

PJA3436

20V N-Channel Enhancement Mode MOSFET – ESD Protected

Voltage

20 V

Current

1.2 A

Features

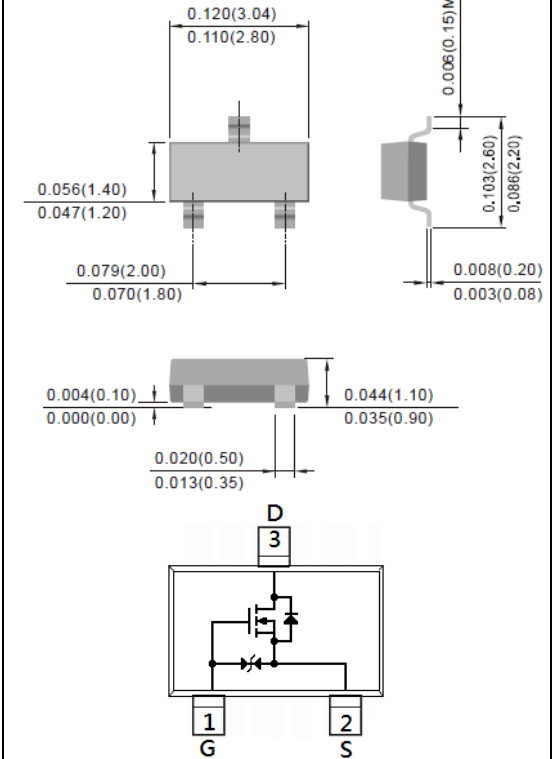
- RDS(ON) , VGS@4.5V, ID@1.2A<380mΩ
- RDS(ON) , VGS@2.5V, ID@0.7A<680mΩ
- RDS(ON) , VGS@1.8V, ID@0.2A<1100mΩ(typ.)
- Advanced Trench Process Technology
- Specially Designed for Switch Load, PWM Application, etc.
- ESD Protected
- Lead free in compliance with EU RoHS 2011/65/EU directive.
- Green molding compound as per IEC61249 Std.
(Halogen Free)

Mechanical Data

- Case: SOT-23 Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.0003 ounces, 0.0084 grams
- Marking: A36

SOT-23

Unit: inch(mm)



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}	±12	V
Continuous Drain Current		I _D	1.2	A
Pulsed Drain Current (Note 4)		I _{DM}	4.8	A
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
Typical Thermal resistance		R _{θJA}	100	°C/W
- Junction to Ambient (Note 3)				

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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	0.4	0.65	1.0	V
Drain-Source On-State Resistance	R _{DS(on)}	V _{GS} =4.5V, I _D =1.2A	-	310	380	mΩ
		V _{GS} =2.5V, I _D =0.7A	-	440	680	
		V _{GS} =1.8V, I _D =0.2A	-	700	-	
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =16V, V _{GS} =0V	-	0.02	1	uA
Gate-Source Leakage Current	I _{GSS}	V _{GS} =±10V, V _{DS} =0V	-	±2	±10	uA
Dynamic						
Total Gate Charge	Q _g	V _{DS} =10V, I _D =1.2A, V _{GS} =4.5V (Note 1,2)	-	0.9	-	nC
Gate-Source Charge	Q _{gs}		-	0.2	-	
Gate-Drain Charge	Q _{gd}		-	0.2	-	
Input Capacitance	C _{iss}	V _{DS} =10V, V _{GS} =0V, f=1.0MHZ	-	39	-	pF
Output Capacitance	C _{oss}		-	15	-	
Reverse Transfer Capacitance	C _{rss}		-	9	-	
Switching						
Turn-On Delay Time	td _(on)	V _{DD} =10V, I _D =1.2A, V _{GS} =4.5V, R _G =6Ω (Note 1,2)	-	2.2	-	ns
Turn-On Rise Time	tr		-	22	-	
Turn-Off Delay Time	td _(off)		-	9	-	
Turn-Off Fall Time	tf		-	20	-	
Drain-Source Diode						
Maximum Continuous Drain-Source Diode Forward Current	I _S	---	-	-	1.0	A
Diode Forward Voltage	V _{SD}	I _S =1.0A, V _{GS} =0V	-	0.93	1.3	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.

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TYPICAL CHARACTERISTIC CURVES

