PJM08P40PA
P-Channel Enhancement Mode Power MOSFET

Product Summary

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

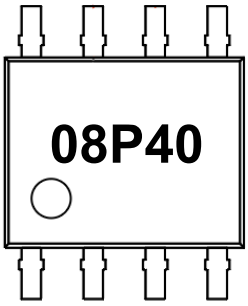
Features

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

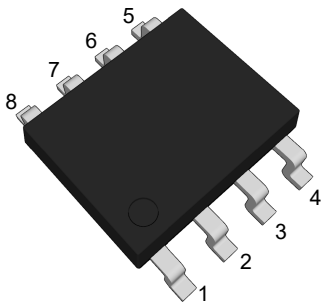
Application

- Load Switch
- PWM Applications
- Power Management

Marking Code



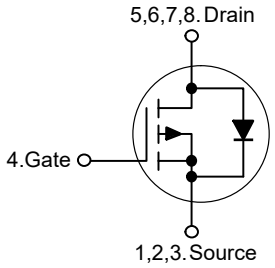
SOP-8



(Top View)

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

Schematic Diagram



Absolute Maximum Ratings

Ratings at 25℃ 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

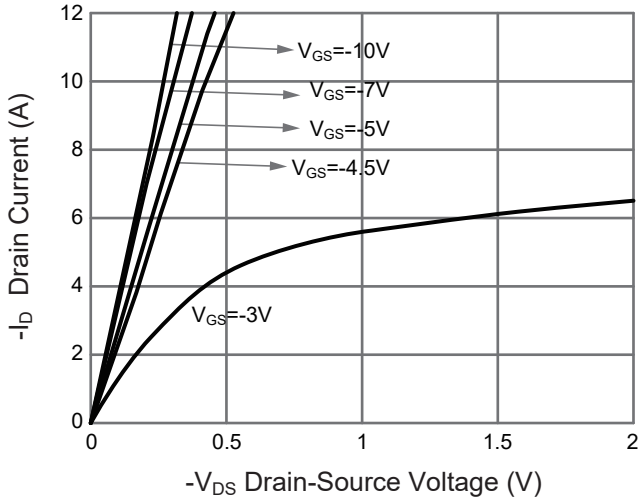
Electrical Characteristics

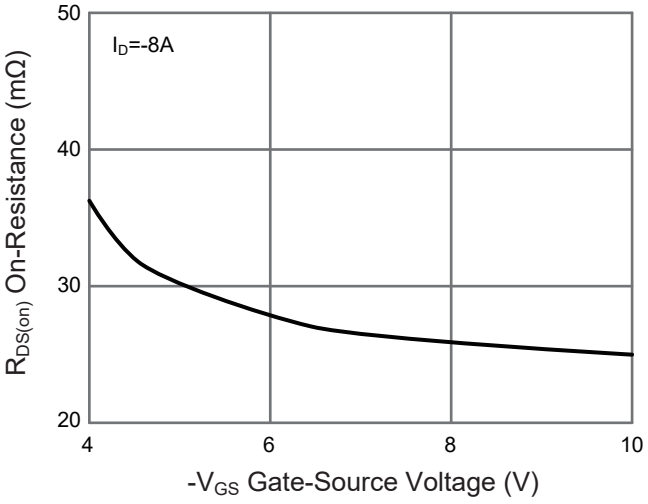
(T_J=25℃ unless otherwise specified)

