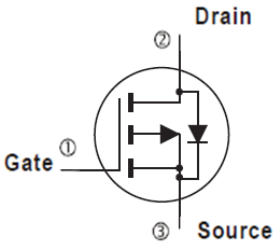
PJD16P06A

60V P-Channel Enhancement Mode MOSFET

Voltage	-60 V	Current	-16 A



TO-252AA



Features

- $R_{DS(ON)}$, V_{GS}@-10V, I_D@-8A<48mΩ
- $R_{DS(ON)}$, V_{GS}@-4.5V, I_D@-4A<65mΩ
- High switching speed
- Improved dv/dt capability
- Low Gate Charge
- Low reverse transfer capacitance
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

Mechanical Data

- Case : TO-252AA Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- TO-252AA Approx. Weight : 0.0104 ounces, 0.297grams

Maximum Ratings and Thermal Characteristics (T_A=25°C unless otherwise noted)

PARAMETER		SYMBOL	LIMIT	UNITS
Drain-Source Voltage		V_{DS}	-60	V
Gate-Source Voltage		V_{GS}	±20	V
Continuous Drain Current (Note 4)	T_C=25°C	I_D	-16	A
	T_C=100°C		-10	A
Pulsed Drain Current (Note 1)	T_C=25°C	I_{DM}	-64	A
Power Dissipation	T_C=25°C	P_D	25	W
	T_C=100°C		10	W
Continuous Drain Current (Note 4)	T_A=25°C	I_D	-5	A
	T_A=70°C		-4	A
Power Dissipation	T_A=25°C	P_D	2	W
	T_A=70°C		1.3	W
Single Pulse Avalanche Energy (Note 6)		E_{AS}	51	mJ
Operating Junction and Storage Temperature Range		T_J,T_{STG}	-55~150	°C
Typical Thermal Resistance (Note 4,5)	Junction to Case	$R_{\theta JC}$	5	°C/W
	Junction to Ambient	$R_{\theta JA}$	62.5	°C/W

- Limited only By Maximum Junction Temperature

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Electrical Characteristics (T_A=25°C unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Static						
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V, I_D=-250uA	-60	-	-	V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=-250uA	-1	-1.7	-2.5	
Drain-Source On-State Resistance	$R_{DS(on)}$	V_{GS}=-10V, I_D=-8A	-	40	48	mΩ
		V_{GS}=-4.5V, I_D=-4A	-	55	65	
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-60V, V_{GS}=0V	-	-	-1	uA
Gate-Source Leakage Current	I_{GSS}	V_{GS}=±20V, V_{DS}=0V	-	-	±100	nA
Dynamic (Note 7)						
Total Gate Charge	Q_g	V_{DS}=-30V, I_D=-8A, V_{GS}=-10V (Note 2,3)	-	22	-	nC
Gate-Source Charge	Q_{gs}		-	4.1	-	
Gate-Drain Charge	Q_{gd}		-	5.2	-	
Input Capacitance	Ciss	V_{DS}=-30V, V_{GS}=0V, f=1MHZ	-	1256	-	pF
Output Capacitance	Coss		-	87	-	
Reverse Transfer Capacitance	Crss		-	59	-	
Turn-On Delay Time	$td_{(on)}$	V_{DD}=-30V, I_D=-1A, V_{GS}=-10V, R_G=6Ω (Note 2,3)	-	13	-	ns
Turn-On Rise Time	t_r		-	42	-	
Turn-Off Delay Time	$td_{(off)}$		-	65	-	
Turn-Off Fall Time	t_f		-	16	-	
Drain-Source Diode						
Maximum Continuous Drain-Source Diode Forward Current	I_S	---	-	-	-16	A
Reverse Recovery Time	V_{SD}	I_S=-1A, V_{GS}=0V	-	-0.72	-1	V

NOTES :

1. Pulse width≤300us, Duty cycle≤2%.
2. Essentially independent of operating temperature typical characteristics.
3. Repetitive rating, pulse width limited by junction temperature $T_{J(MAX)}$=150°C. Ratings are based on low frequency and duty cycles to keep initial T_J =25°C.
4. The maximum current rating is package limited.
5. $R_{\Theta JA}$ is the sum of the junction-to-case and case-to-ambient thermal resistance where the case thermal reference is defined as the solder mounting surface of the drain pins. Mounted on a 1 $inch^2$ with 2oz.square pad of copper.
6. L=0.1mH, I_{AS}=-32A, V_{GS}=-10V, V_{DS}=-25V, R_G=25 ohm.
7. Guaranteed by design, not subject to production testing.

