



PJW7N06A

60V N-Channel Enhancement Mode MOSFET

Voltage	60 V	Current	6.6 A
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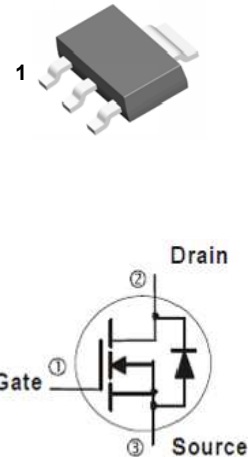
Features

- $R_{DS(ON)}$, $V_{GS}@10V$, $I_D@6A < 34m\Omega$
- $R_{DS(ON)}$, $V_{GS}@4.5V$, $I_D@3A < 40m\Omega$
- Advanced Trench Process Technology
- Specially Designed for Switch Load, PWM Application, etc
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

Mechanical Data

- Case: SOT-223 Package
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.043 ounces, 0.123grams

SOT-223



Maximum Ratings and Thermal Characteristics ($T_A=25^\circ C$ unless otherwise noted)

PARAMETER		SYMBOL	LIMIT	UNITS
Drain-Source Voltage		V_{DS}	60	V
Gate-Source Voltage		V_{GS}	± 20	
Continuous Drain Current	$T_C=25^\circ C$	I_D	6.6	A
	$T_C=70^\circ C$		5.3	
Pulsed Drain Current (Note 1)		I_{DM}	26.4	
Power Dissipation	$T_C=25^\circ C$	P_D	3.1	W
	$T_C=70^\circ C$		2	
Operating Junction and Storage Temperature Range		T_J, T_{STG}	-55~150	$^\circ C$
Typical Thermal Resistance - Junction to Ambient (Note 3)		$R_{\theta JA}$	40.3	$^\circ C/W$

- 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	1.0	1.83	2.5	V
Drain-Source On-State Resistance	R _{DS(on)}	V _{GS} =10V, I _D =6A	-	28	34	mΩ
		V _{GS} =4.5V, I _D =3A		33	40	
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =60V, V _{GS} =0V	-	-	1.0	uA
Gate-Source Leakage Current	I _{GSS}	V _{GS} =±20V, V _{DS} =0V	-	-	±100	nA
Dynamic (Note 5)						
Total Gate Charge	Q _g	V _{DS} =30V, I _D =6A, V _{GS} =10V (Note 1,2)	-	20	-	nC
Gate-Source Charge	Q _{gs}		-	3.8	-	
Gate-Drain Charge	Q _{gd}		-	3.9	-	
Input Capacitance	C _{iss}	V _{DS} =25V, V _{GS} =0V, f=1.0MHZ	-	1173	-	pF
Output Capacitance	C _{oss}		-	63	-	
Reverse Transfer Capacitance	C _{rss}		-	44	-	
Turn-On Delay Time	t _{d(on)}	V _{DD} =15V, I _D =1A, V _{GS} =10V, R _G =6Ω (Note 1,2)	-	7.1	-	ns
Turn-On Rise Time	t _r		-	25	-	
Turn-Off Delay Time	t _{d(off)}		-	31	-	
Turn-Off Fall Time	t _f		-	20	-	
Drain-Source Diode						
Maximum Continuous Drain-Source Diode Forward Current	I _S	---	-	-	6.6	A
Diode Forward Voltage	V _{SD}	I _S =1A, V _{GS} =0V	-	0.72	1.2	V

NOTES :

1. Pulse width ≤ 300us, Duty cycle ≤ 2%.
2. Essentially independent of operating temperature typical characteristics.
3. R_{θJA} 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 FR-4 with 2oz. square pad of copper.
4. The maximum current rating is package limited.
5. Guaranteed by design, not subject to production testing.