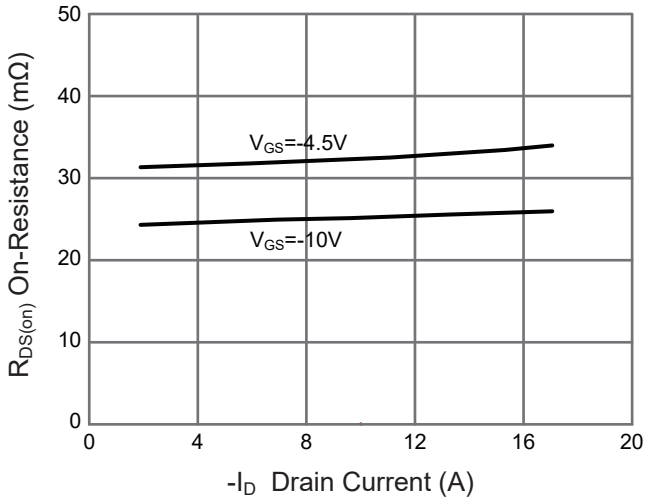
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$-V_{(BR)DSS}$	V_{GS}=0V,I_D=-250μA	40	--	--	V
Zero Gate Voltage Drain Current	$-I_{DSS}$	V_{DS}=-40V,V_{GS}=0V	--	--	1	μA
Gate-Body Leakage Current	I_{GSS}	V_{GS}=±20V,V_{DS}=0V	--	--	±100	nA
Gate Threshold Voltage 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=-8A	--	25	35	mΩ
		V_{GS}=-4.5V,I_D=-8A	--	32	45	mΩ
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=1MHz	--	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=1MHz	--	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}=3.3Ω	--	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

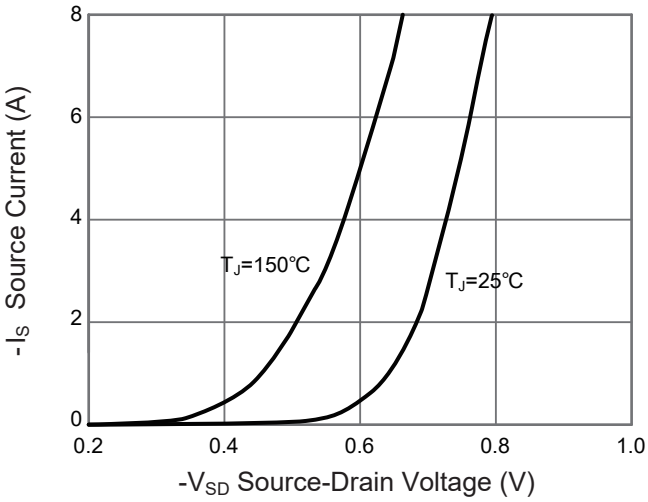
Note: 1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. The test condition is V_{DD}=-30V,V_G=-10V,L=0.5mH,I_{AS}=-13A, R_G=25Ω,T_J=25℃.
3. Surface Mounted on FR4 Board, t ≤ 10 sec.
4. Pulse Test: Pulse width≤300μs, duty cycle≤0.5%.