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TYPICAL CHARACTERISTIC CURVES

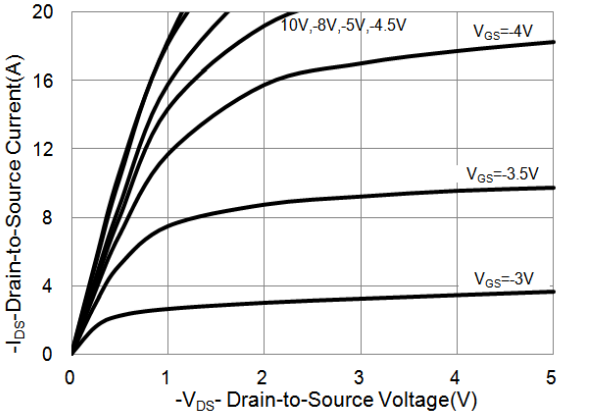


Fig.1 On-Region Characteristics

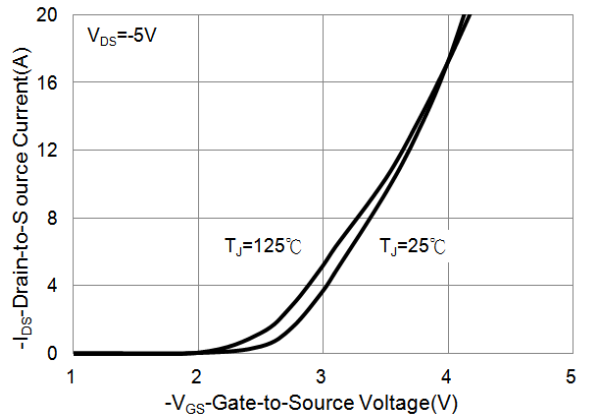


Fig.2 Transfer Characteristics

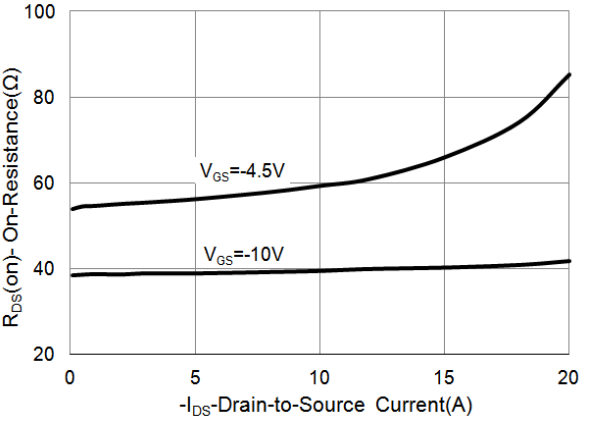


Fig.3 On-Resistance vs. Drain Current

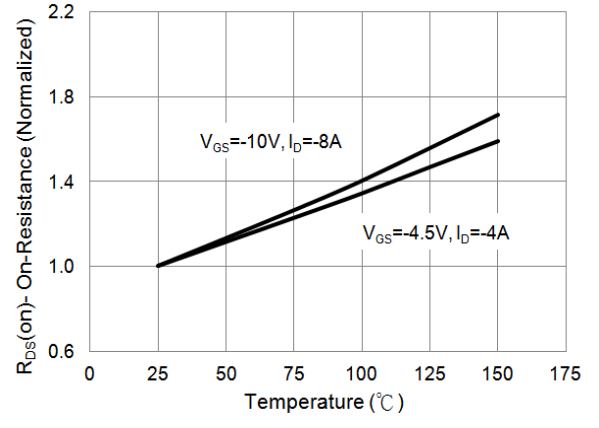


Fig.4 On-Resistance vs. Junction temperature

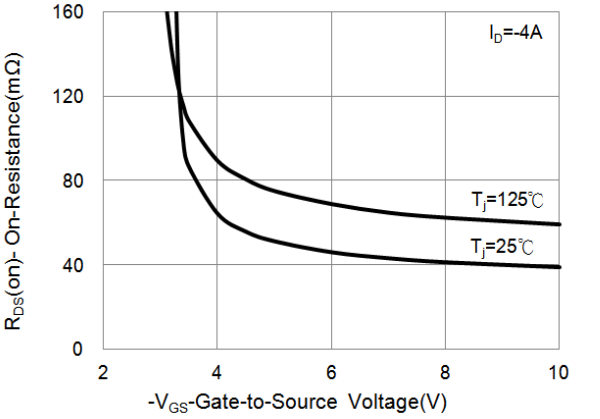


Fig.5 On-Resistance Variation with V_{GS}

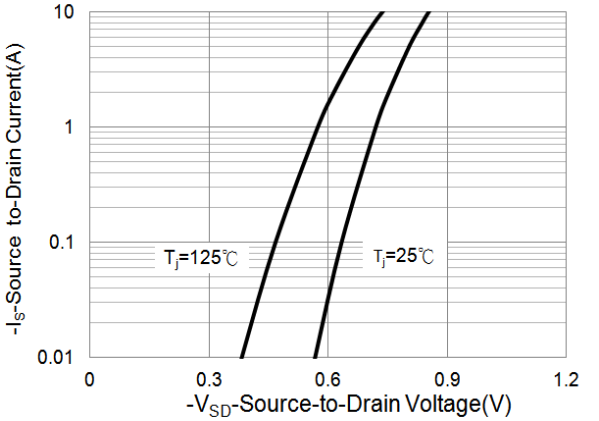


Fig.6 Body Diode Characteristics

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TYPICAL CHARACTERISTIC CURVES

