



PJW3P10A

100V P-Channel Enhancement Mode MOSFET

Voltage **-100 V** **Current** **-2.6 A**

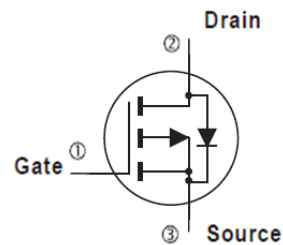
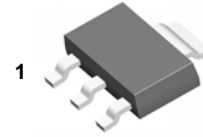
Features

- $R_{DS(ON)}, V_{GS}@-10V, I_D@-2.6A < 210m\Omega$
- $R_{DS(ON)}, V_{GS}@-4.5V, I_D@-1A < 230m\Omega$
- 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 : SOT-223 Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.043 ounces, 0.123grams
- Marking : W3P10A

SOT-223



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

PARAMETER	SYMBOL	LIMIT	UNITS
Drain-Source Voltage	V_{DS}	-100	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	I_D	$T_A=25^\circ\text{C}$	-2.6
		$T_A=70^\circ\text{C}$	-2.0
Pulsed Drain Current ^(Note 1)	I_{DM}	-10.4	A
Power Dissipation	P_D	$T_A=25^\circ\text{C}$	3.1
		$T_A=70^\circ\text{C}$	2
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55~150	$^\circ\text{C}$
Typical Thermal resistance - Junction to Ambient ^(Note 5)	$R_{\theta JA}$	40.3	$^\circ\text{C/W}$

- Limited only By Maximum Junction Temperature



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Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Static						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=-250\mu A$	-100	-	-	V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-1.0	-1.9	-3.0	V
Drain-Source On-State Resistance	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-2.6A$	-	170	210	m Ω
		$V_{GS}=-4.5V, I_D=-1A$	-	190	230	
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-100V, V_{GS}=0V$	-	-	-1.0	μA
Gate-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$	-	-	± 100	nA
Dynamic (Note 6)						
Total Gate Charge	Q_g	$V_{DS}=-80V, I_D=-2.6A,$ $V_{GS}=-10V$ (Note 1,2)	-	20	-	nC
Gate-Source Charge	Q_{gs}		-	3.5	-	
Gate-Drain Charge	Q_{gd}		-	4.6	-	
Input Capacitance	C_{iss}	$V_{DS}=-25V, V_{GS}=0V,$ $f=1.0\text{MHZ}$	-	1419	-	pF
Output Capacitance	C_{oss}		-	89	-	
Reverse Transfer Capacitance	C_{rss}		-	45	-	
Turn-On Delay Time	$t_{d(on)}$	$V_{DS}=-50V, I_D=-2.6A,$ $V_{GS}=-10V, R_G=25\Omega$ (Note 1,2)	-	18	-	ns
Turn-On Rise Time	t_r		-	8	-	
Turn-Off Delay Time	$t_{d(off)}$		-	100	-	
Turn-Off Fall Time	t_f		-	30	-	
Drain-Source Diode						
Maximum Continuous Drain-Source Diode Forward Current	I_S	---	-	-	-2.6	A
Diode Forward Voltage	V_{SD}	$I_S=-1A, V_{GS}=0V$	-	-0.75	-1.2	V

NOTES :

1. Pulse width $\leq 300\mu s$, Duty cycle $\leq 2\%$
2. Essentially independent of operating temperature typical characteristics.
3. The maximum current rating is package limited.
4. Repetitive rating, pulse width limited by junction temperature $T_J(\text{MAX})=150^\circ\text{C}$. Ratings are based on low frequency and duty cycles to keep initial $T_J=25^\circ\text{C}$.
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 inch² with 2oz. square pad of copper.
6. Guaranteed by design, not subject to production testing.



