



PJM08P40PA

P-Channel Enhancement Mode Power MOSFET

Product Summary

- $V_{DS} = -40V, I_D = -8A$
- $R_{DS(on)} < 35m\Omega @ V_{GS} = -10V$
- $R_{DS(on)} < 45m\Omega @ V_{GS} = -4.5V$

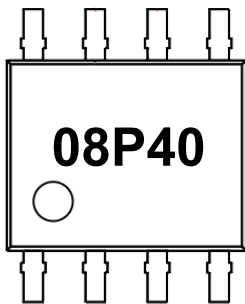
Features

- 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



Absolute Maximum Ratings

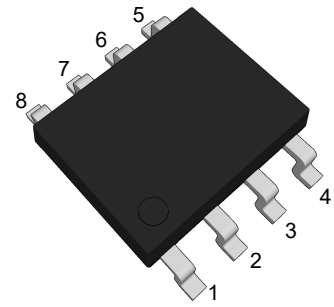
Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Drain-Source Voltage	$-V_{DS}$	40	V
Gate-Source Voltage	V_{GS}	± 20	V
Drain Current-Continuous	$-I_D$	8	A
Drain Current-Pulsed ^{Note1}	$-I_{DM}$	30	A
Maximum Power Dissipation	P_D	1.8	W
Single Pulse Avalanche Energy ^{Note2}	E_{AS}	42	mJ
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

Thermal Characteristics

Thermal Resistance, Junction-to-Ambient ^{Note3}	$R_{\theta JA}$	69	°C/W
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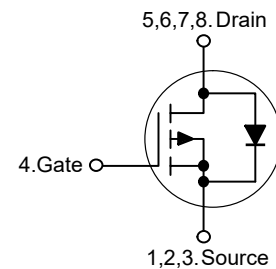
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(Top View)

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

Schematic Diagram





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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	$-V_{(BR)DSS}$	$V_{GS}=0V, I_D=-250\mu A$	40	--	--	V
Zero Gate Voltage Drain Current	$-I_{DSS}$	$V_{DS}=-40V, V_{GS}=0V$	--	--	1	μA
Gate-Body Leakage Current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$	--	--	± 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}	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-8A$	--	25	35	m Ω
		$V_{GS}=-4.5V, I_D=-8A$	--	32	45	m Ω
Forward Transconductance ^{Note4}	g_{FS}	$V_{DS}=-5V, I_D=-1A$	--	6	--	S
Dynamic Characteristics						
Input Capacitance	C_{iss}	$V_{DS}=-20V, V_{GS}=0V, f=1\text{MHz}$	--	1392	--	pF
Output Capacitance	C_{oss}		--	116	--	pF
Reverse Transfer Capacitance	C_{rss}		--	98	--	pF
Gate Resistance	R_g	$V_{DS}=0V, V_{GS}=0V, f=1\text{MHz}$	--	12	--	Ω
Total Gate Charge	Q_g	$V_{DS}=-15V, I_D=-1A,$ $V_{GS}=-4.5V$	--	11.5	--	nC
Gate-Source Charge	Q_{gs}		--	3.5	--	nC
Gate-Drain Charge	Q_{gd}		--	3.3	--	nC
Switching Characteristics						
Turn-on Delay Time	$t_{d(on)}$	$V_{DD}=-15V, I_D=-1A,$ $V_{GS}=-10V, R_{GEN}=3.3\Omega$	--	22	--	nS
Turn-on Rise Time	t_r		--	15.7	--	nS
Turn-off Delay Time	$t_{d(off)}$		--	59	--	nS
Turn-off Fall Time	t_f		--	5.5	--	nS
Source-Drain Diode Characteristics						
Diode Forward Voltage ^{Note4}	$-V_{SD}$	$V_{GS}=0V, I_S=-8A$	--	--	1.2	V
Diode Forward Current ^{Note3}	$-I_S$		--	--	8	A