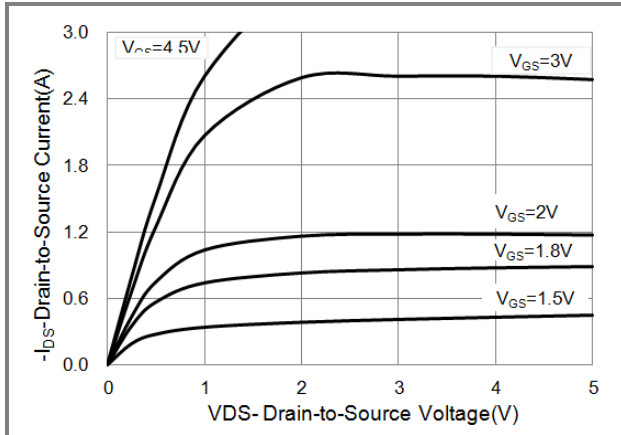


Fig.1 On-Region Characteristics

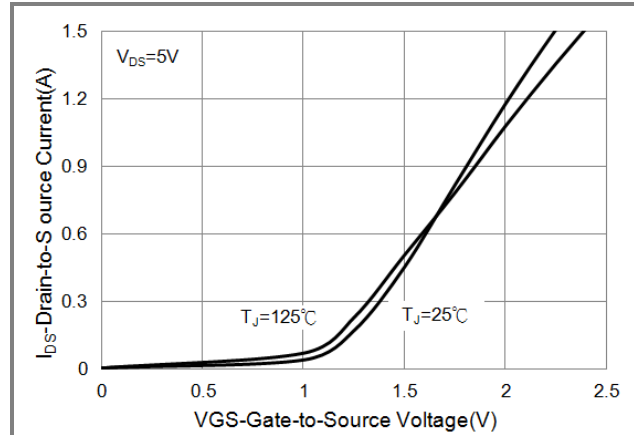


Fig.2 Transfer Characteristics

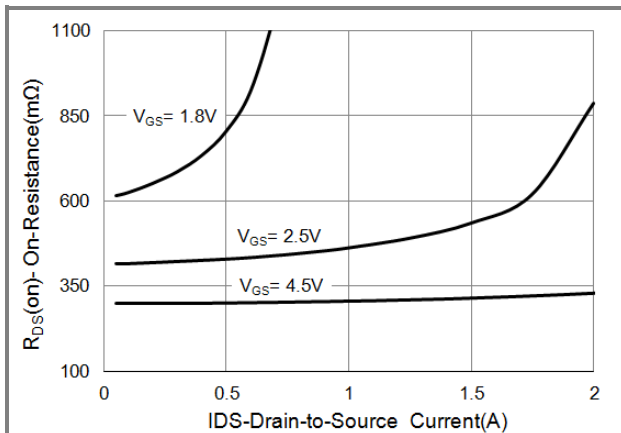


Fig.3 On-Resistance vs. Drain Current

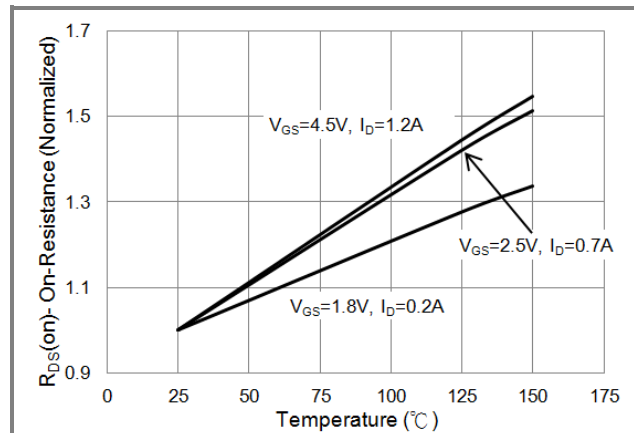


Fig.4 On-Resistance vs. Junction temperature

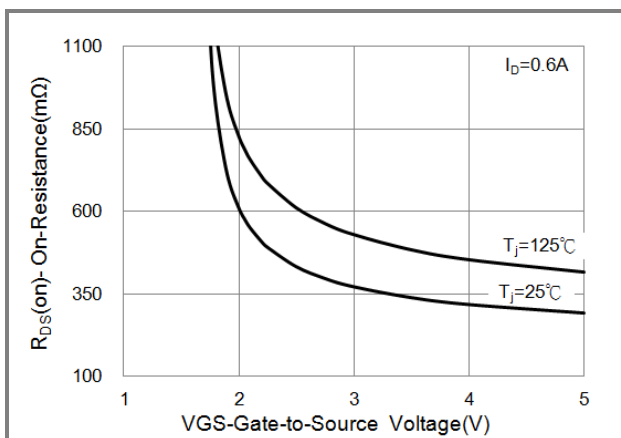


Fig.5 On-Resistance Variation with V_GS.

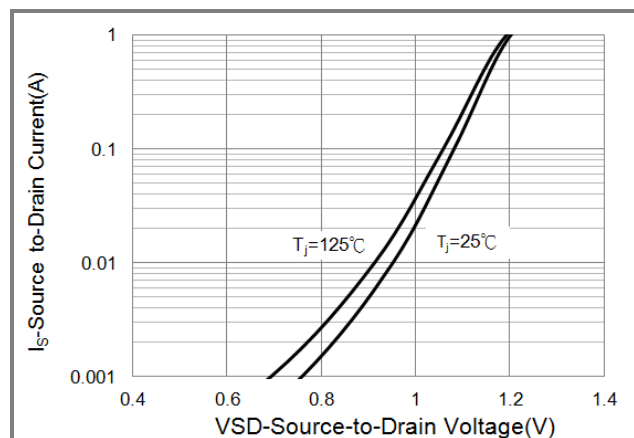


Fig.6 Body Diode Characteristics

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TYPICAL CHARACTERISTIC CURVES

