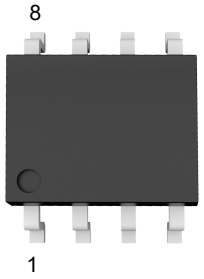
PJM4953PPA
P-Channel Enhancement Mode Power MOSFET

Features

- High density cell design for ultra low $R_{DS(on)}$
- Advanced trench technology
- V_{DS}= -30V,I_D= -5.1A
  $R_{DS(on)}$< 55mΩ @V_{GS}= -10V

SOP-8

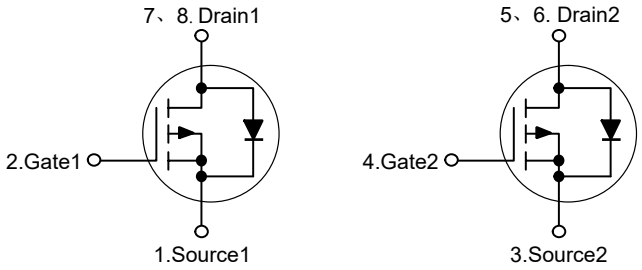


Marking code: 4953

Applications

- PWM applications
- Load switch
- Power management

Schematic Diagram



Absolute Maximum Ratings

Ratings at 25℃ 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	$-I_D$	5.1	A
Drain Current-Pulsed Note1	$-I_{DM}$	20.4	A
Maximum Power Dissipation	P_D	2.15	W
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

Thermal Characteristics

Thermal Resistance,Junction-to-Ambient Note2	$R_{\theta JA}$	58	°C/W

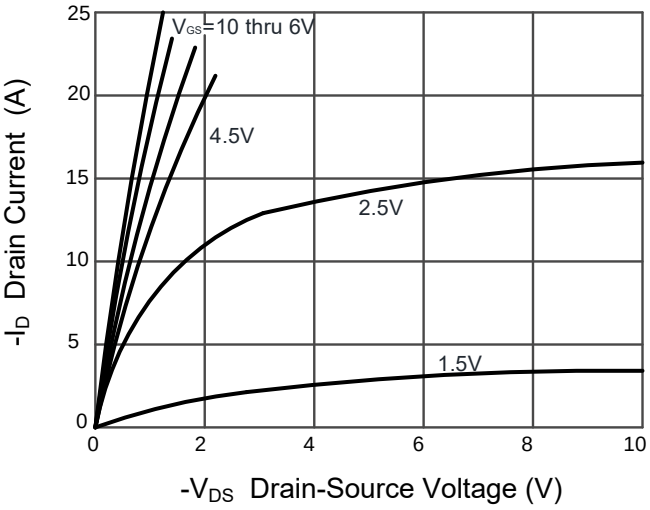
Electrical Characteristics

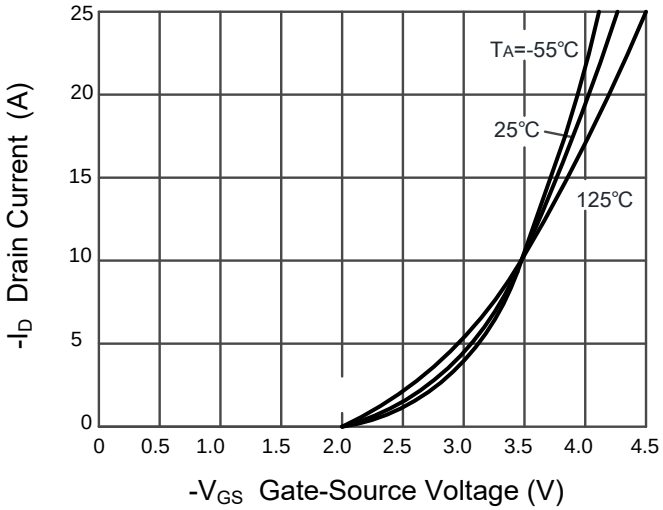
(Ta=25℃ unless otherwise specified)