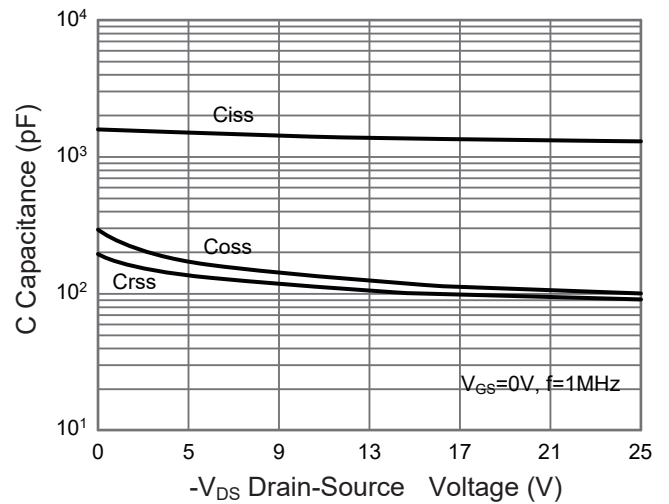
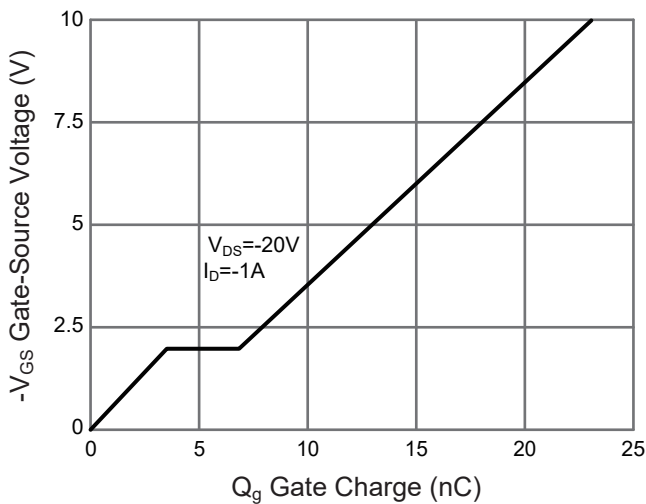
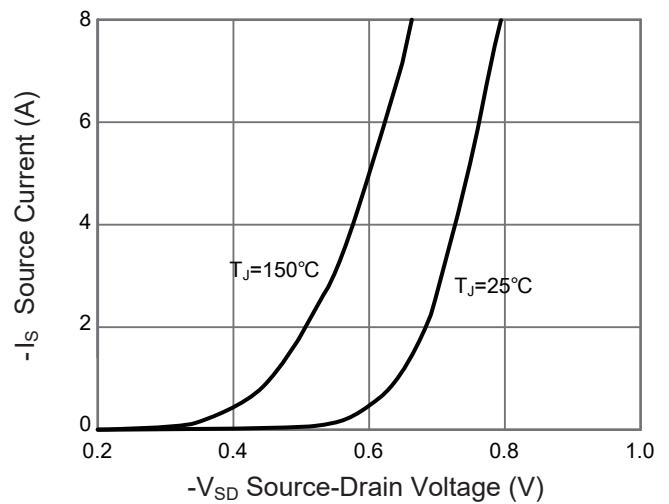
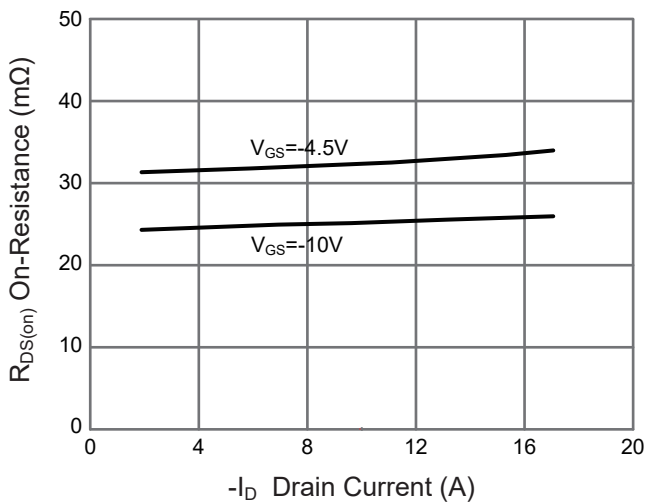
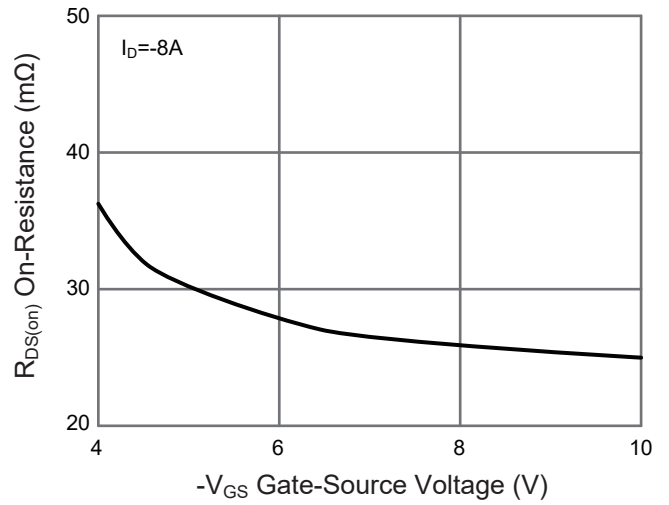
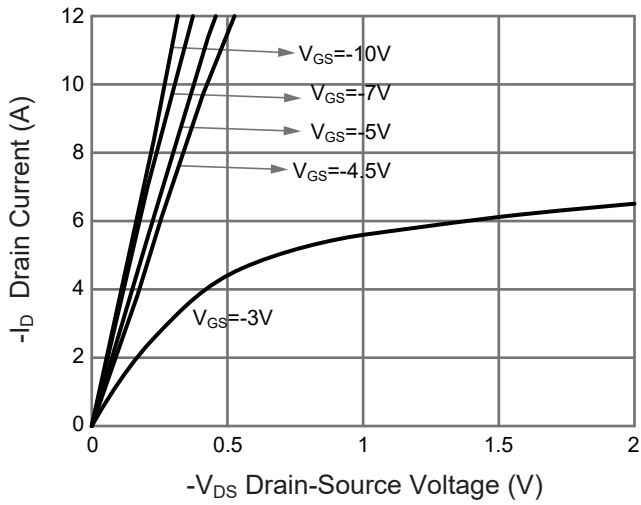
- Note: 1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. The test condition is $V_{DD}=-30V, V_G=-10V, L=0.5\text{mH}, I_{AS}=-13A, R_G=25\Omega, T_J=25^{\circ}\text{C}$.
3. Surface Mounted on FR4 Board, $t \leq 10$ sec.
4. Pulse Test: Pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 0.5\%$.



