

PJA3426

20V N-Channel Enhancement Mode MOSFET

Voltage 20 V **Current** 0.8 A

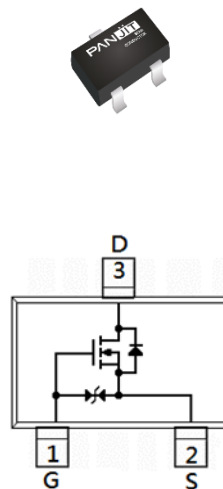
Features

- Advanced Trench Process Technology
- ESD Protected
- 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-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°C unless otherwise noted)

PARAMETER		SYMBOL	LIMIT	UNITS
Drain-Source Voltage		V _{DS}	20	V
Gate-Source Voltage		V _{GS}	±8	
Continuous Drain Current ^(Note 4)	T _A =25°C	I _D	0.8	A
Pulsed Drain Current ^(Note 1)		I _{DM}	3.2	
Power Dissipation	T _A =25°C	P _D	1.25	W
	Derate above 25°C		10	mW/°C
Operating Junction and Storage Temperature Range		T _J ,T _{STG}	-55~150	°C
Thermal Resistance		R _{θJA}	100	°C/W
- Junction to Ambient ^(Note 5)				

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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	20	-	-	V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250uA	0.3	0.65	1	
Drain-Source On-State Resistance	R _{DS(on)}	V _{GS} =4.5V, I _D =500mA	-	220	300	mΩ
		V _{GS} =2.5V, I _D =400mA	-	260	400	
		V _{GS} =1.8V, I _D =200mA	-	310	550	
		V _{GS} =1.5V, I _D =100mA	-	390	800	
		V _{GS} =1.2V, I _D =10mA	-	630	1500	
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =20V, V _{GS} =0V	-	-	1	uA
Gate-Source Leakage Current	I _{GSS}	V _{GS} =+8V, V _{DS} =0V	-	-	+10	
Dynamic ^(Note 6)						
Total Gate Charge	Q _g	V _{DS} =10V, I _D =500mA, V _{GS} =4.5V ^(Note 2,3)	-	1.1	-	nC
Gate-Source Charge	Q _{gs}		-	0.2	-	
Gate-Drain Charge	Q _{gd}		-	0.1	-	
Input Capacitance	C _{iss}	V _{DS} =10V, V _{GS} =0V, f=1MHz	-	50	-	pF
Output Capacitance	C _{oss}		-	12	-	
Reverse Transfer Capacitance	C _{rss}		-	10	-	
Turn-On Delay Time	t _{d(on)}	V _{DD} =10V, I _D =500mA, V _{GS} =4.5V, R _G =3Ω ^(Note 2,3)	-	2	-	ns
Turn-On Rise Time	t _r		-	22	-	
Turn-Off Delay Time	t _{d(off)}		-	57	-	
Turn-Off Fall Time	t _f		-	34	-	
Drain-Source Diode						
Maximum Continuous Drain-Source Diode Forward Current	I _S	T _A =25°C	-	-	0.8	A
Diode Forward Voltage	V _{SD}	I _S =500mA, V _{GS} =0V	-	0.8	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. 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.
5. The maximum current rating is package limited.
6. Guaranteed by design, not subject to production testing.

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TYPICAL CHARACTERISTIC CURVES