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TYPICAL CHARACTERISTIC CURVES

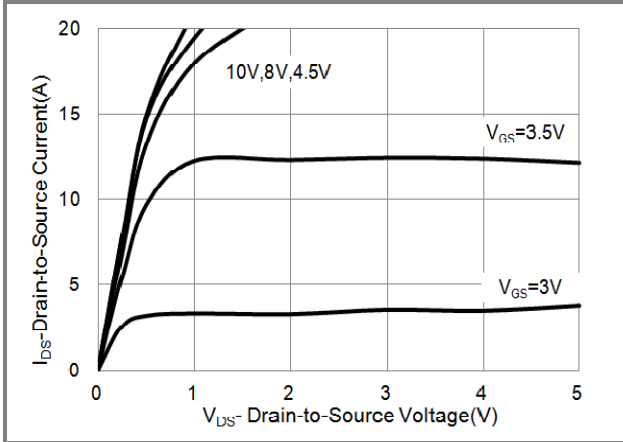


Fig.1 On-Region Characteristics

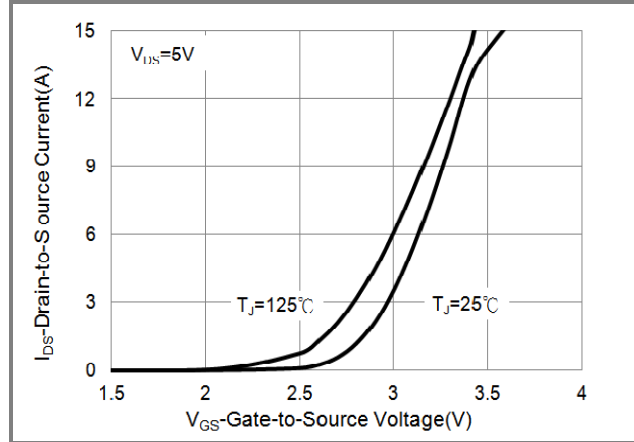


Fig.2 Transfer Characteristics

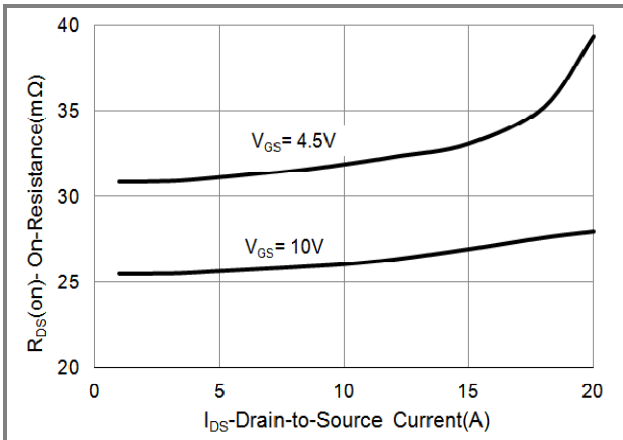


Fig.3 On-Resistance vs. Drain Current

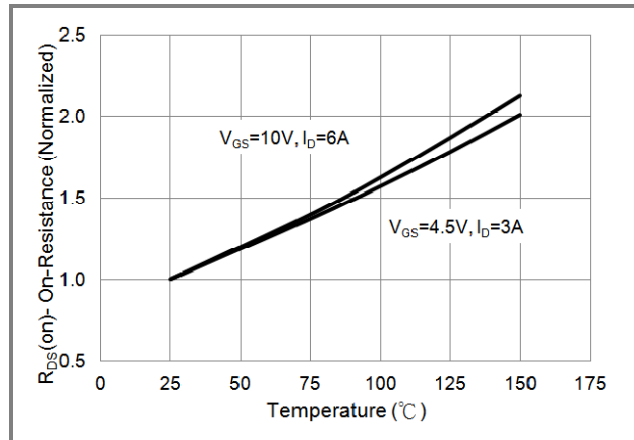


Fig.4 On-Resistance vs. Junction Temperature

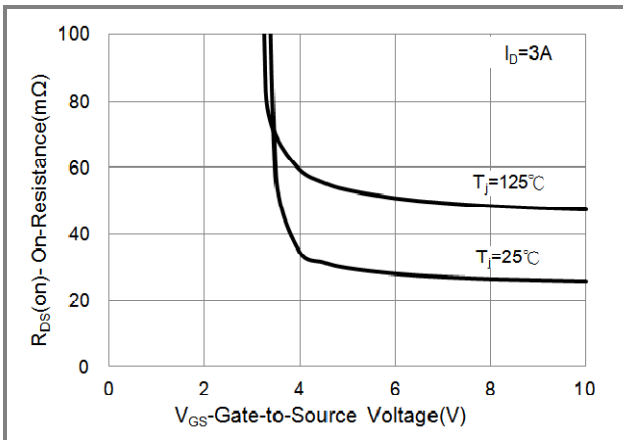


Fig.5 On-Resistance Variation with VGS.