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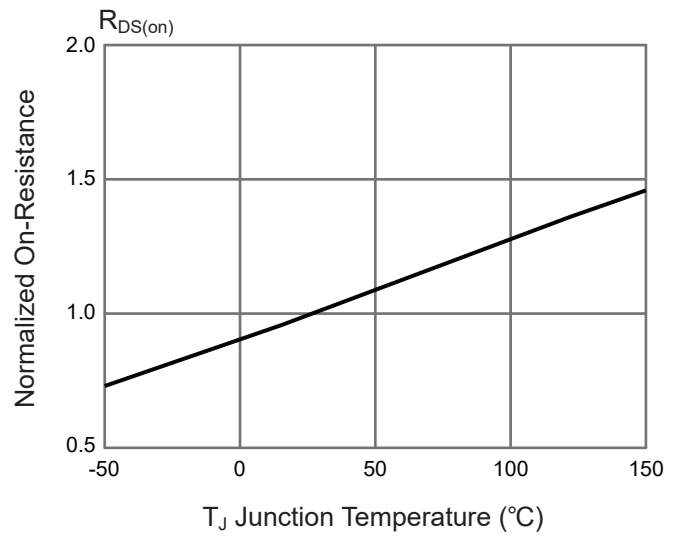
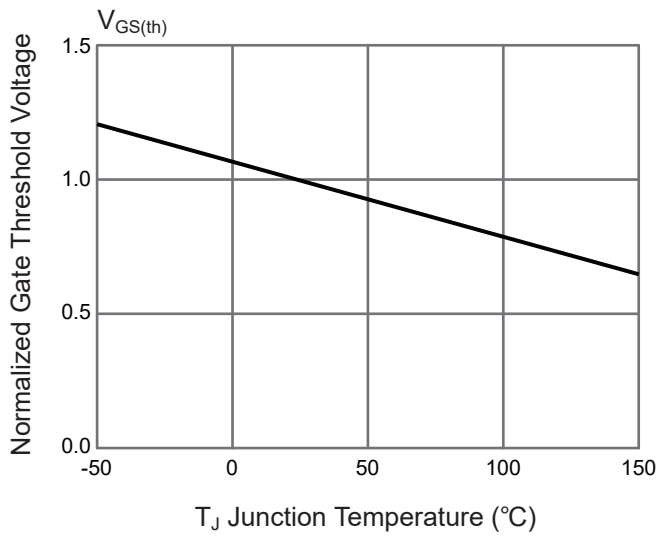
Typical Characteristic Curves





