



# PJM10P30PA

## P-Channel Enhancement Mode Power MOSFET

### Product Summary

- $V_{DS} = -30V, I_D = -10A$
- $R_{DS(on)} < 23m\Omega @ V_{GS} = -10V$
- $R_{DS(on)} < 34m\Omega @ V_{GS} = -4.5V$

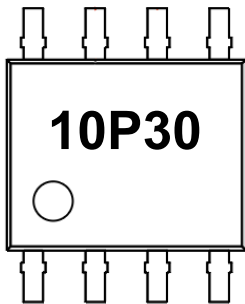
### Features

- Advanced Trench Technology
- 100% Avalanche Tested
- RoHS and Reach Compliant
- Halogen and Antimony Free
- Moisture Sensitivity Level 3

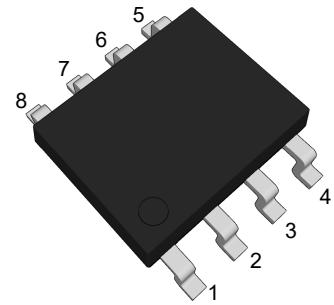
### Application

- Load Switch
- PWM Applications
- Power Management

### Marking Code



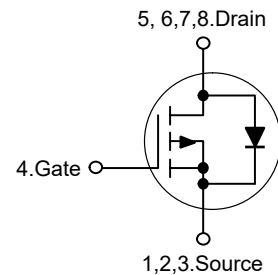
### SOP-8



(Top View)

Pin	Description
1,2,3	Source
4	Gate
5,6,7,8	Drain

### 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	$V_{GS}$	$\pm 20$	V
Drain Current-Continuous	$-I_D$	10	A
Drain Current-Pulsed <sup>Note1</sup>	$-I_{DM}$	40	A
Maximum Power Dissipation	$P_D$	3.7	W
Junction Temperature	$T_J$	150	°C
Storage Temperature Range	$T_{STG}$	-55 to +150	°C

### Thermal Characteristics

Thermal Resistance, Junction-to-Ambient <sup>Note2</sup>	$R_{\theta JA}$	33.8	°C/W
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### Electrical Characteristics

(Ta=25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
<b>Static Characteristics</b>						
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	$\mu A$
Gate-Body Leakage Current	$-I_{GSS}$	$V_{GS}=\pm 20V, V_{DS}=0V$	--	--	$\pm 100$	nA
Gate Threshold Voltage <sup>Note3</sup>	$-V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	1	1.5	2.4	V
Drain-Source On-Resistance <sup>Note3</sup>	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-10A$	--	16	23	m $\Omega$
		$V_{GS}=-4.5V, I_D=-5A$	--	25	34	m $\Omega$
<b>Dynamic Characteristics</b>						
Input Capacitance	$C_{iss}$	$V_{DS}=-15V, V_{GS}=0V, f=1MHz$	--	1550	--	pF
Output Capacitance	$C_{oss}$		--	327	--	pF
Reverse Transfer Capacitance	$C_{rss}$		--	278	--	pF
<b>Switching Characteristics</b>						
Turn-on Delay Time	$t_{d(on)}$	$V_{DD}=-15V, I_D=-6A$ $V_{GS}=-10V, R_G=2.5\Omega$	--	14	--	nS
Turn-on Rise Time	$t_r$		--	20	--	nS
Turn-off Delay Time	$t_{d(off)}$		--	95	--	nS
Turn-off Fall Time	$t_f$		--	65	--	nS
Total Gate Charge	$Q_g$	$V_{DD}=-15V, I_D=-9.1A$ $V_{GS}=-10V$	--	30	--	nC
Gate-Source Charge	$Q_{gs}$		--	5.3	--	nC
Gate-Drain Charge	$Q_{gd}$		--	7.6	--	nC
<b>Source-Drain Diode Characteristics</b>						
Diode Forward Voltage <sup>Note3</sup>	$-V_{SD}$	$V_{GS}=0V, I_S=-10A$	--	--	1.2	V
Diode Forward Current <sup>Note2</sup>	$-I_S$		--	--	10	A

Note: 1. Repetitive Rating: Pulse width limited by maximum junction temperature.

