

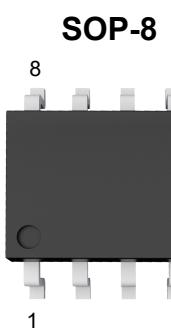


PJM06P40PA

P-Channel Enhancement Mode Power MOSFET

Features

- High density cell design for ultra low $R_{DS(on)}$
- Advanced trench technology
- $V_{DS} = -40V, I_D = -6A$
- $R_{DS(on)} < 47m\Omega @ V_{GS} = -10V$

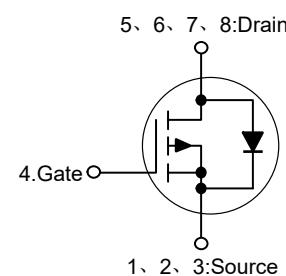


Marking code: 06P40

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	$-V_{DS}$	40	V
Gate-Source Voltage	$-V_{GS}$	± 20	V
Drain Current-Continuous	$-I_D$	6	A
Drain Current-Pulsed ^{Note1}	$-I_{DM}$	24	A
Single Pulsed Avalanche Energy ^{Note4}	E_{AS}	32.9	mJ
Maximum Power Dissipation	P_D	2.5	W
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

Thermal Characteristics

Thermal Resistance, Junction-to-Ambient ^{Note2}	$R_{\theta JA}$	50	°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	40	--	--	V
Zero Gate Voltage Drain Current	-I _{DSS}	V _{DS} =-40V, 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	1.6	2.5	V
Drain-Source On-Resistance ^{Note3}	R _{DS(on)}	V _{GS} =-10V, I _D =-6A	--	35	47	mΩ
		V _{GS} =-4.5V, I _D =-4A	--	47	66	mΩ
Forward Transconductance ^{Note3}	g _{FS}	V _{DS} =5V, I _D =1A	--	5	--	S
Dynamic Characteristics						
Input Capacitance	C _{iss}	V _{DS} =-20V, V _{GS} =0V, f=1MHz	--	956	--	pF
Output Capacitance	C _{oss}		--	98	--	pF
Reverse Transfer Capacitance	C _{rss}		--	85	--	pF
Gate Resistance	R _g	V _{DS} =0V, V _{GS} =0V, f=1MHz	--	7	--	Ω
Switching Characteristics						
Turn-on Delay Time	t _{d(on)}	V _{DS} =-20V, V _{GS} =-10V, I _D =-5A R _{GEN} =2.4Ω	--	8	--	nS
Turn-on Rise Time	t _r		--	15	--	nS
Turn-off Delay Time	t _{d(off)}		--	23	--	nS
Turn-off Fall Time	t _f		--	9	--	nS
Total Gate Charge	Q _g	V _{DD} =-20V, V _{GS} =-10V, I _D =-5A	--	20	--	nC
Gate-Source Charge	Q _{gs}		--	3.5	--	nC
Gate-Drain Charge	Q _{gd}		--	4.2	--	nC
Source-Drain Diode Characteristics						
Diode Forward Voltage ^{Note3}	-V _{SD}	V _{GS} =0V, I _S =-6A	--	0.8	1.2	V
Diode Forward Current ^{Note2}	-I _S		--	--	10	A