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TYPICAL CHARACTERISTIC CURVES

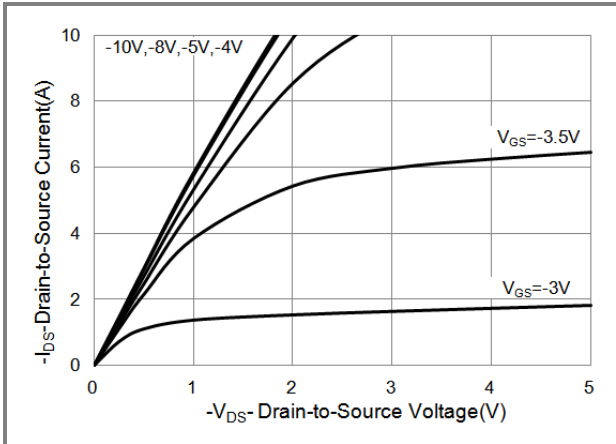


Fig.1 Output Characteristics

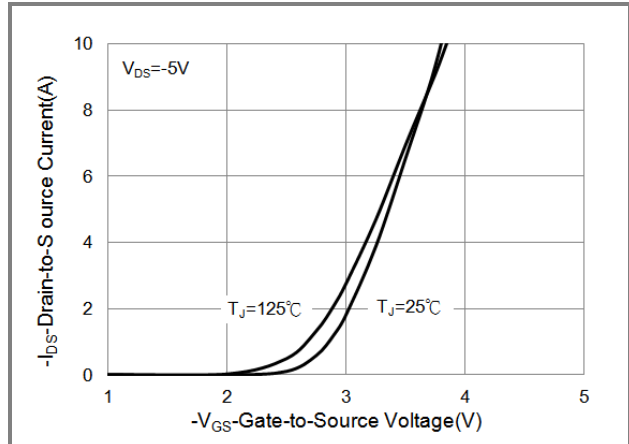


Fig.2 Transfer Characteristics

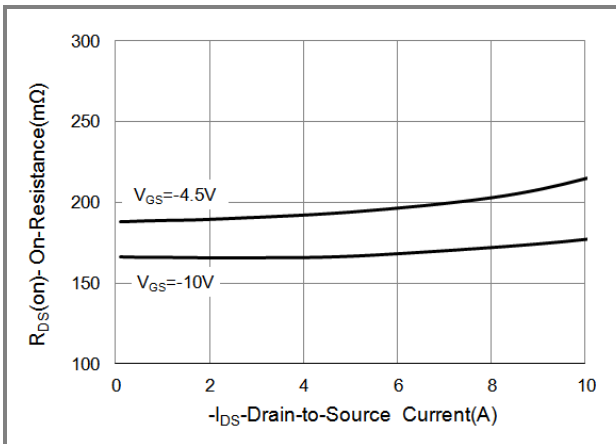


Fig.3 On-Resistance vs. Drain Current

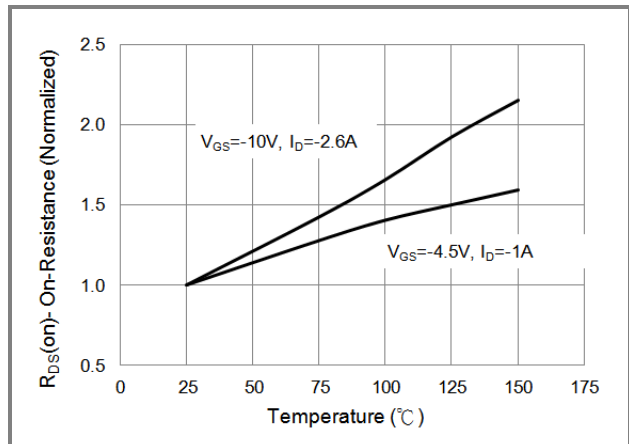


Fig.4 On-Resistance vs. Junction temperature

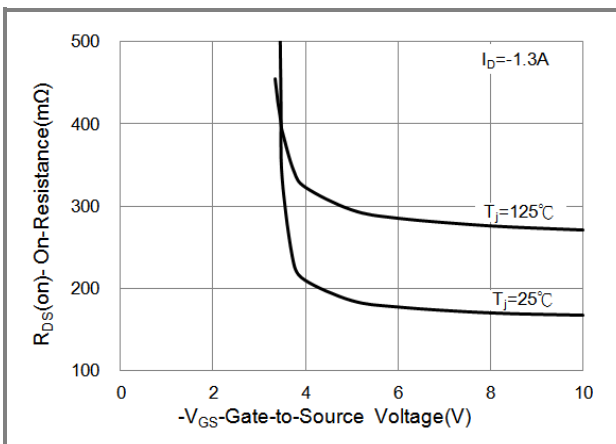


Fig.5 On-Resistance Variation with VGS.