2. Surface Mounted on FR4 Board,  $t \leq 10$  sec.

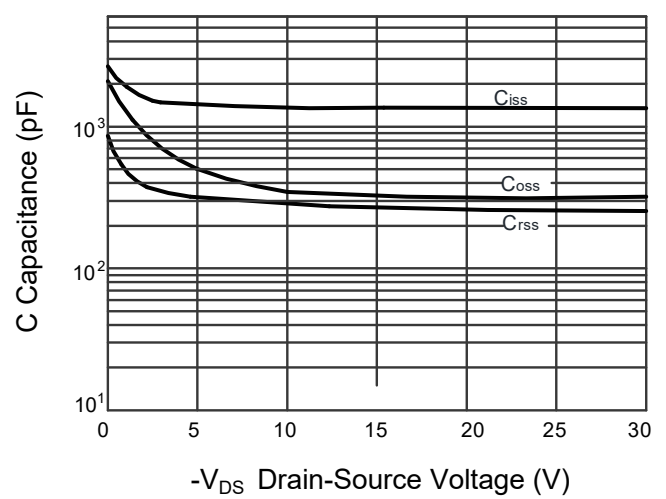
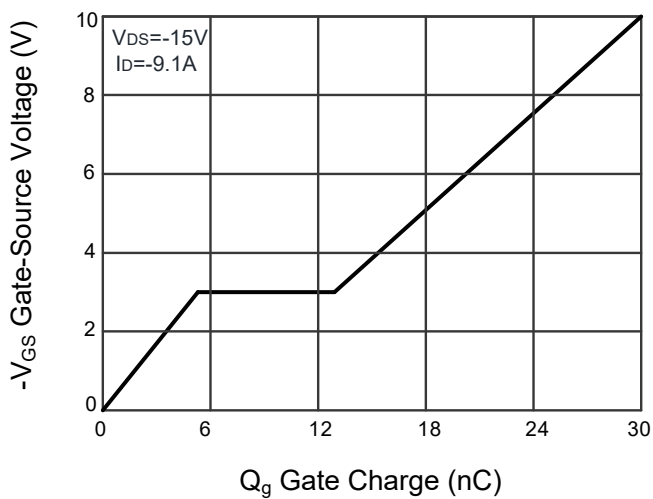
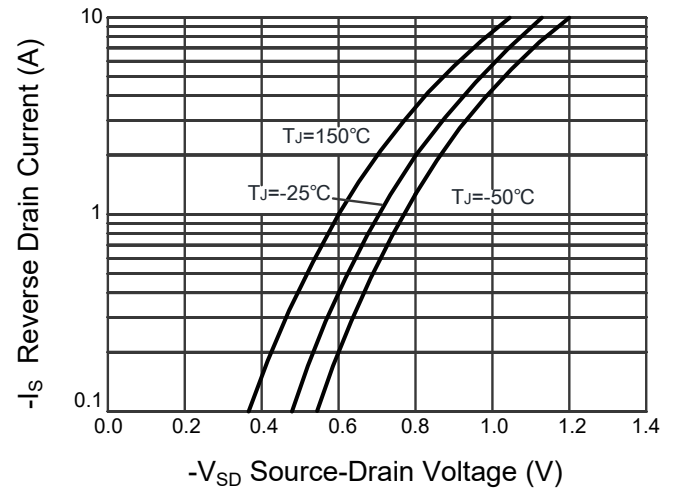
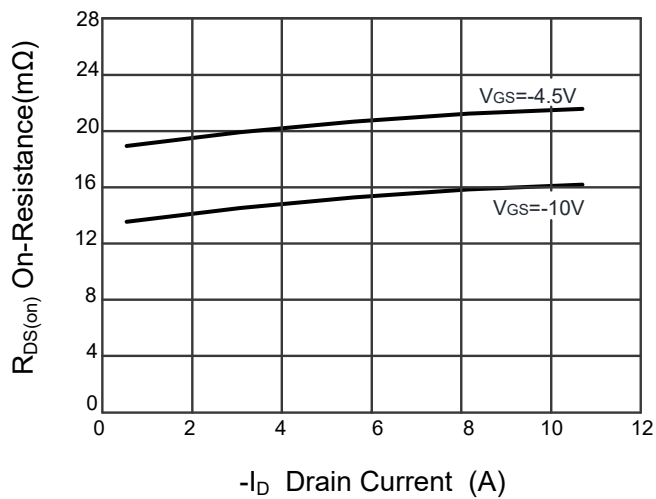
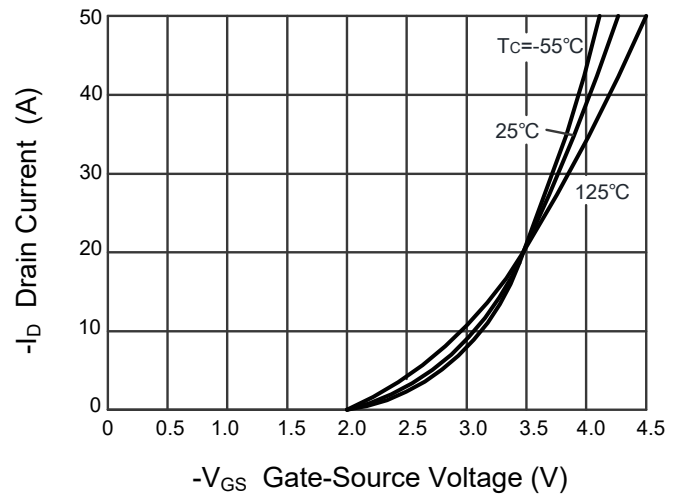
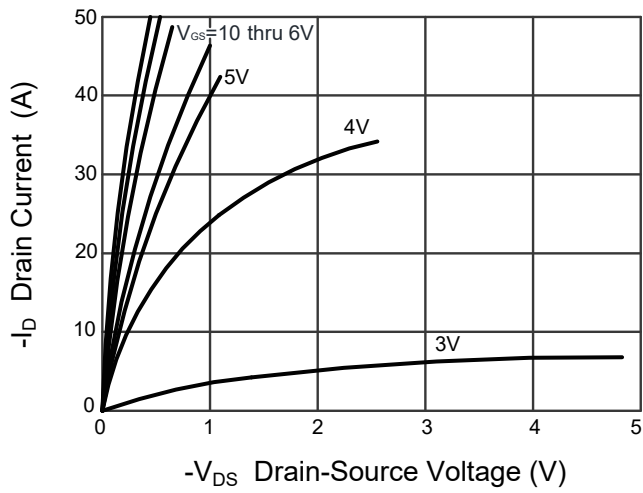
3. Pulse Test: Pulse width  $\leq 300\mu s$ , duty cycle  $\leq 2\%$