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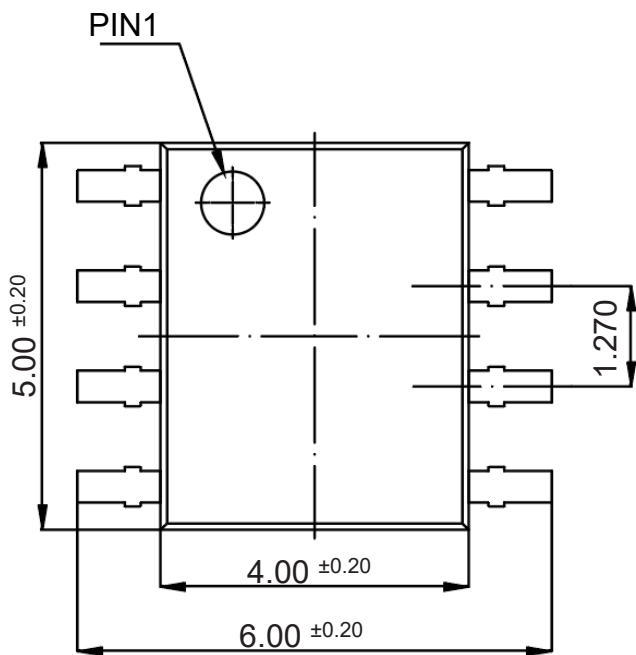
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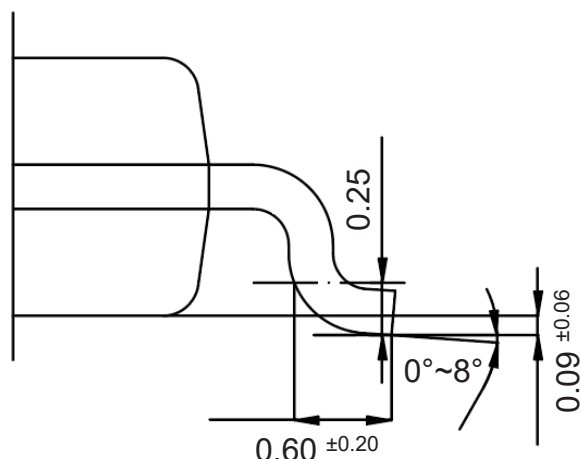
Package Outline

SOP-8

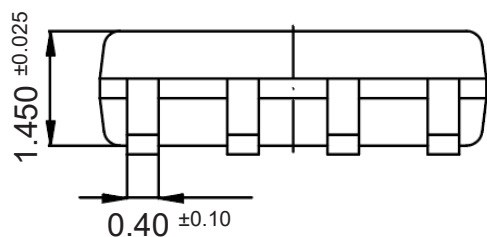
Dimensions in mm



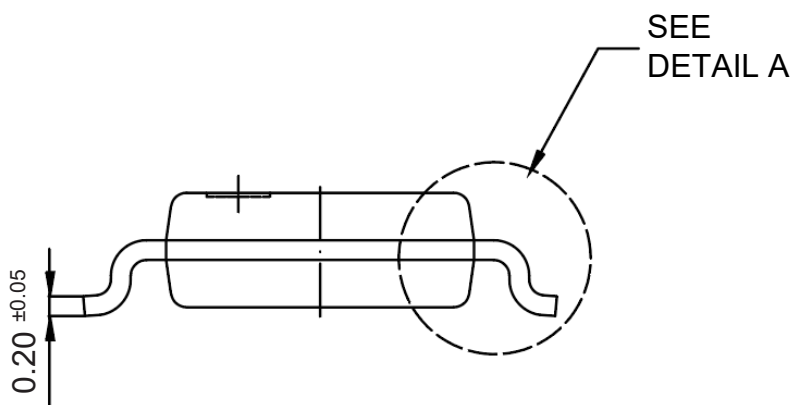
TOP VIEW



DETAIL A



SIDE VIEW



FRONT VIEW

Ordering Information

Device	Package	Shipping
PJM08P40PA	SOP-8	4,000PCS/Reel&13inches

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