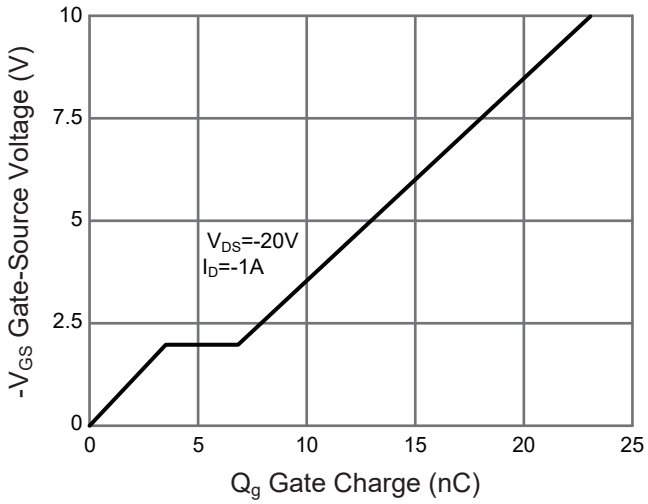
Typical Characteristic Curves

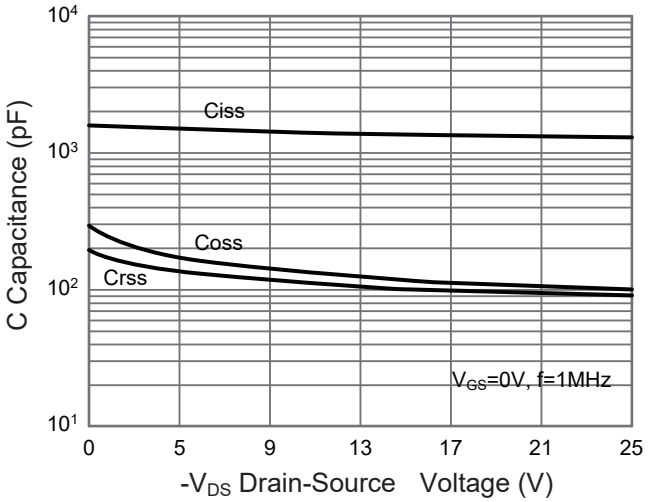


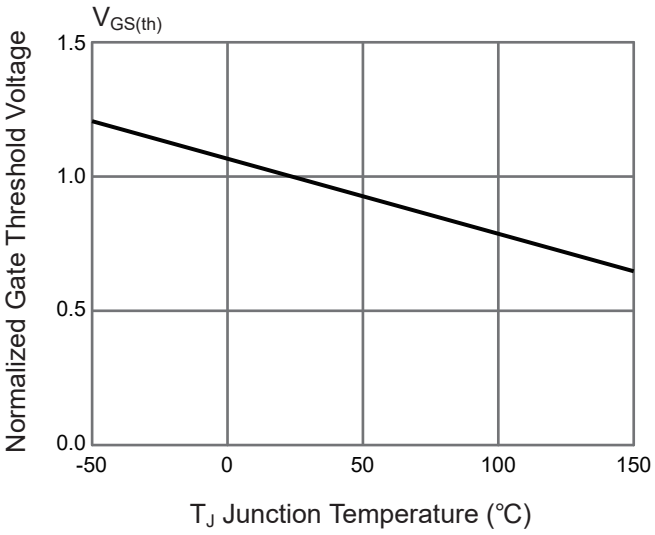


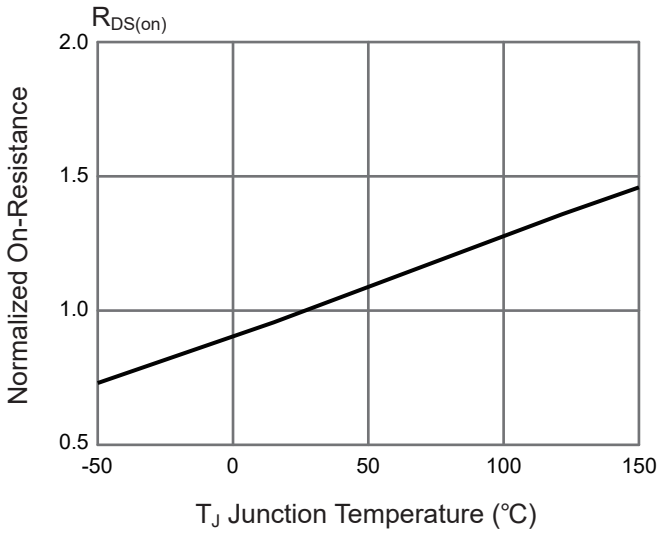








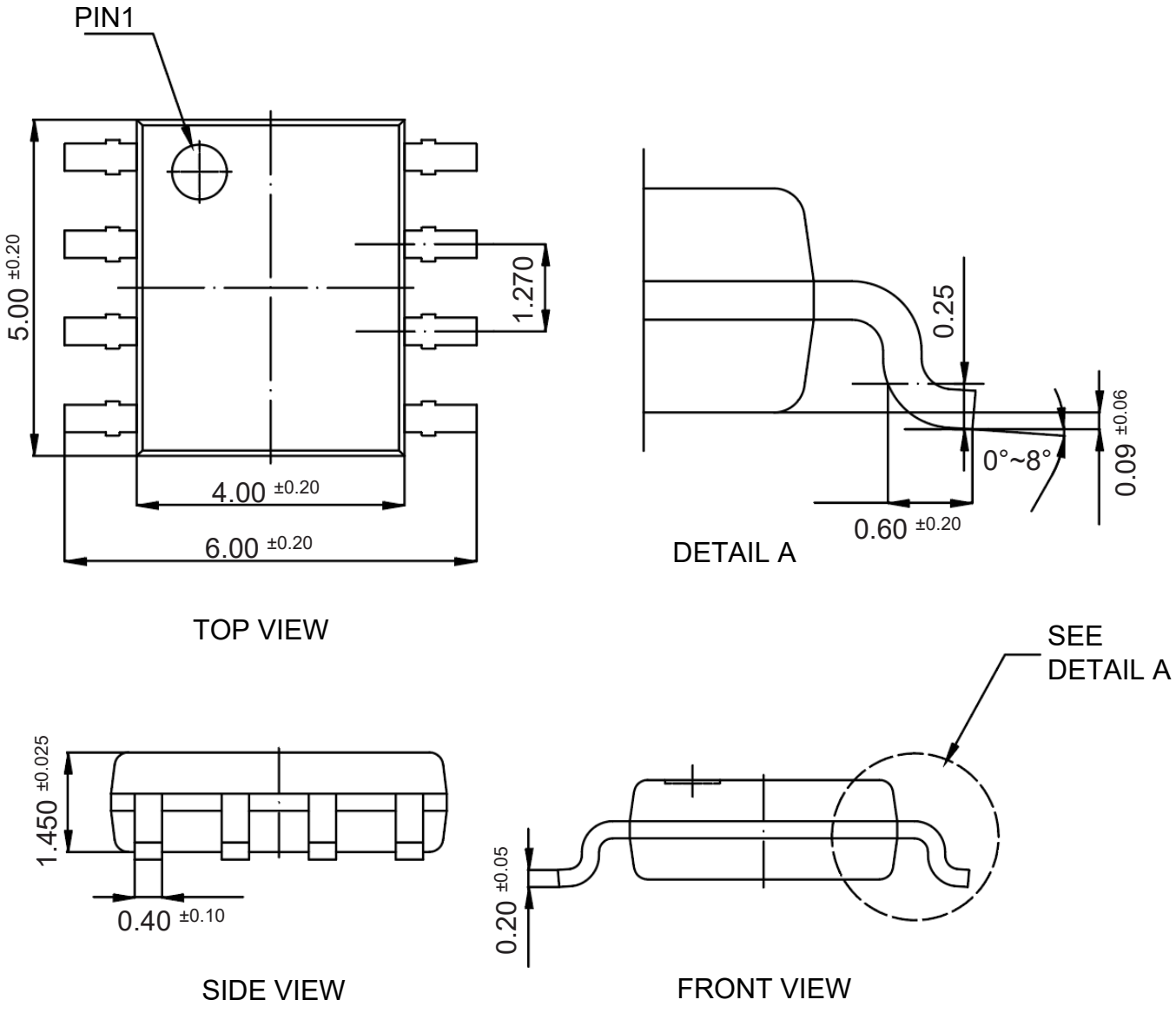

$V_{GS(th)}$
Normalized Gate Threshold Voltage
1.5
1.0
0.5
0.0
-50
0
50
100
150
T_J Junction Temperature (℃)


$R_{DS(on)}$
Normalized On-Resistance
2.0
1.5
1.0
0.5
-50
0
50
100
150
T_J Junction Temperature (℃)

Package Outline

SOP-8

Dimensions in mm



Ordering Information

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