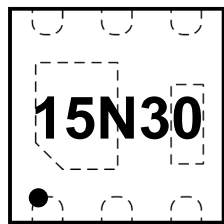
Features

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

Application

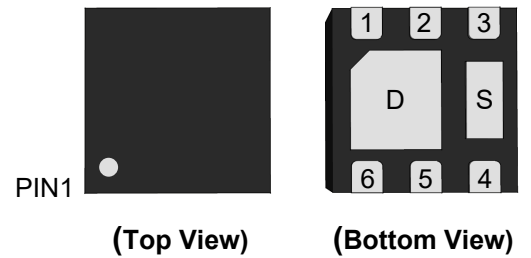
- Load Switch
- PWM Applications
- Power Management

Marking Code



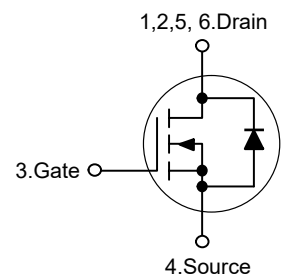
Top View

DFN2x2-6L



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

Schematic Diagram



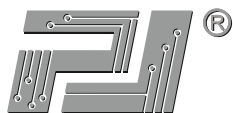
Absolute Maximum Ratings

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°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 ^{Note4}	V _{GS(th)}	V _{DS} =V _{GS} ,I _D =250μA	1	1.6	2.5	V
Drain-Source On-Resistance ^{Note4}	R _{DS(on)}	V _{GS} =10V,I _D =11A	--	7.5	12	mΩ
		V _{GS} =4.5V,I _D =10A	--	12	16	mΩ
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=1MHz	--	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=1MHz	--	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} =3Ω	--	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