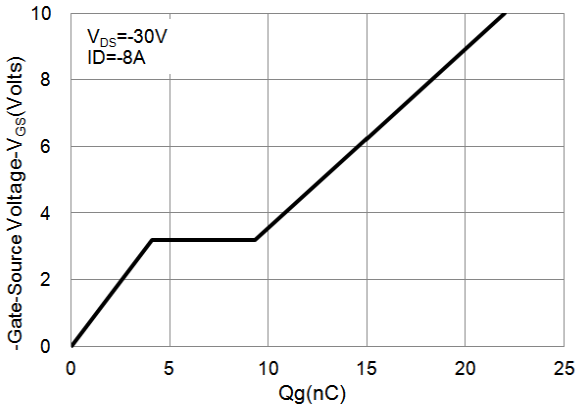


Fig.7 Gate-Charge Characteristics

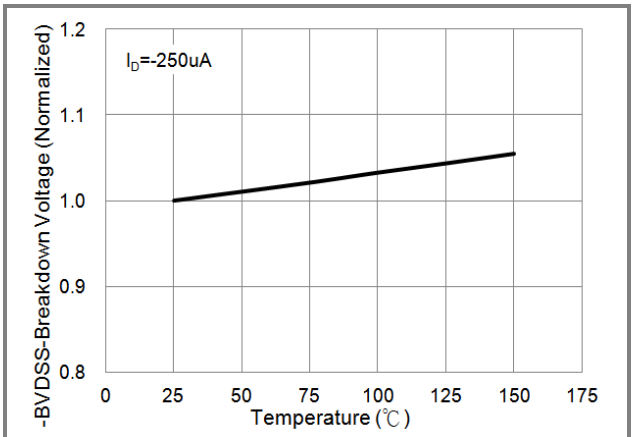


Fig.8 Breakdown Voltage Variation vs. Temperature

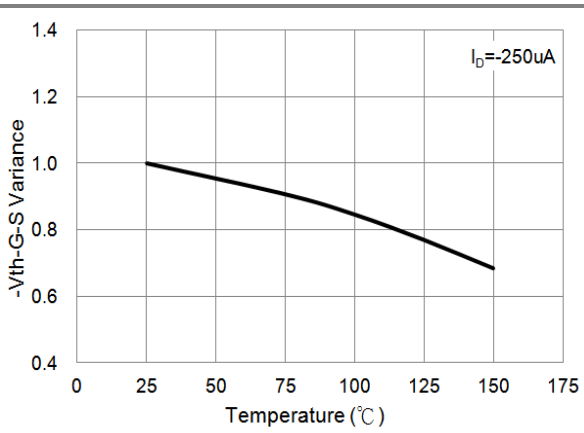


Fig.9 Threshold Voltage Variation with Temperature

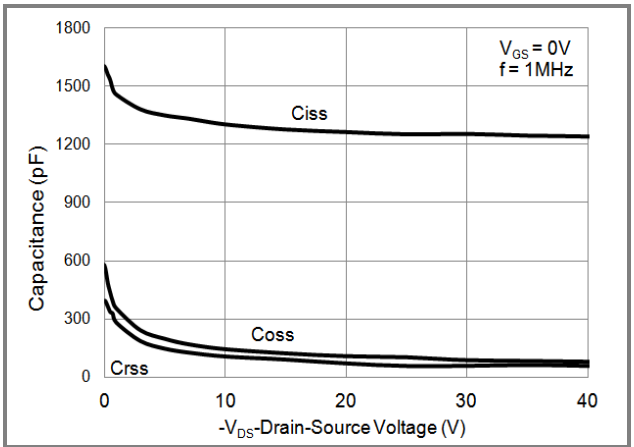


Fig.10 Capacitance vs. Drain-Source Voltage

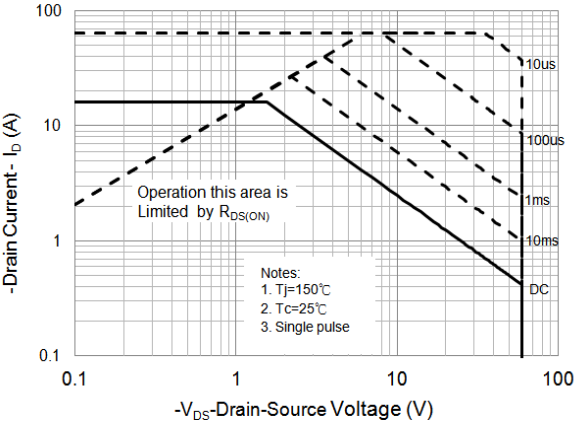


Fig.11 Maximum Safe Operating Area

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TYPICAL CHARACTERISTIC CURVES