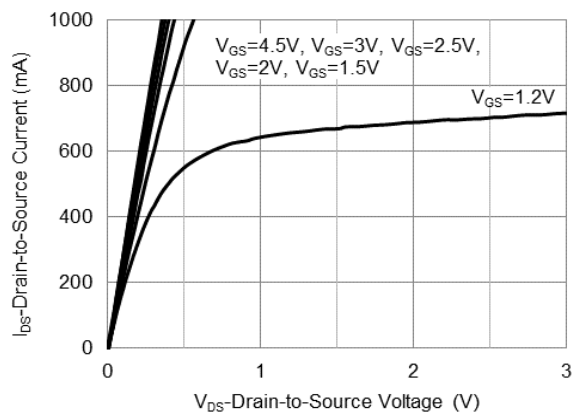


Fig.1 On-Region Characteristics

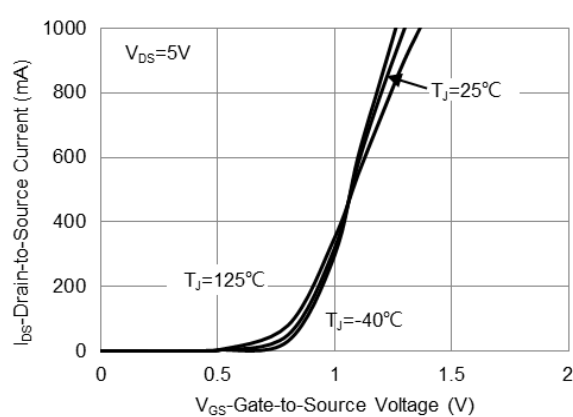


Fig.2 Transfer Characteristics

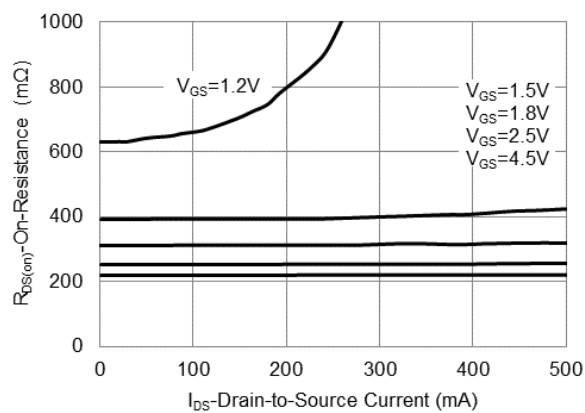


Fig.3 On-Resistance vs. Drain Current

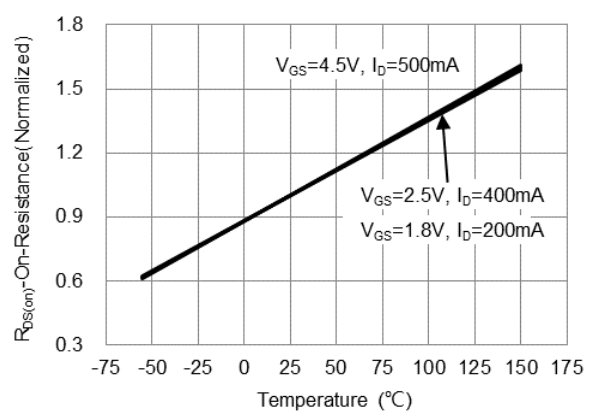


Fig.4 On-Resistance vs. Junction temperature

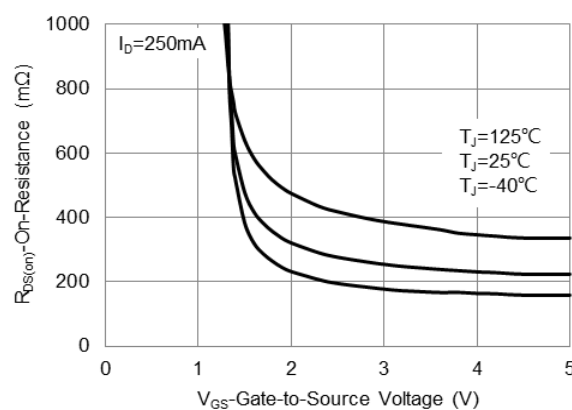


Fig.5 On-Resistance Variation with V_{GS}

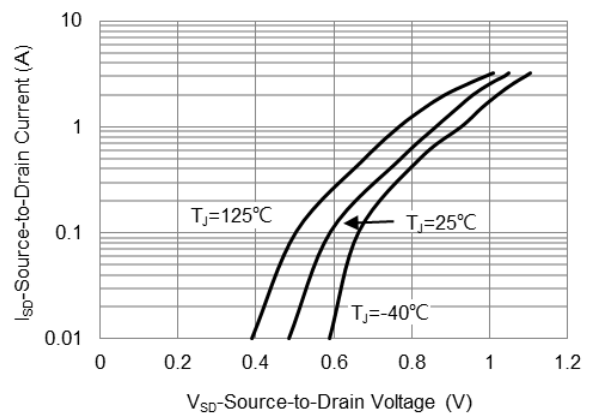


Fig.6 Source-Drain Diode Forward Voltage

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TYPICAL CHARACTERISTIC CURVES