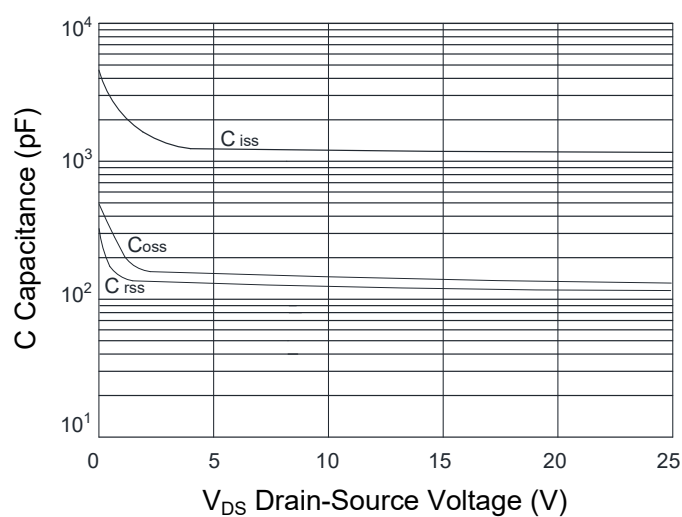
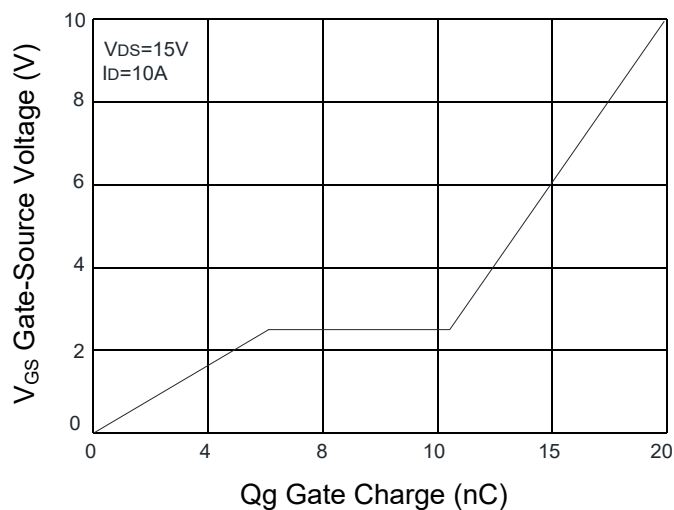
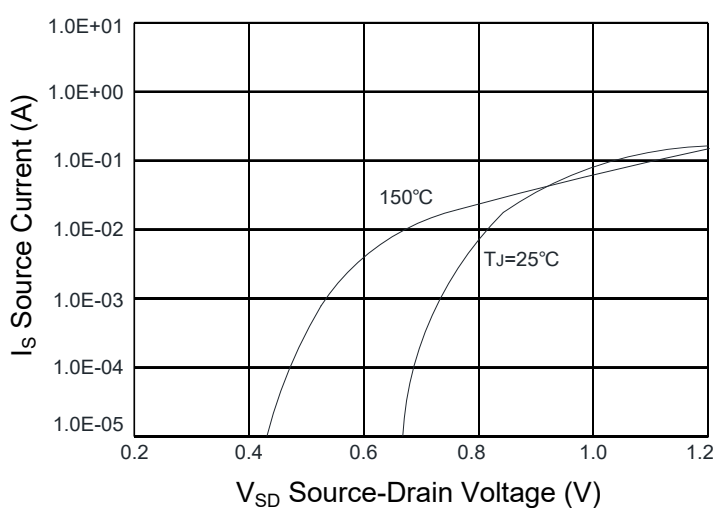
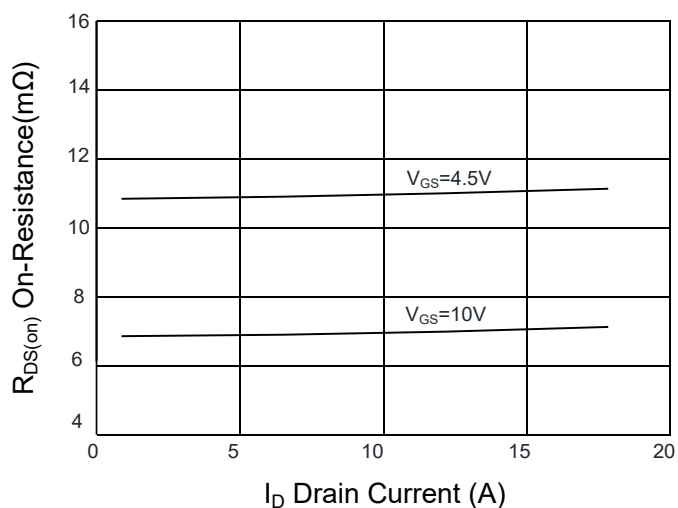
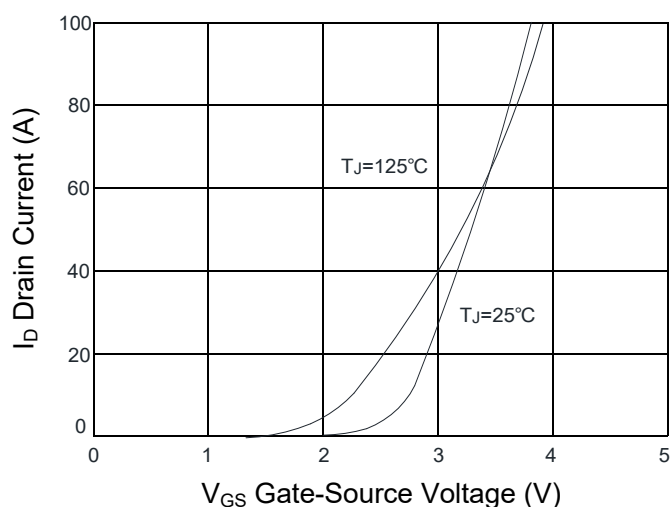
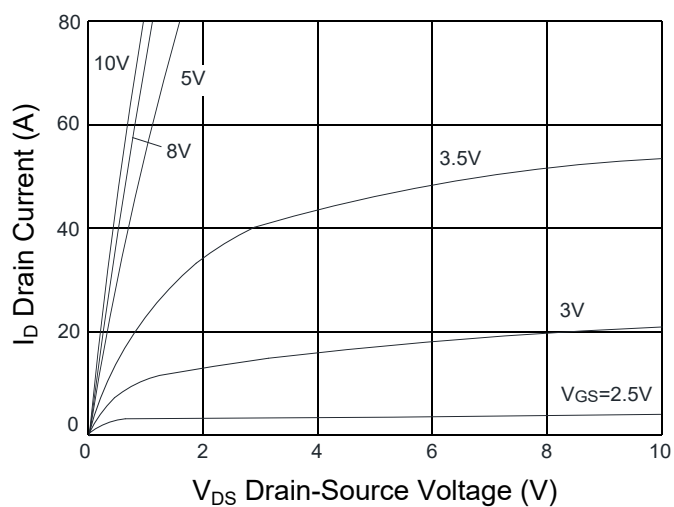
- Note: 1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. The test condition is V_{DD}=20V, V_{GS}=10V, L=0.5mH, I_{AS}=13.5A, R_G=25Ω, T_J=25°C.
3. Surface Mounted on FR4 Board, t ≤ 10 sec.
4. Pulse Test: Pulse width≤300μs, duty cycle≤2%.



