



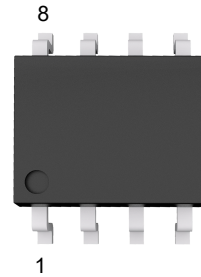
PJM09DP30PA

Dual P-Channel Enhancement Mode Power MOSFET

Features

- High density cell design for ultra low $R_{DS(on)}$
- Advanced trench technology
- $V_{DS} = -30V, I_D = -9A$
 $R_{DS(on)} < 25m\Omega @ V_{GS} = -10V$

SOP-8

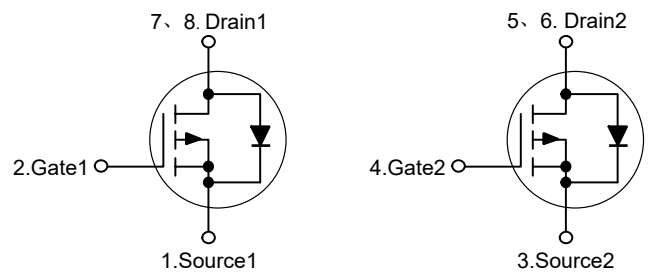


Marking code: 09DP30

Applications

- PWM applications
- Load switch
- Power management

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}	$-I_{DM}$	36	A
Maximum Power Dissipation	P_D	3.3	W
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

Thermal Characteristics

Thermal Resistance, Junction-to-Ambient ^{Note2}	$R_{\theta JA}$	38	°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	$-V_{(BR)DSS}$	$V_{GS}=0V, I_D=-250\mu A$	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 ^{Note3}	$-V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	1	1.5	2.5	V
Drain-Source On-Resistance ^{Note3}	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-9A$	--	19	25	m Ω
		$V_{GS}=-4.5V, I_D=-5A$	--	27	38	m Ω
Dynamic Characteristics						
Input Capacitance	C_{iss}	$V_{DS}=-15V, V_{GS}=0V, f=1MHz$	--	1200	--	pF
Output Capacitance	C_{oss}		--	155	--	pF
Reverse Transfer Capacitance	C_{rss}		--	139	--	pF
Switching Characteristics						
Turn-on Delay Time	$t_{d(on)}$	$V_{DD}=-15V, I_D=-1A$ $V_{GS}=-10V, R_G=6\Omega$	--	13	--	nS
Turn-on Rise Time	t_r		--	12	--	nS
Turn-off Delay Time	$t_{d(off)}$		--	198	--	nS
Turn-off Fall Time	t_f		--	98	--	nS
Total Gate Charge	Q_g	$V_{DD}=-15V, I_D=-8A, V_{GS}=-10V$	--	52	--	nC
Gate-Source Charge	Q_{gs}		--	9.8	--	nC
Gate-Drain Charge	Q_{gd}		--	8.3	--	nC
Source-Drain Diode Characteristics						
Diode Forward Voltage ^{Note3}	$-V_{SD}$	$V_{GS}=0V, I_S=-9A$	--	--	1.2	V
Diode Forward Current ^{Note2}	$-I_S$		--	--	9	A