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

2. Surface Mounted on FR4 Board, t ≤ 10 sec.

3. Pulse Test: Pulse width≤300μs, duty cycle≤2%.

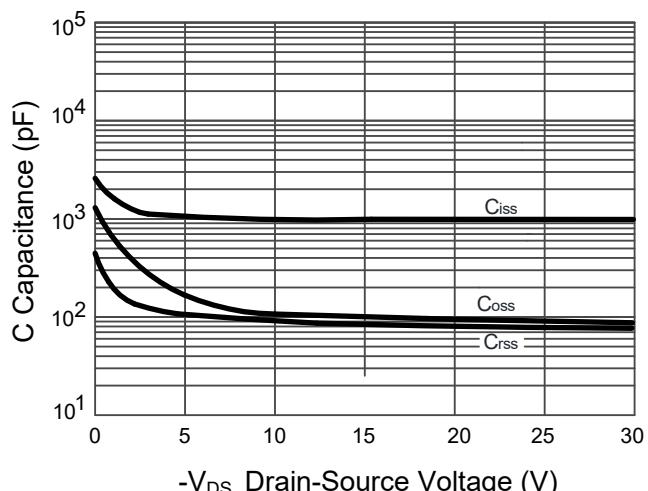
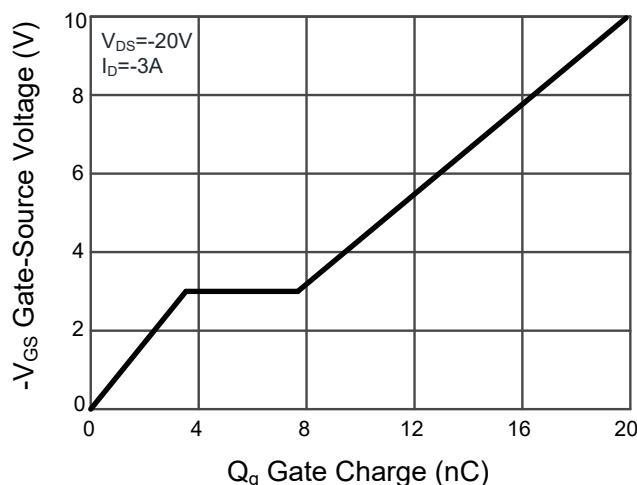
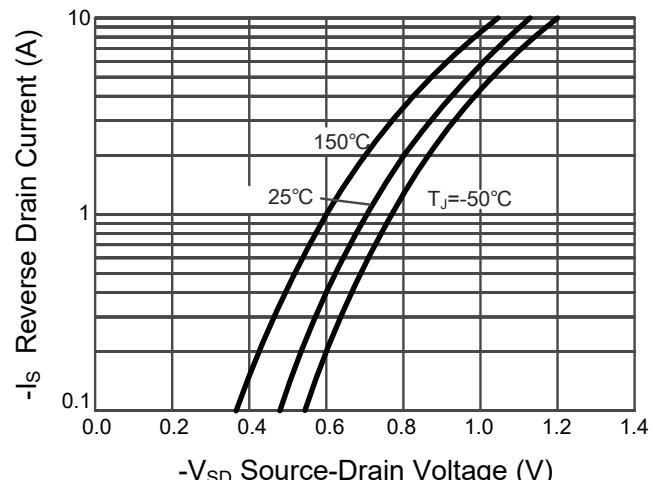
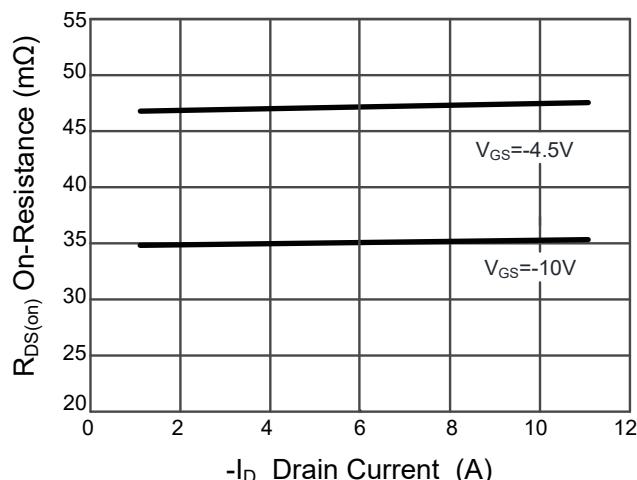
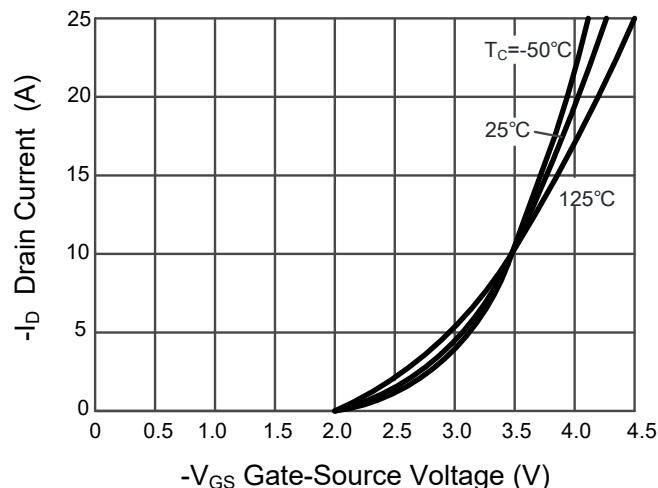
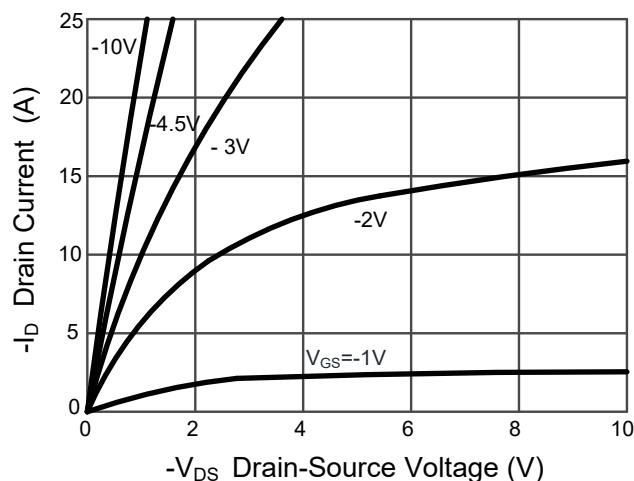
4. The test condition is V_{DD}=-30V, V_{GS}=-10V, L=0.5mH, I_{AS}=-12A, R_G=25Ω, T_J=25°C.