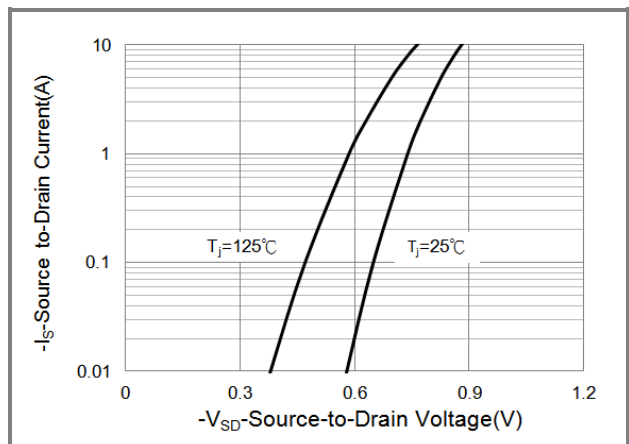
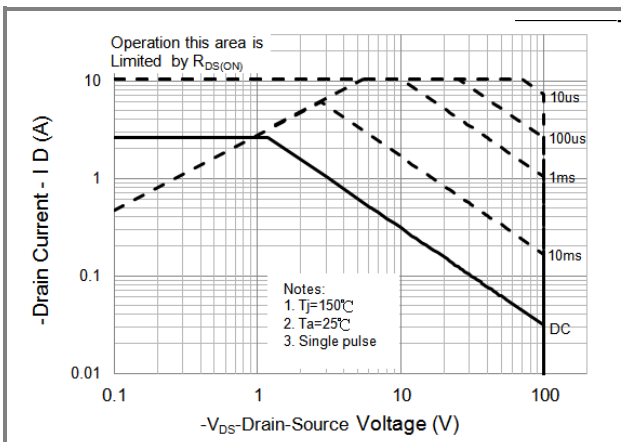
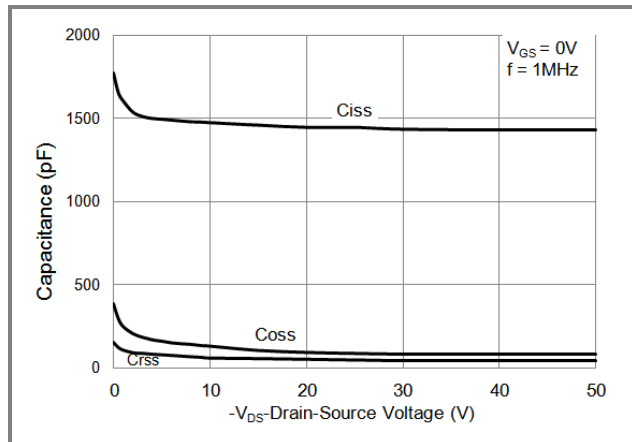
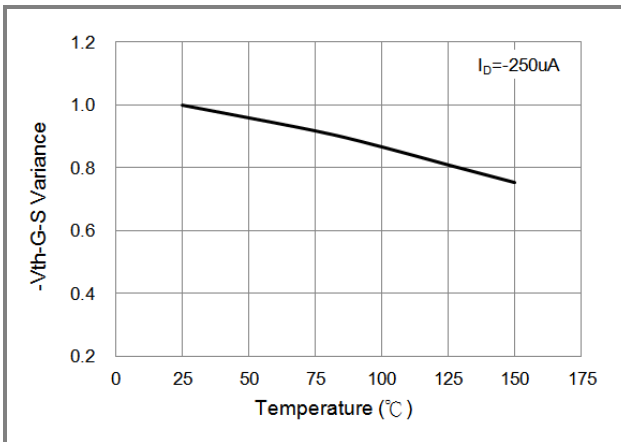
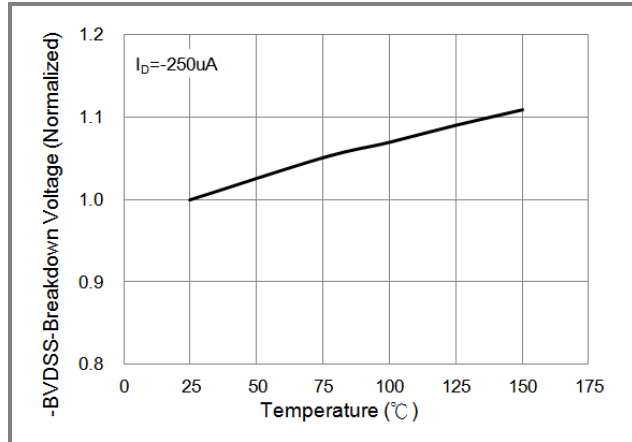
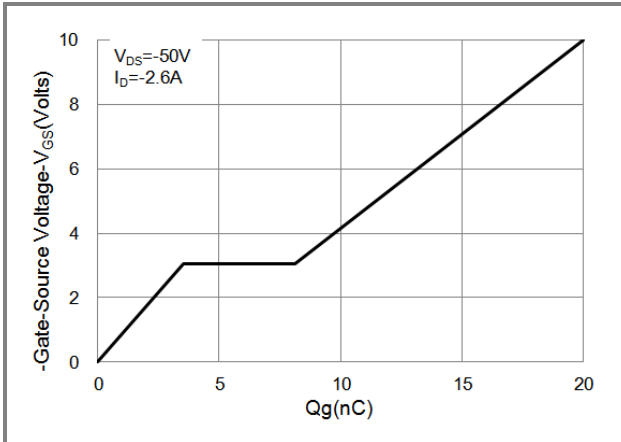