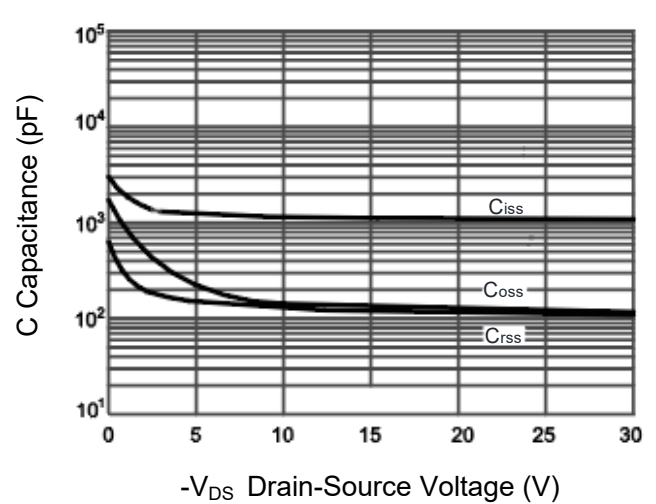
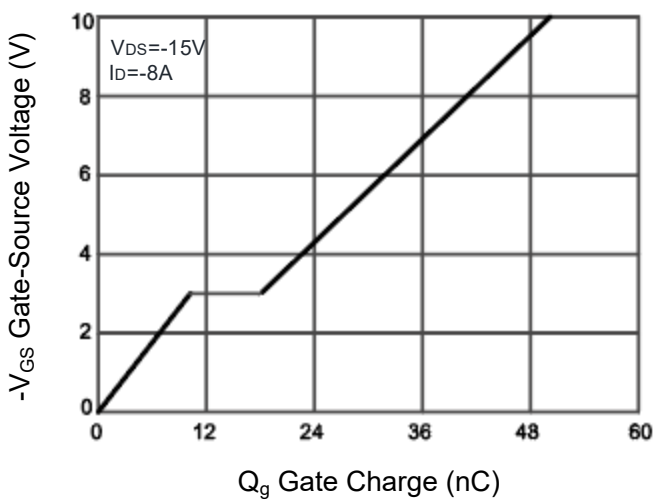
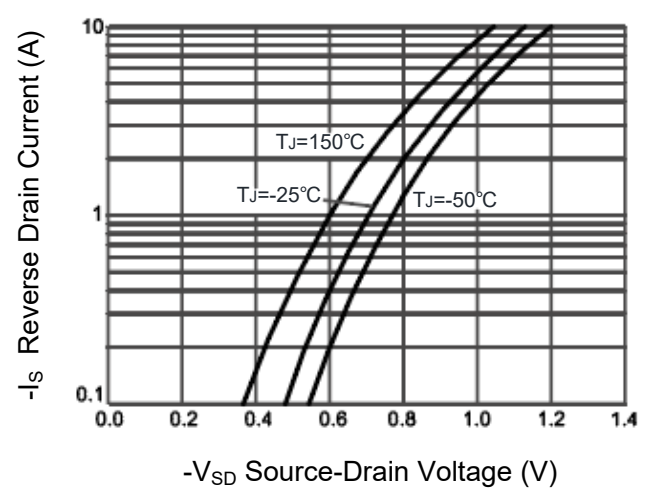
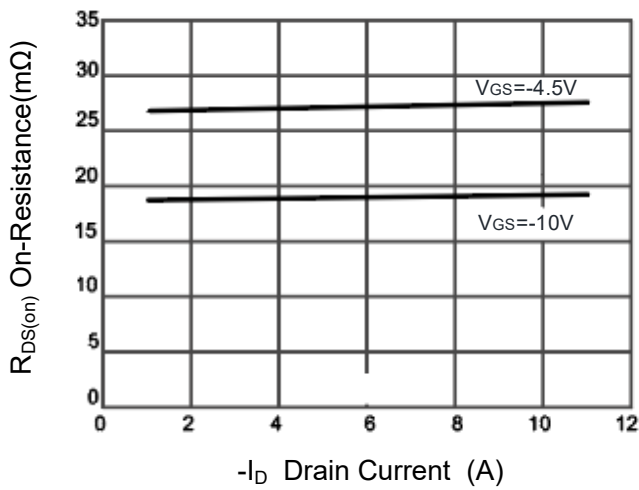
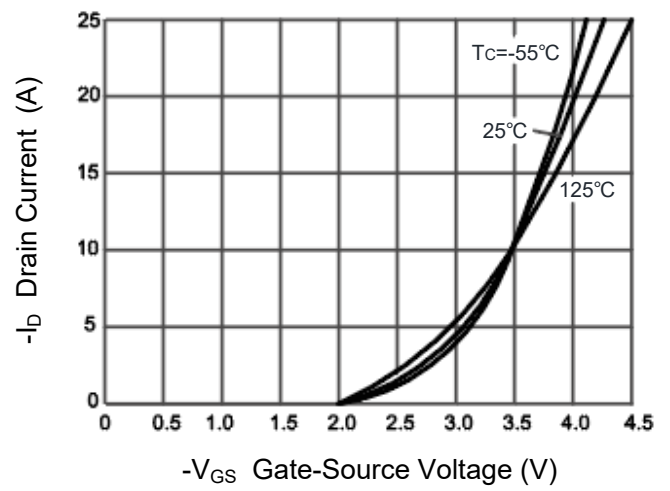
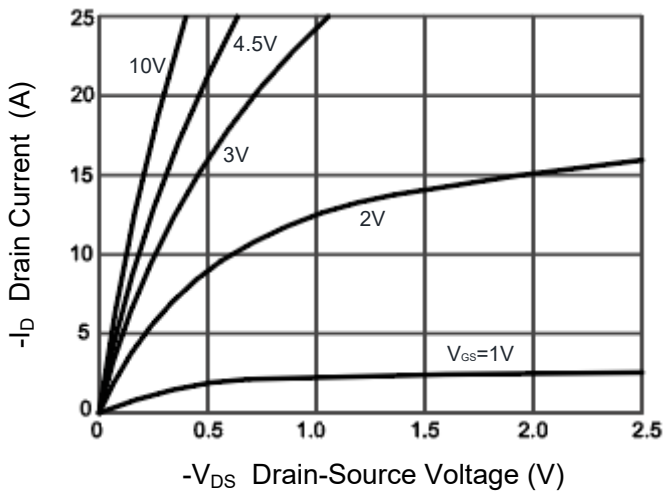
Note: 1. Repetitive Rating: Pulse width limited by maximum junction temperature.
 2. Surface Mounted on FR4 Board, $t \leq 10$ sec.
 3. Pulse Test: Pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$