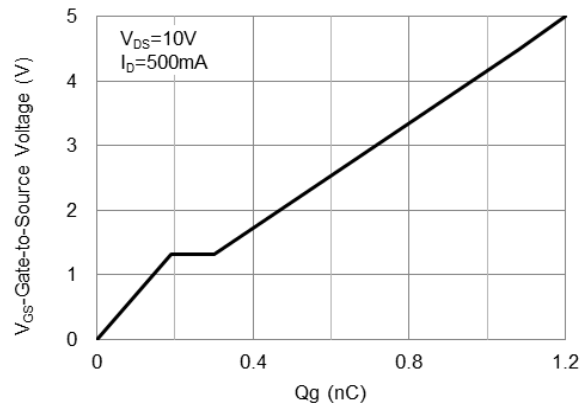


Fig.7 Gate-Charge Characteristics

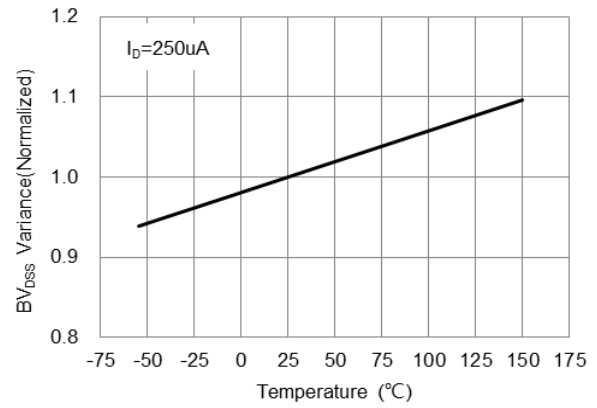


Fig.8 Breakdown Voltage Variation vs. Temperature

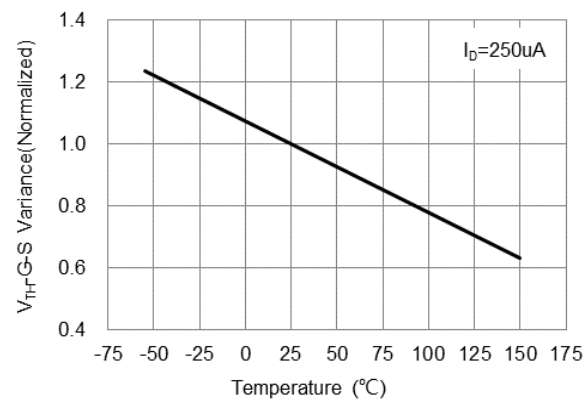


Fig.9 Threshold Voltage Variation with Temperature

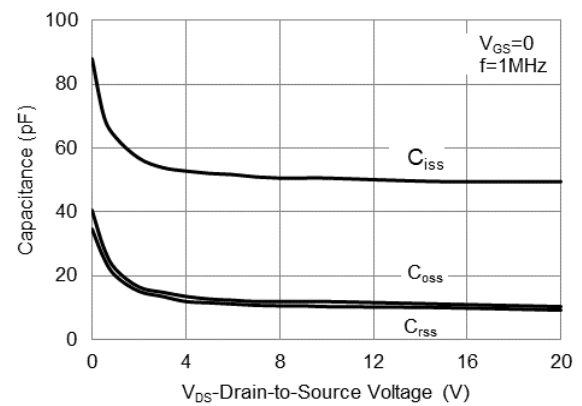


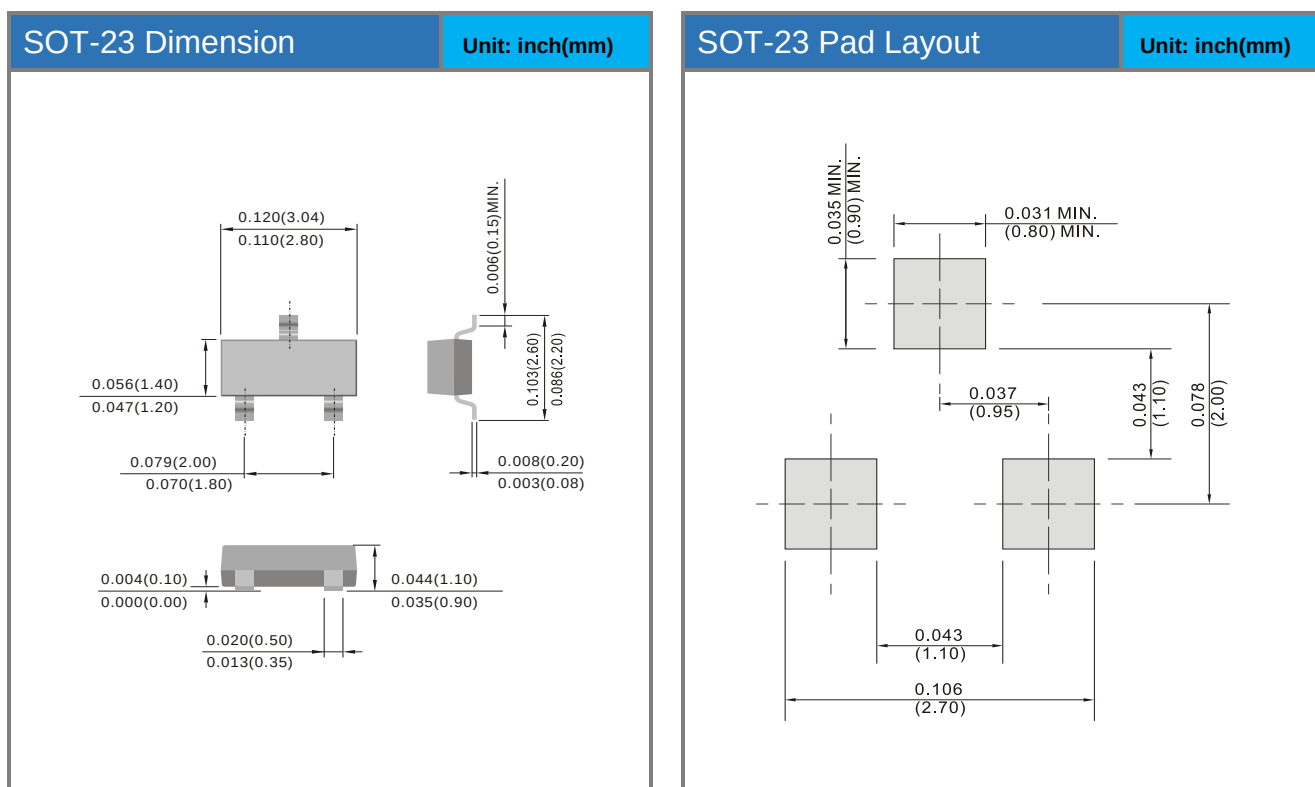
Fig.10 Capacitance vs. Drain-Source Voltage

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Product and Packing Information

Part No.	Package Type	Packing Type	Marking
PJA3426	SOT-23	3K pcs / 7" reel	A26

Packaging Information & Mounting Pad Layout



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