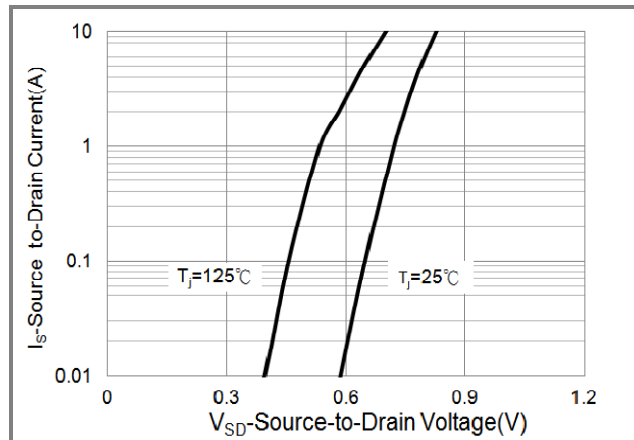


Fig.6 Body Diode Characteristics



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TYPICAL CHARACTERISTIC CURVES

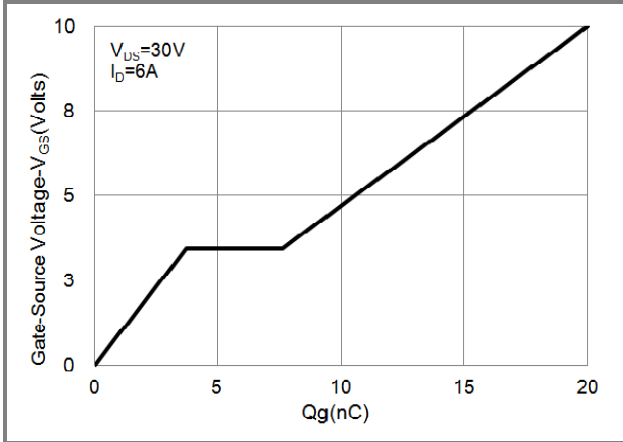


Fig.7 Gate-Charge Characteristics

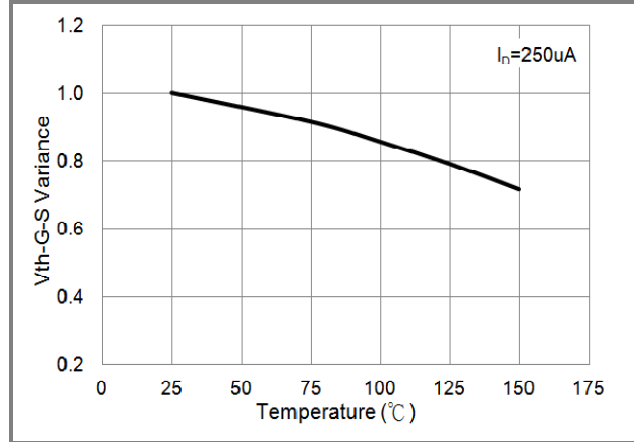


Fig.8 Threshold Voltage Variation with Temperature

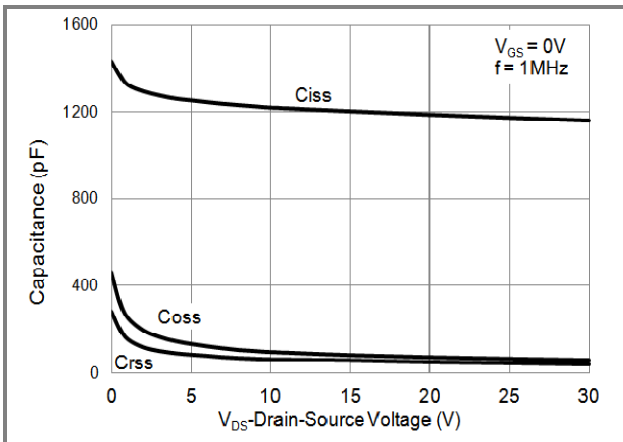
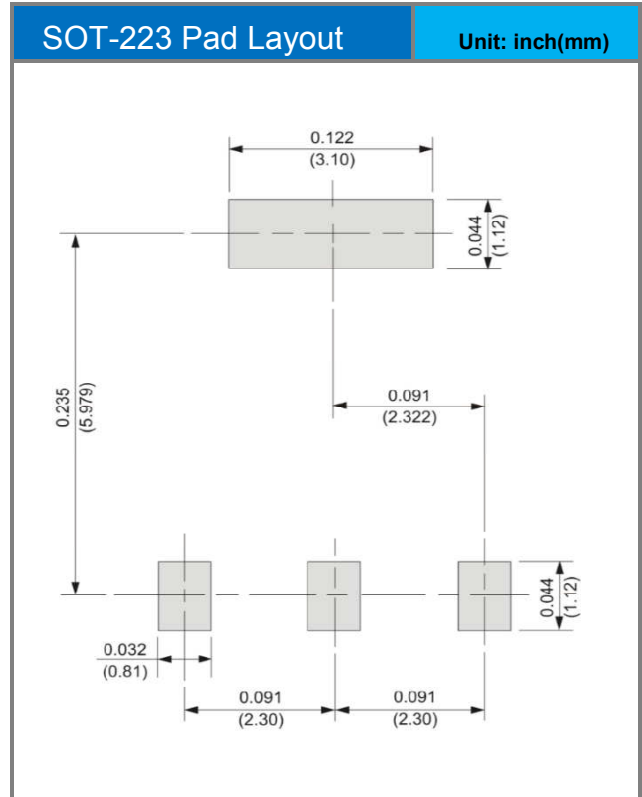