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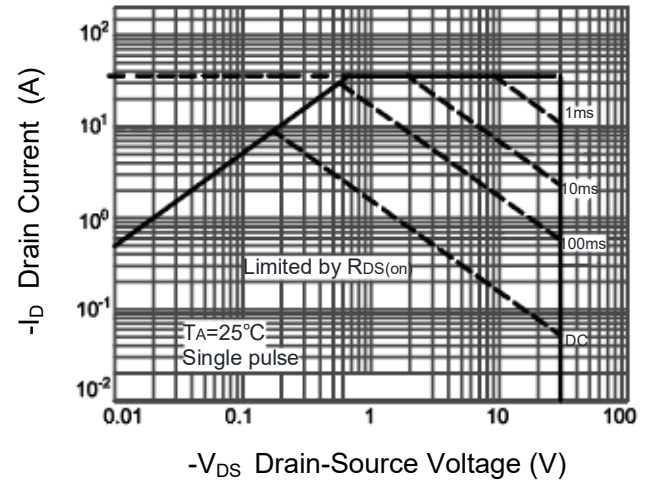
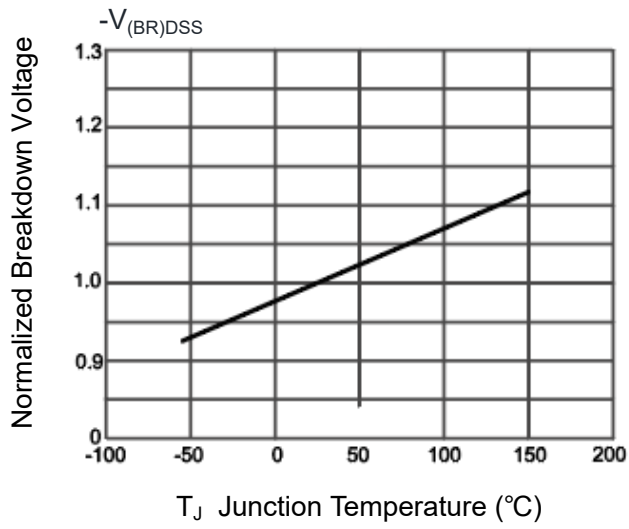
Typical Characteristic Curves