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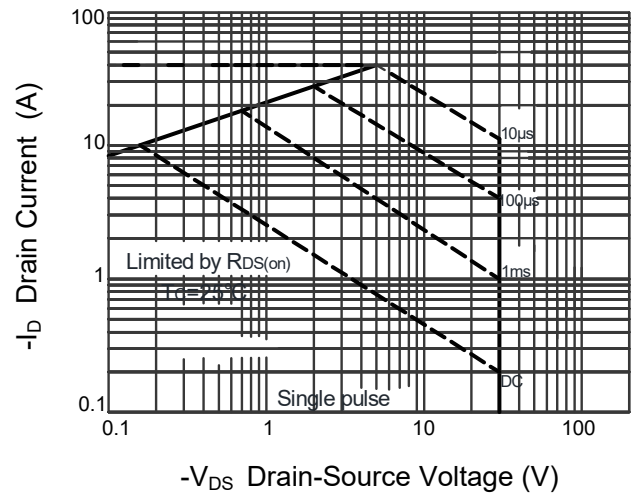
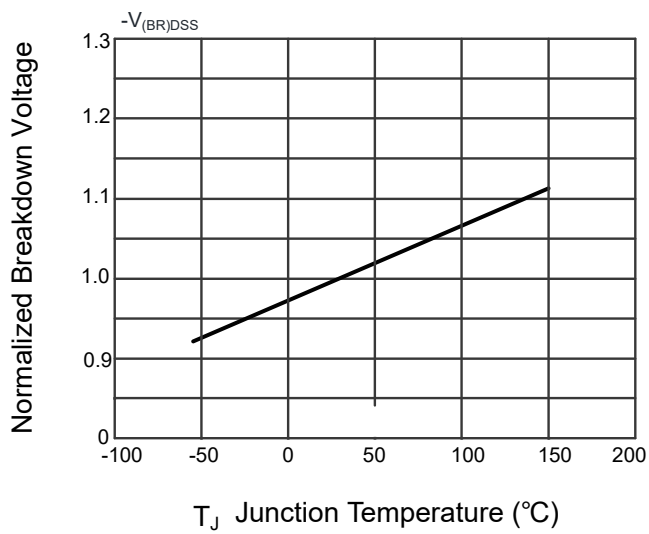
### Typical Characteristic Curves