Fig.6 Source-Drain Diode Forward Voltage



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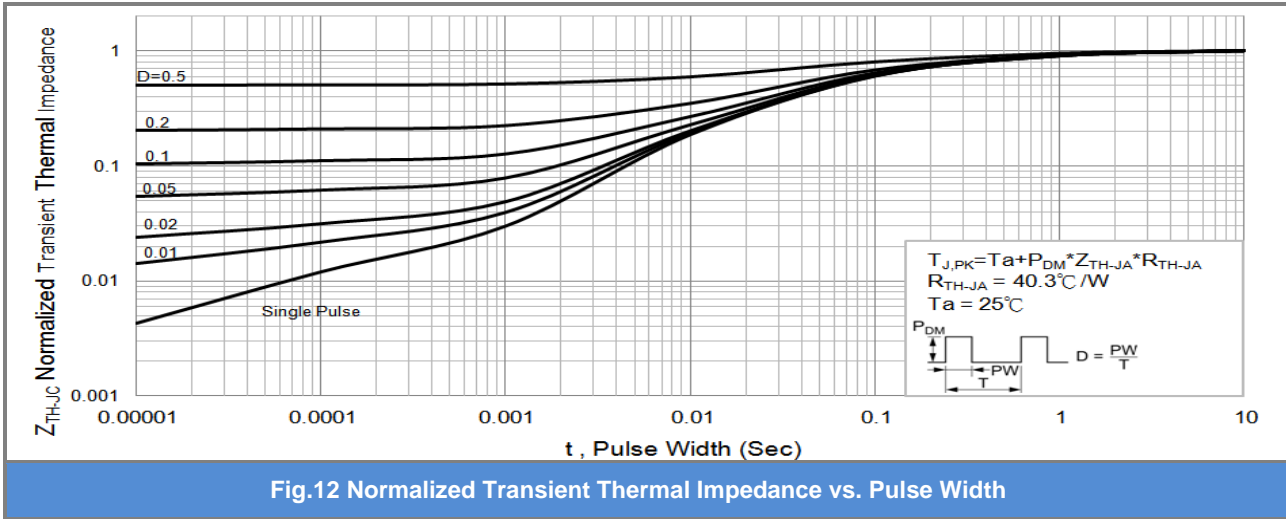
TYPICAL CHARACTERISTIC CURVES