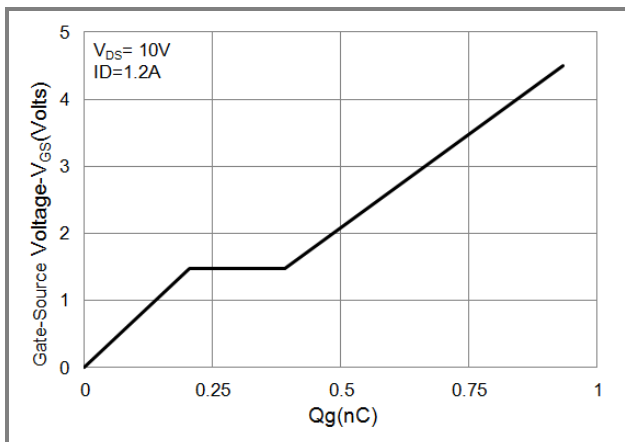


Fig.7 Gate-Charge Characteristics

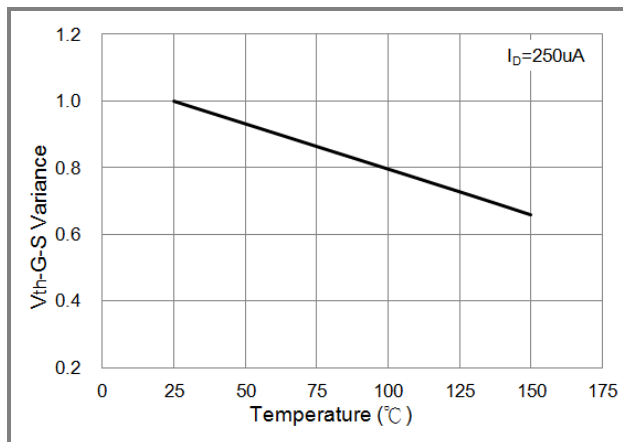


Fig.8 Threshold Voltage Variation with Temperature.

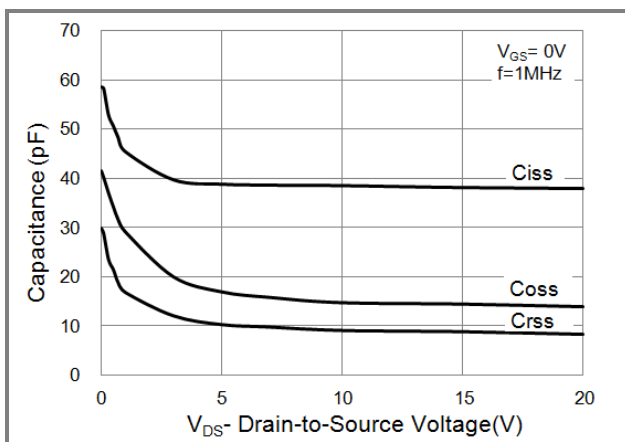


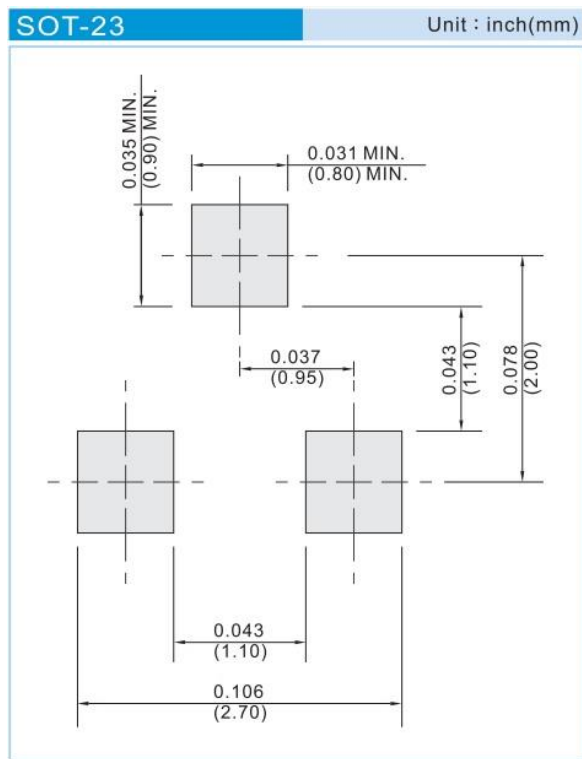
Fig.9 Threshold Voltage Variation with Temperature.

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Product and Packing Information

Part No.	Package Type	Packing type	Marking
PJA3436	SOT-23	3K pcs / 7" reel	A36
PJA3436	SOT-23	12K pcs / 13" reel	A36

Mounting Pad Layout



PJA3436

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