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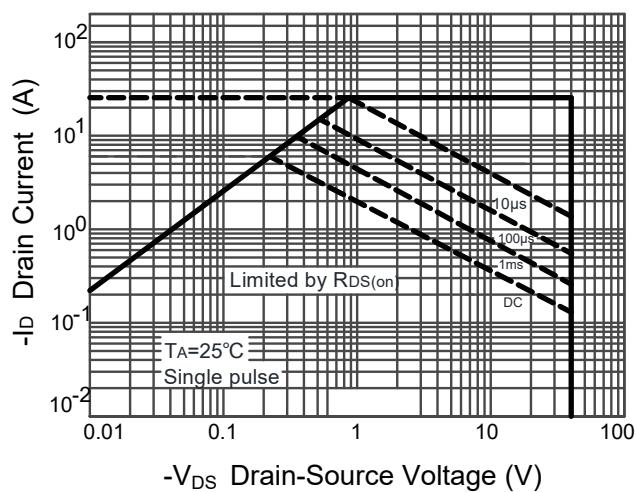
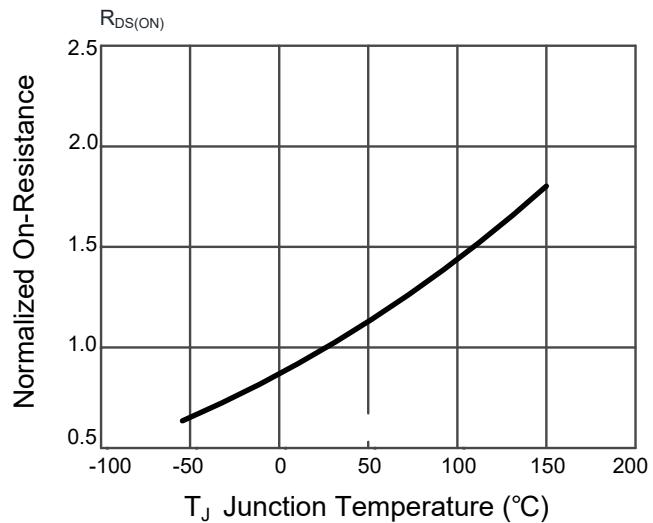
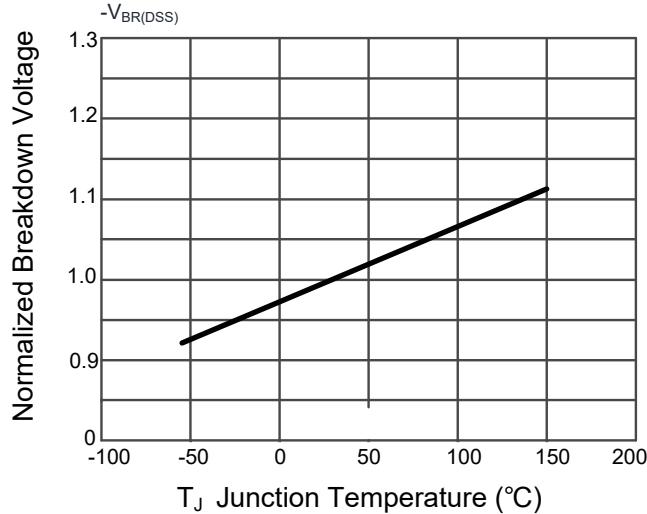
Typical Characteristic Curves





