

PJA3461S-AU

60V P-Channel Enhancement Mode MOSFET

Voltage

-60 V

Current

-1.9 A

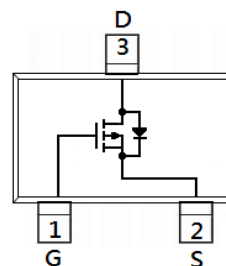
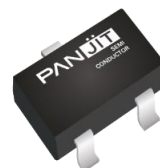
Features

- $R_{DS(ON)}$, $V_{GS}@-10V$, $I_D@-1.9A < 200m\Omega$
- $R_{DS(ON)}$, $V_{GS}@-4.5V$, $I_D@-1.5A < 270m\Omega$
- Advanced Trench Process Technology
- Specially Designed for Switch Load, PWM Application, etc
- AEC-Q101 qualified
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

Mechanical Data

- Case : SOT-23 Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.0084 grams

SOT-23



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 ^(Note 3)	$T_A=25^{\circ}C$	I_D	-1.9	A
	$T_A=70^{\circ}C$		-1.6	
Pulsed Drain Current ^(Note 1)	$T_A=25^{\circ}C$	I_{DM}	-7.6	
Power Dissipation	$T_A=25^{\circ}C$	P_D	1.5	W
	$T_A=70^{\circ}C$		1.05	
Operating Junction and Storage Temperature Range		T_J, T_{STG}	-55~175	$^{\circ}C$
Thermal Resistance ^(Note 3,4)	Junction to Ambient	$R_{\theta JA}$	100	$^{\circ}C/W$

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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 =-1.9A	-	160	200	mΩ
		V _{GS} =-4.5V, I _D =-1.5A	-	204	270	
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 5)						
Total Gate Charge	Q _g	V _{DS} =-30V, I _D =-1.9A, V _{GS} =-10V ^(Note 2)	-	9	13	nC
Gate-Source Charge	Q _{gs}		-	1.5	-	
Gate-Drain Charge	Q _{gd}		-	1.5	-	
Input Capacitance	C _{iss}	V _{DS} =-30V, V _{GS} =0V, f=1MHz	-	340	510	pF
Output Capacitance	C _{oss}		-	27	50	
Reverse Transfer Capacitance	C _{rss}		-	17	30	
Gate resistance	R _g	f=1MHz	-	14.4	-	Ω
Turn-On Delay Time	t _{d(on)}	V _{DS} =-30V, I _D =-1.9A, V _{GS} =-10V, R _G =6Ω ^(Note 1,2)	-	3.6	-	ns
Turn-On Rise Time	t _r		-	2.9	-	
Turn-Off Delay Time	t _{d(off)}		-	19	-	
Turn-Off Fall Time	t _f		-	8	-	
Drain-Source Diode						
Diode Forward Current	I _s	T _C =25 ^o C	-	-	-1.9	A
Pulsed Diode Forward Current	I _{SM}		-	-	-7.6	
Diode Forward Voltage	V _{SD}	I _S =-1A, V _{GS} =0V	-	-0.8	-1	V
Reverse Recovery Time	T _{rr}	V _{DD} =-30V,V _{GS} =0V,	-	9	-	ns
Reverse Recovery Charge	Q _{rr}	I _S =-1.9A,dI _S /dt=100A/us	-	5	-	nC

NOTES :

1. Pulse width≤300us, Duty cycle≤2%.
2. Essentially independent of operating temperature typical characteristics.
3. Chip capability with an R_{θJA}=100°C/W.
4. 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 inch² with 2oz.square pad of copper.
5. Guaranteed by design, not subject to production testing.

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TYPICAL CHARACTERISTIC CURVES