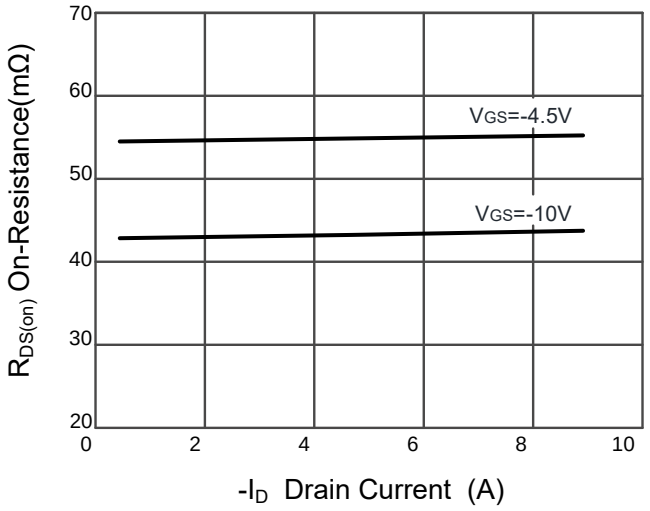
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$-V_{(BR)DSS}$	V_{GS}=0V,I_D=-250μA	30	--	--	V
Zero Gate Voltage Drain Current	$-I_{DSS}$	V_{DS}=-30V,V_{GS}=0V	--	--	1	μA
Gate-Body Leakage Current	$-I_{GSS}$	V_{GS}=±20V,V_{DS}=0V	--	--	±100	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=-5A	--	43	55	mΩ
		V_{GS}=-4.5V,I_D=-4A	--	66	90	mΩ
Dynamic Characteristics						
Input Capacitance	C_{iss}	V_{DS}=-15V,V_{GS}=0V,f=1MHz	--	580	--	pF
Output Capacitance	C_{oss}		--	98	--	pF
Reverse Transfer Capacitance	C_{rss}		--	74	--	pF
Switching Characteristics						
Turn-on Delay Time	$t_{d(on)}$	V_{DD}=-15V,I_D=-1A V_{GS}=-10V,R_G=2.5Ω	--	14	--	nS
Turn-on Rise Time	t_r		--	61	--	nS
Turn-off Delay Time	$t_{d(off)}$		--	19	--	nS
Turn-off Fall Time	t_f		--	10	--	nS
Total Gate Charge	Q_g	V_{DD}=-15V, I_D=-5.1A V_{GS}=-10V	--	6.8	--	nC
Gate-Source Charge	Q_{gs}		--	1	--	nC
Gate-Drain Charge	Q_{gd}		--	1.4	--	nC
Source-Drain Diode Characteristics						
Diode Forward Voltage Note3	$-V_{SD}$	V_{GS}=0V,I_S=-5.1A	--	0.8	1.2	V
Diode Forward Current Note2	$-I_S$		--	--	5.1	A

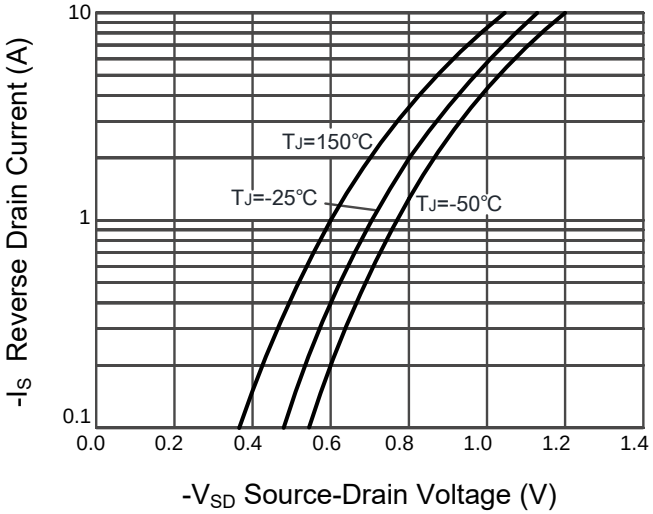
Note: 1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2.Surface Mounted on FR4 Board, t ≤ 10 sec.
3.Pulse Test: Pulse width≤300μs, duty cycle≤2%