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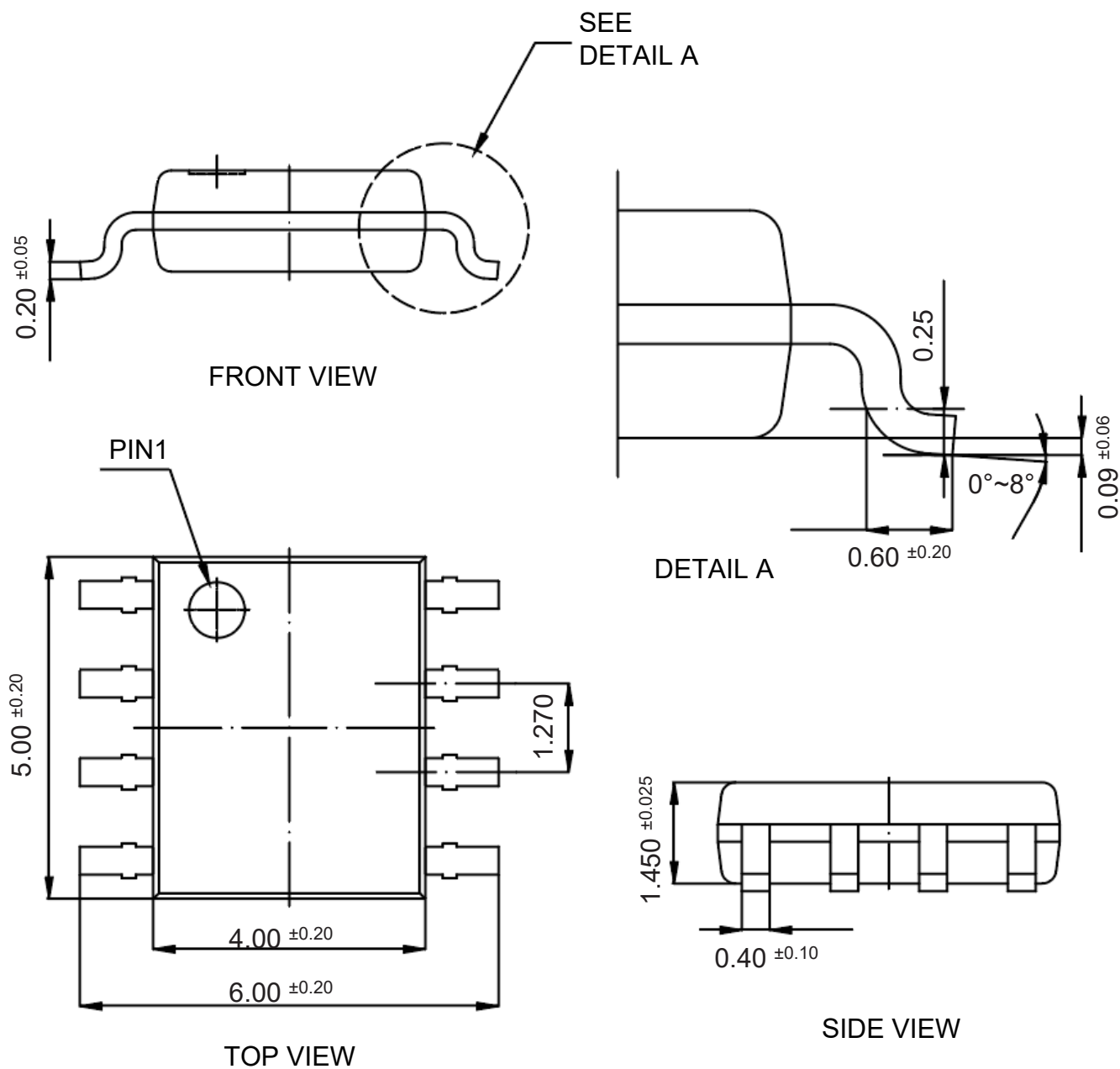
# PJM10P30PA

## P-Channel Enhancement Mode Power MOSFET

### Package Outline

SOP-8

Dimensions in mm



### Ordering Information

Device	Package	Shipping
PJM10P30PA	SOP-8	4,000PCS/Reel&13inches

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