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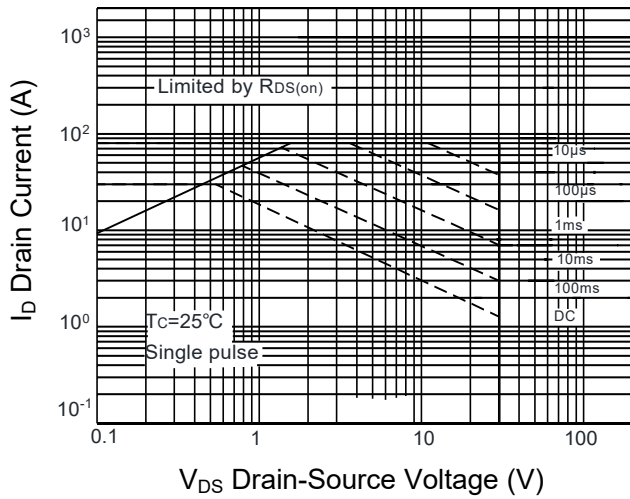
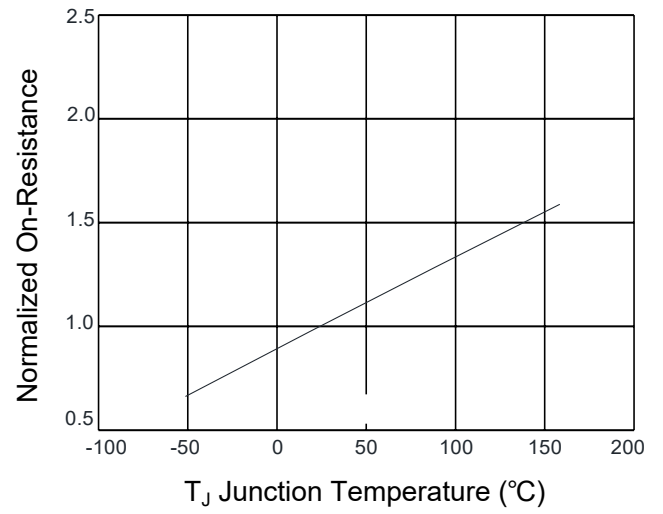
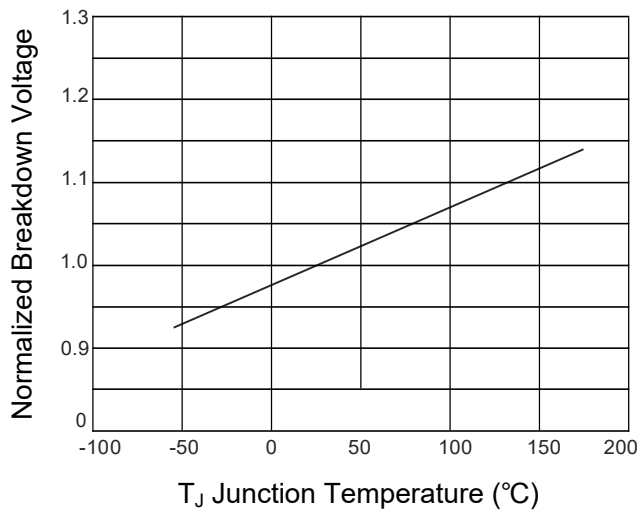
Typical Characteristic Curves