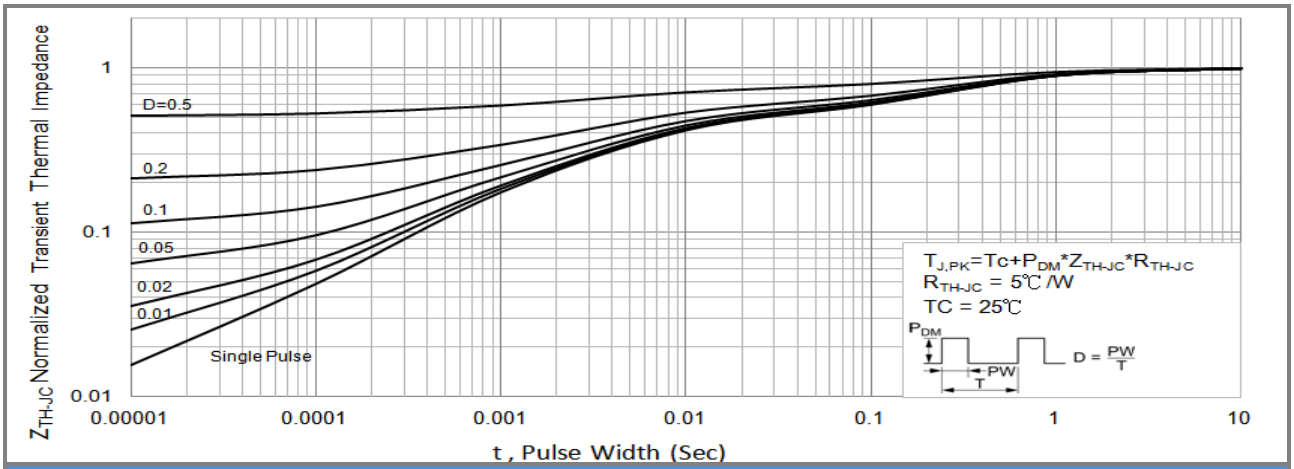


Fig.12 Normalized Thermal Transient Impedance

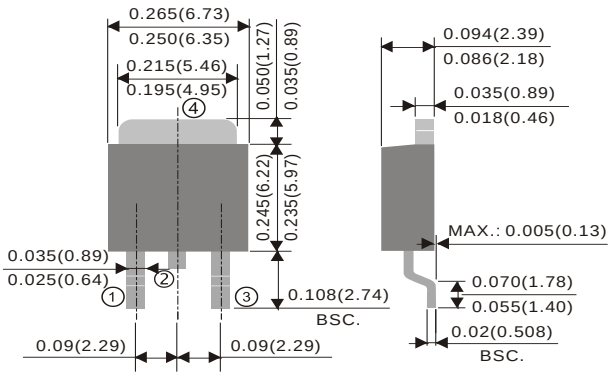
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Product and Packing Information

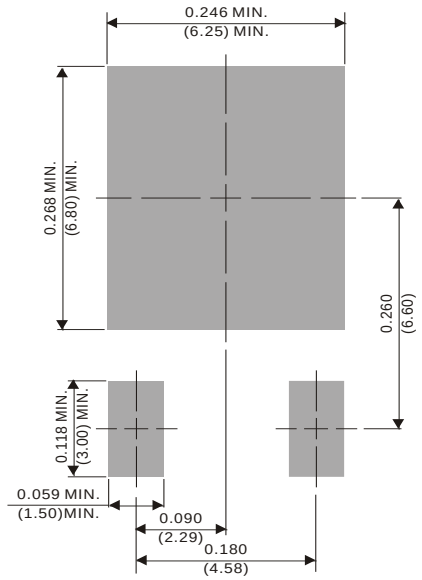
Part No.	Package Type	Packing Type	Marking
PJD16P06A	TO-252AA	3,000pcs / 13” reel	D16P06A

Packaging Information & Mounting Pad Layout

TO-252AA Dimension — Unit: inch(mm)



TO-252AA Pad Layout — Unit: inch(mm)



PJD16P06A

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