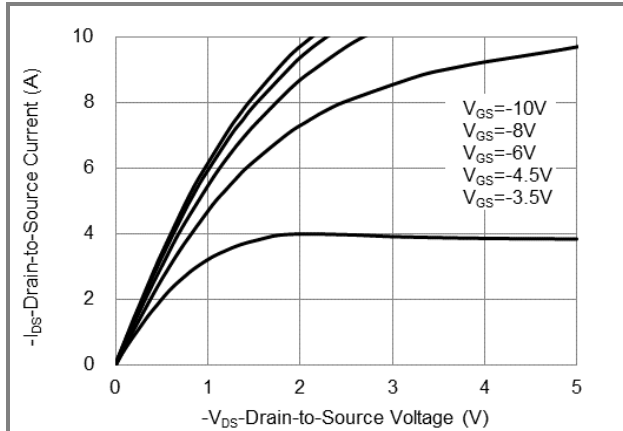


Fig.1 On-Region Characteristics

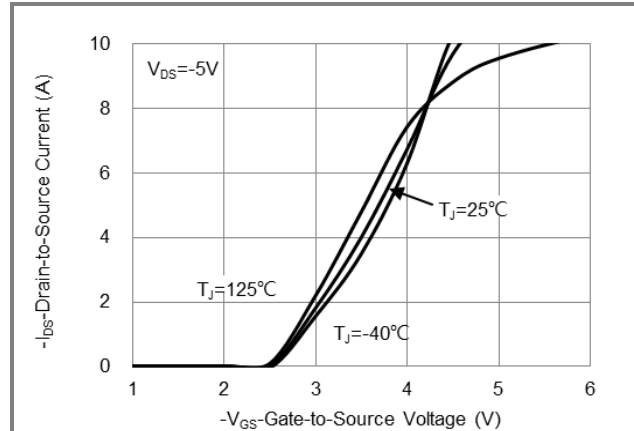


Fig.2 Transfer Characteristics

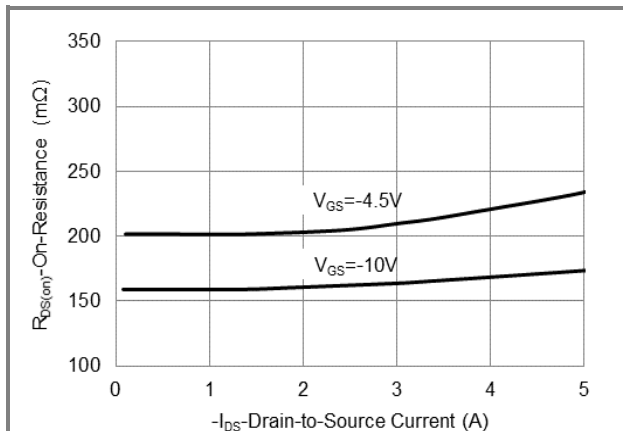


Fig.3 On-Resistance vs. Drain Current

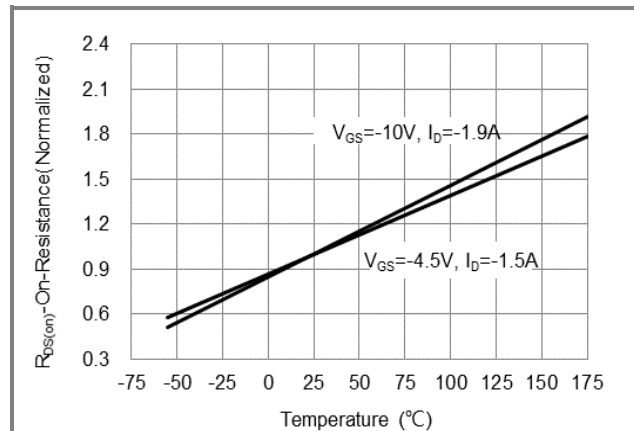


Fig.4 On-Resistance vs. Junction temperature

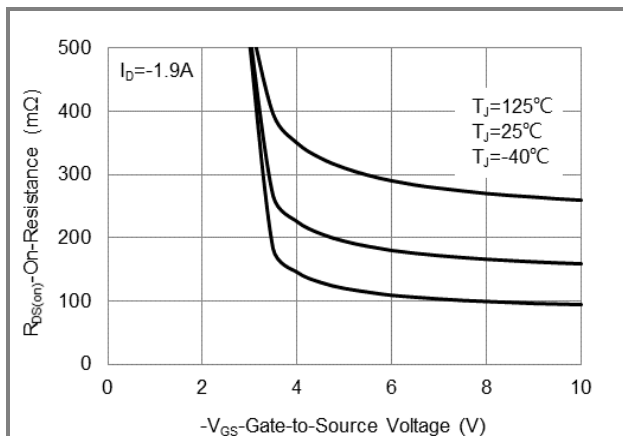