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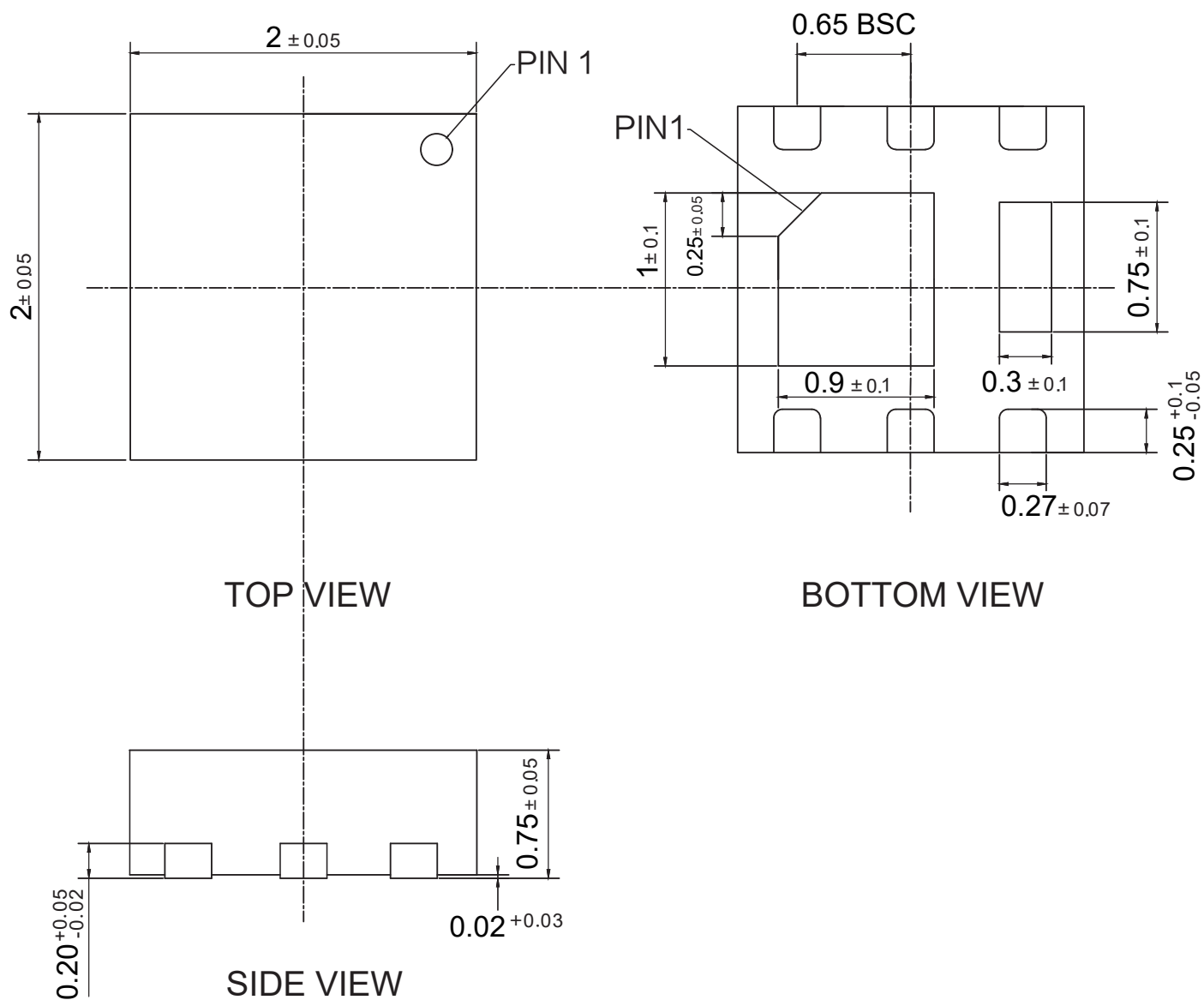
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Package Outline

DFN2x2-6L-0001

Dimensions in mm



Ordering Information

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