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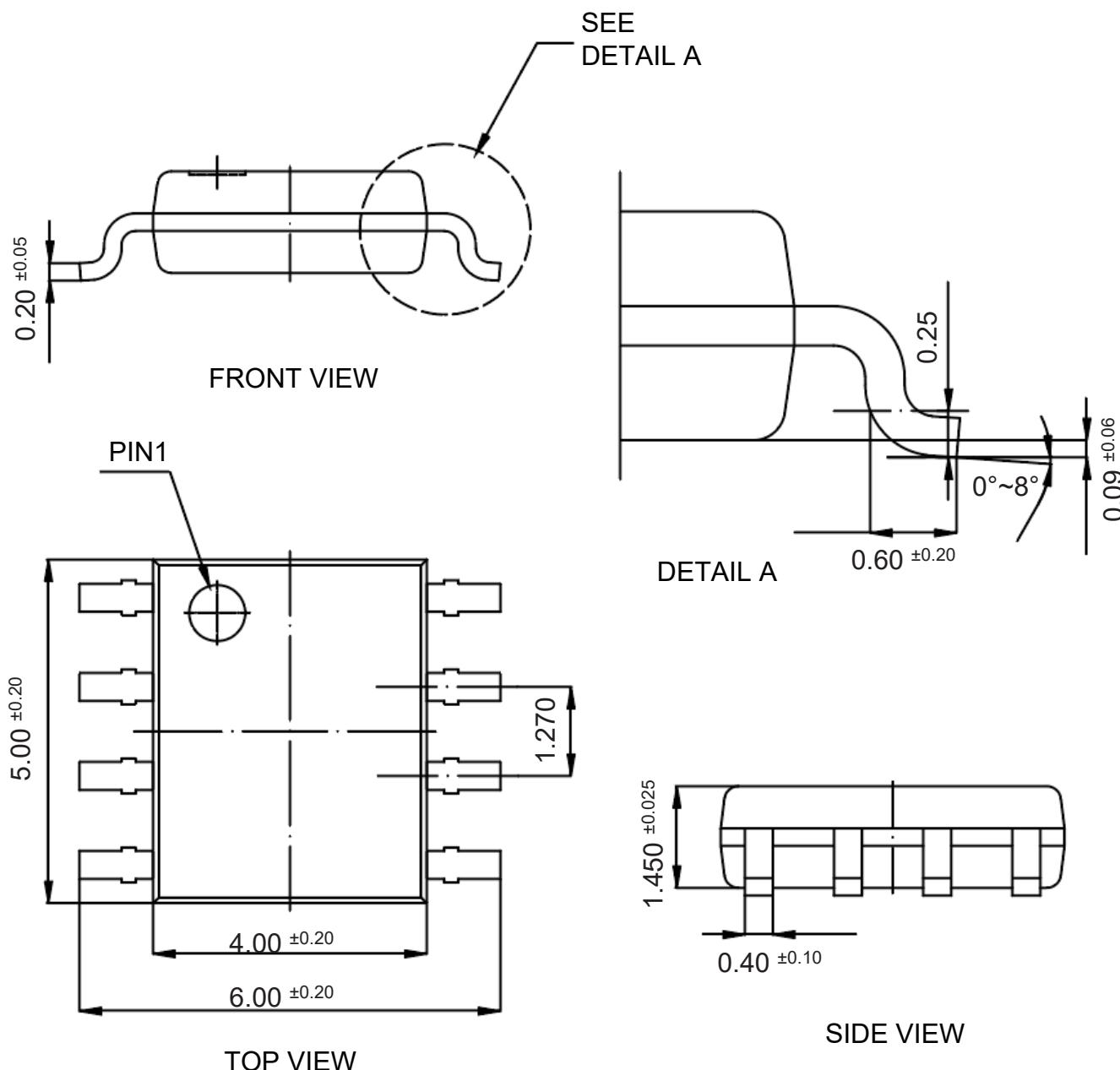
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Package Outline

SOP-8

Dimensions in mm



Ordering Information

Device	Package	Shipping
PJM06P40PA	SOP-8	4,000PCS/Reel&13inches