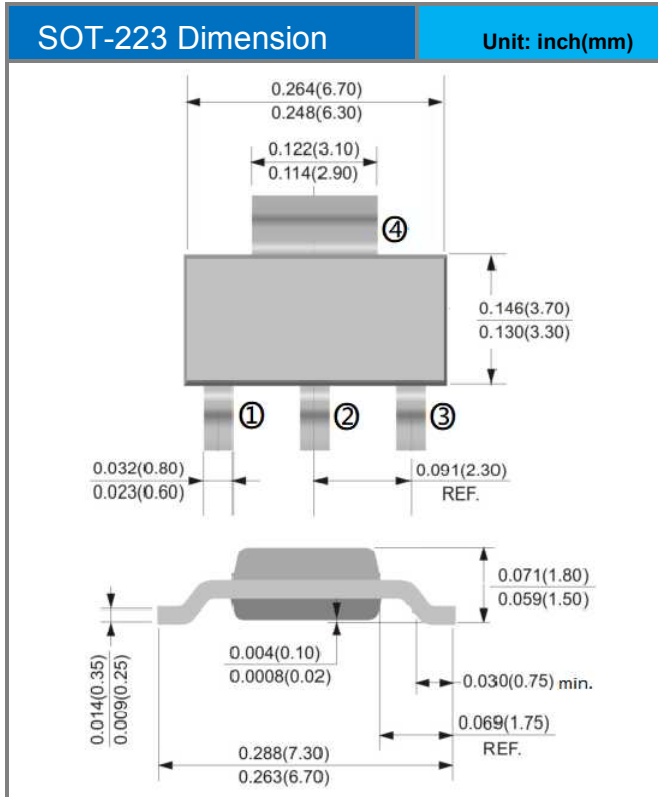


Fig.9 Capacitance vs. Drain-Source Voltage



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Packaging Information & Mounting Pad Layout





PJW7N06A

Part No. Packing Code Version

Part No. Packing Code	Package Type	Packing Type	Marking	Version
PJW7N06A_R2_00001	SOT-223	2,500pcs / 13" reel	W7N06A	Halogen free



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