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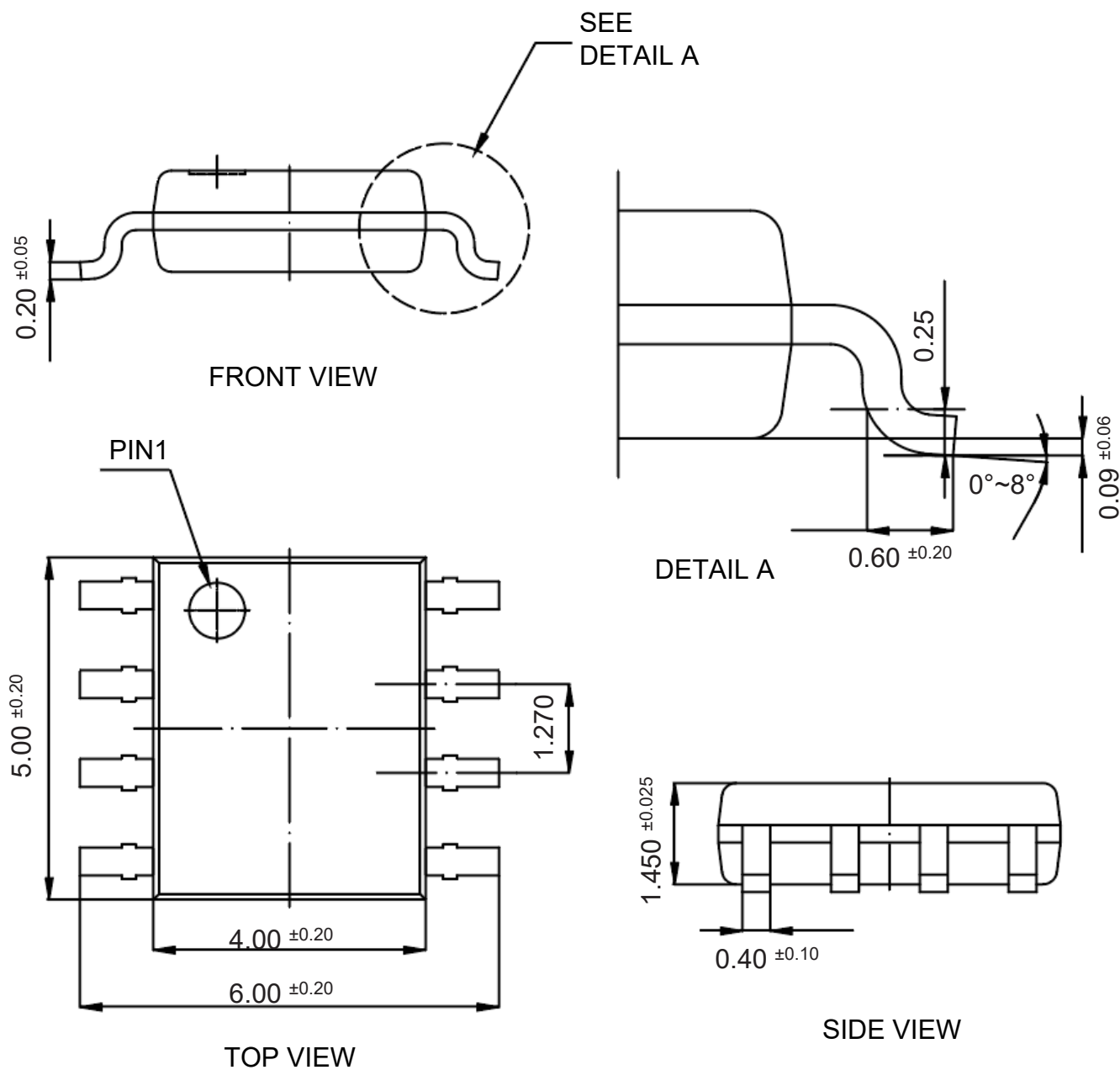
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Package Outline

SOP-8

Dimensions in mm



Ordering Information

Device	Package	Shipping
PJM09DP30PA	SOP-8	4,000PCS/Reel&13inches