Fig.5 On-Resistance Variation with V_{GS}

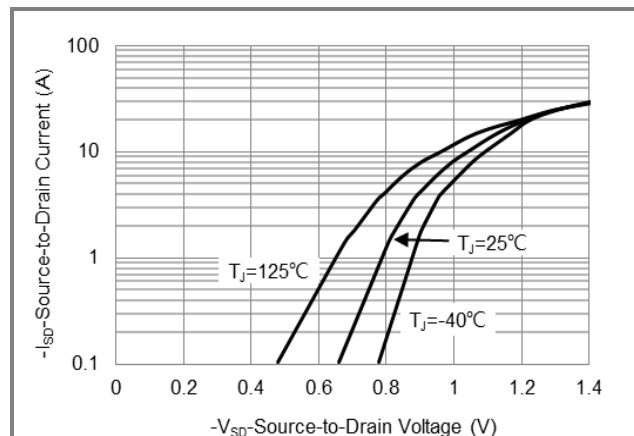
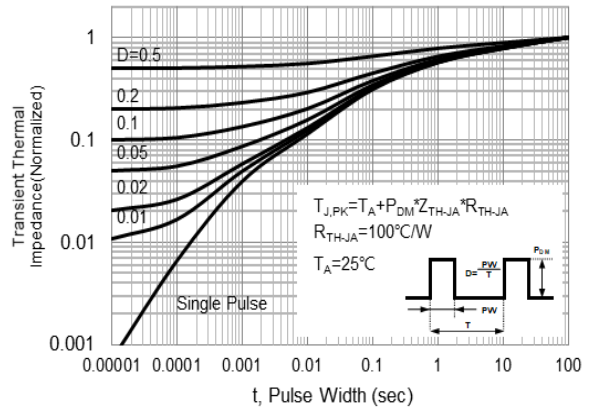
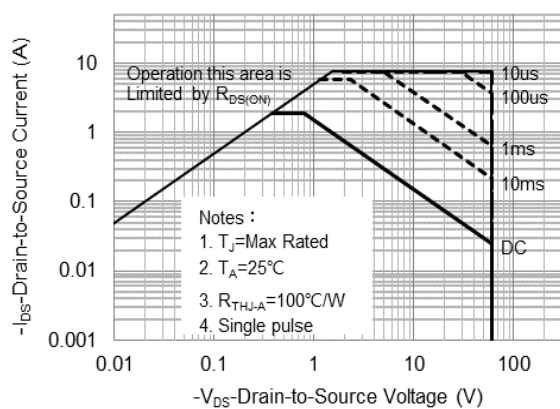
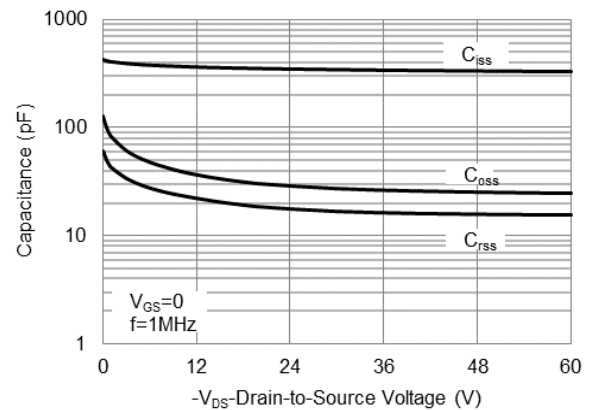
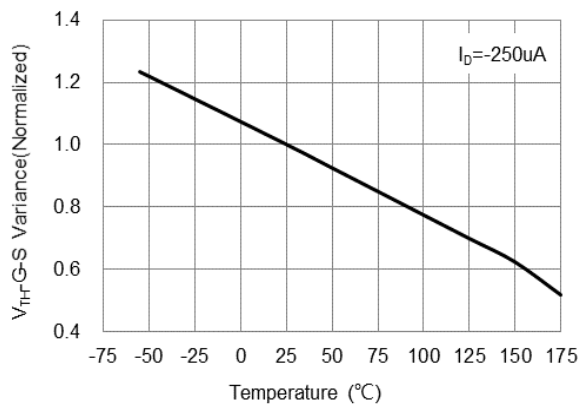
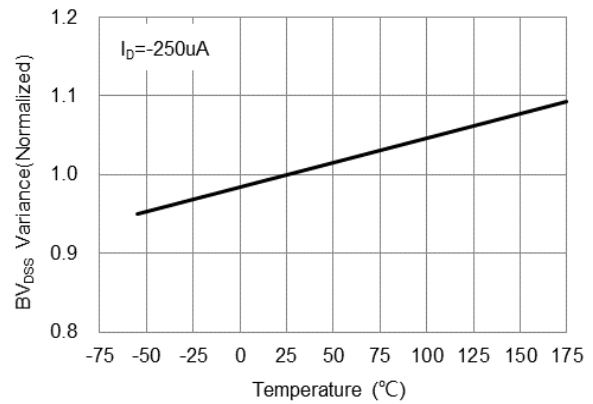
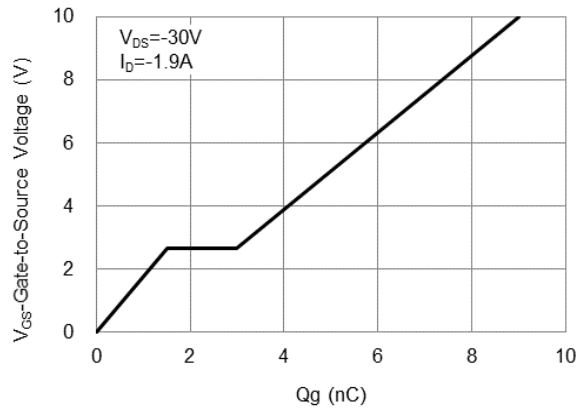