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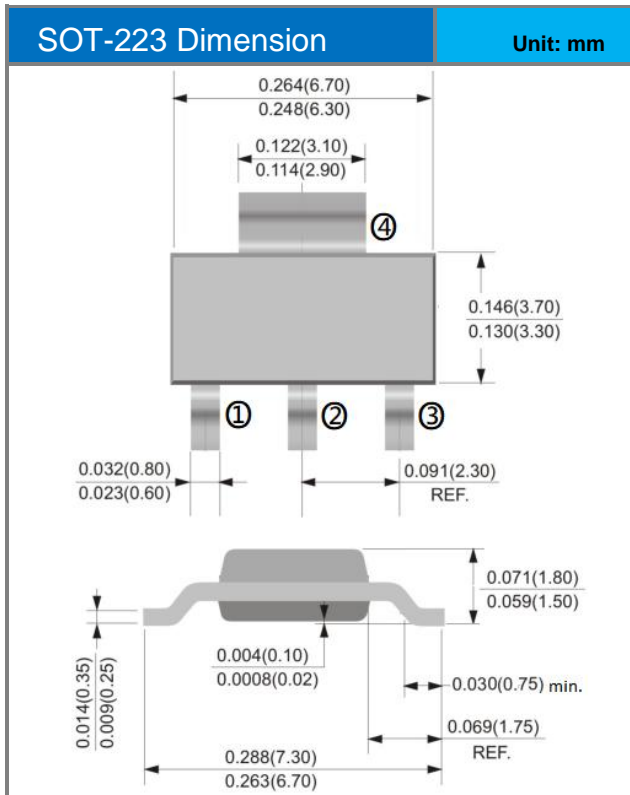
TYPICAL CHARACTERISTIC CURVES





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Packaging Information



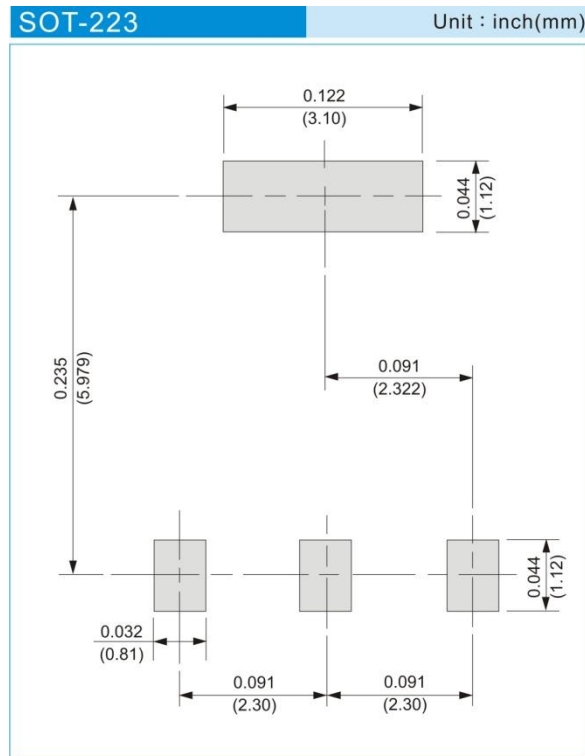


PJW3P10A

PART NO PACKING CODE VERSION

Part No Packing Code	Package Type	Packing Type	Marking	Version
PJW3P10A_R2_00001	SOT-223	2,500pcs / 13" reel	W3P10A	Halogen free

MOUNTING PAD LAYOUT





PJW3P10A

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