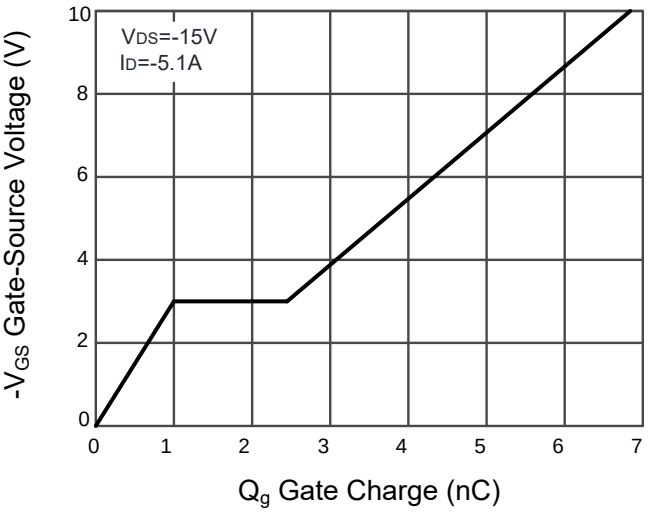
Typical Characteristic Curves

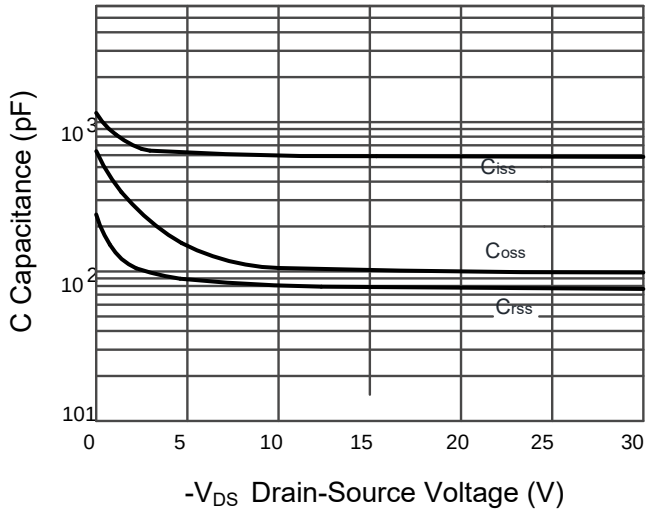


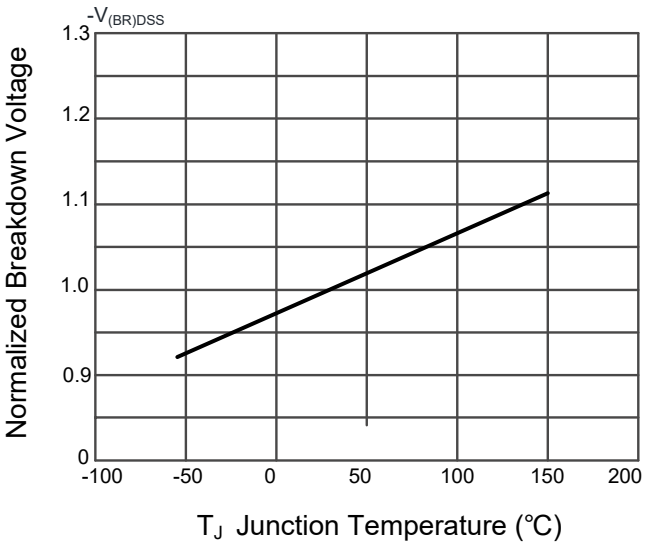


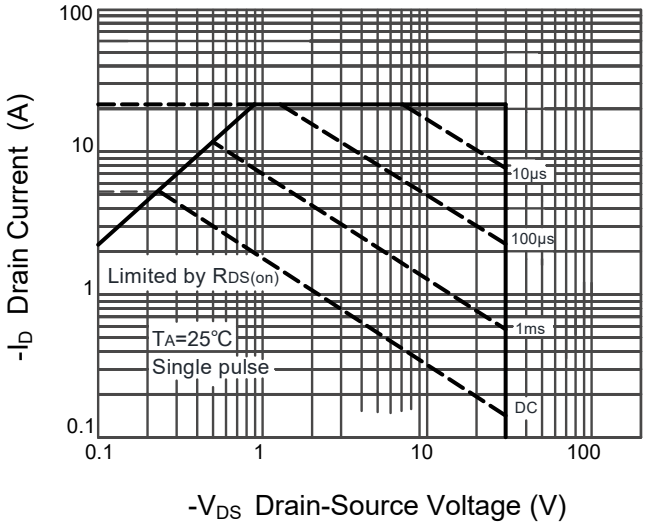








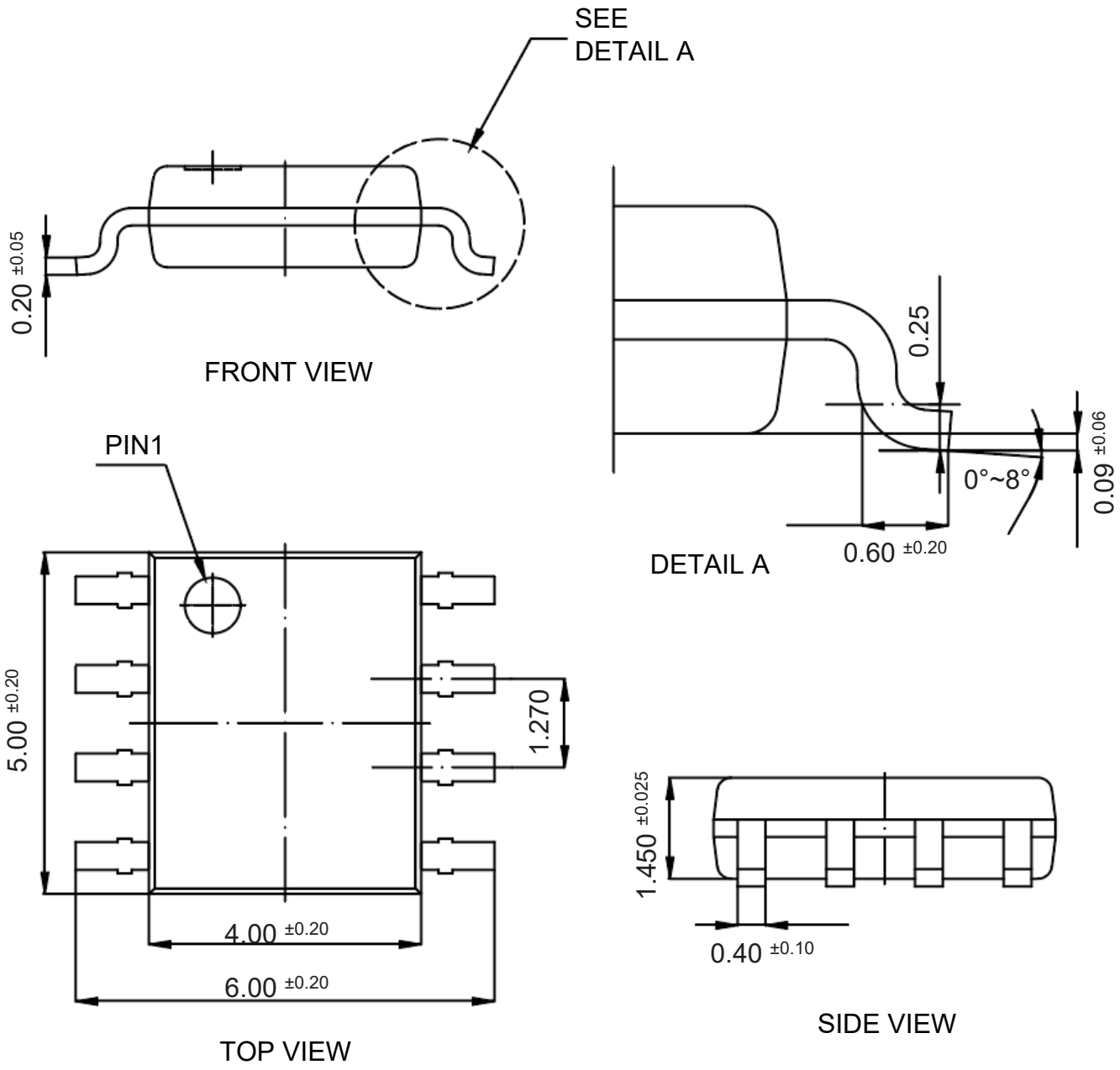

-V(BR)DSS
Normalized Breakdown Voltage
1.3
1.2
1.1
1.0
0.9
0
-100
-50
0
50
100
150
200
TJ Junction Temperature (℃)


-ID Drain Current (A)
100
10
1
0.1
0.1
1
10
100
10μs
100μs
1ms
DC
Limited by RDS(on)
TA=25℃
Single pulse
-VDS Drain-Source Voltage (V)

Package Outline

SOP-8

Dimensions in mm



Ordering Information

Device	Package	Shipping
PJM4953PPA	SOP-8	4,000PCS/Reel&13inches