Fig.6 Source-Drain Diode Forward Voltage

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TYPICAL CHARACTERISTIC CURVES

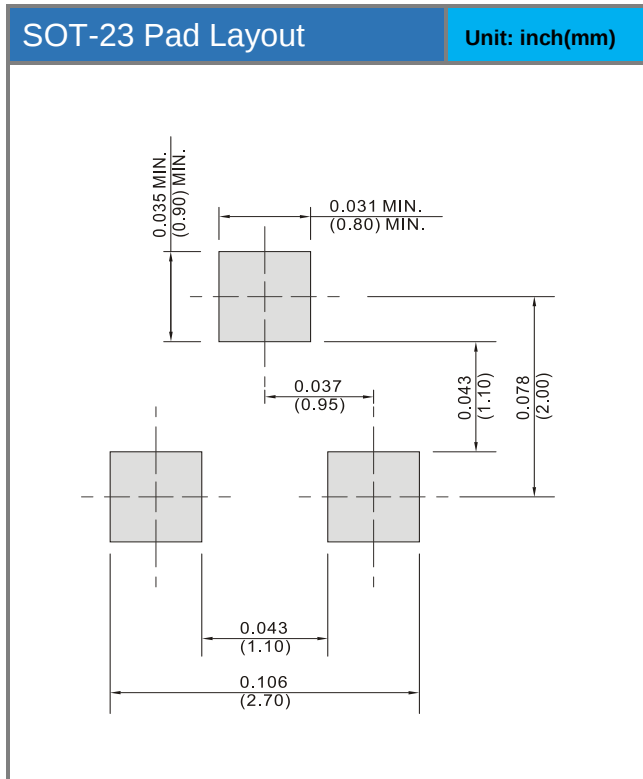
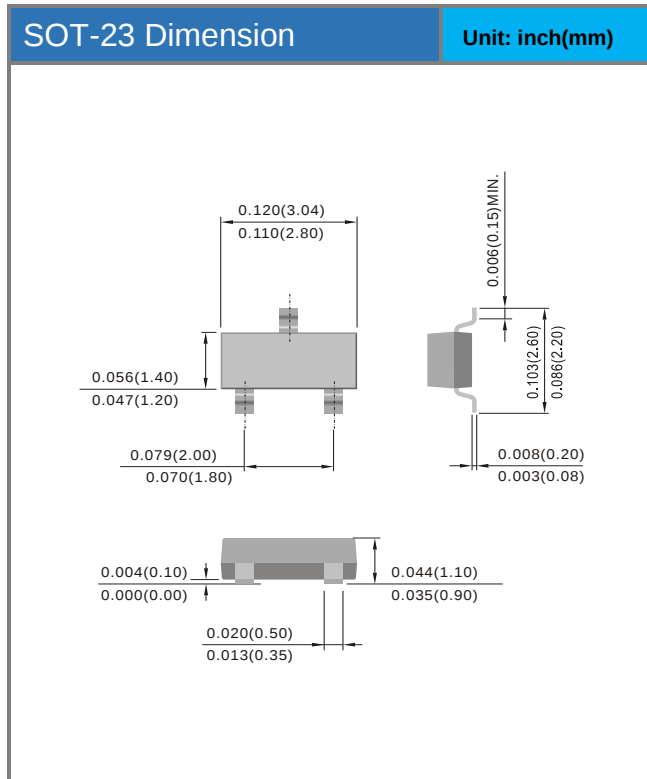


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Product and Packing Information

Part No.	Package Type	Packing Type	Marking
PJA3461S-AU	SOT-23	3K pcs / 7" reel	61S

Packaging Information & Mounting Pad Layout



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